

Lwarp

L^AT_EX HTML5

The lwarp package

L^AT_EX to HTML

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Abstract

The `lwarp` package converts L^AT_EX to HTML by using L^AT_EX to process the user's document and directly generate HTML tags. External utility programs are only used for the final conversion of text and images. Math may be represented by SVG images or MATHJAX. More than 500 L^AT_EX packages and classes are supported, of which more than 90 also support MATHJAX.

Documents may be produced by DVI or PDF L^AT_EX, LuaL^AT_EX, XeL^AT_EX; by several CJK engines, classes, and packages; or by customized systems such as `perltex` and `pythontex`. A `texlua` script automates compilation, index, glossary, and batch image processing, and also supports `latexmk`. Configuration is semi-automatic at the first manual compile. Support files are self-generated. Print and HTML versions of each document may coexist.

Assistance is provided for HTML import into EPUB conversion software and word processors.

Requirements include the commonly-available POPPLER utilities (included with M^IK^TE^X) and PERL. Detailed installation instructions are included for each of the major operating systems and T_EX distributions.

A quick-start tutorial is provided, as well as extensive documentation for special cases, a general index, and a troubleshooting index. Automatic error testing is provided for configuration files, package load order, and image generation.

SVG math and many other generated images include L^AT_EX expressions in the alt tags. MATHJAX may be used with advanced equation numbering under the direct control of `lwarp`.

Complicated tables are supported, which copy/paste well into LIBREOFFICE WRITER.

Supported classes and packages include `memoir` and `koma-script`, `cleveref`, `caption`, `mdframed`, `siunitx`, and many popular packages for tabulars, floats, graphics, theorems, the title page, bibliography, indexing, footnotes, and editorial work, as well as a number of CJK-related classes and packages.

T_EX is a self-modifying tokenized macro-expansion language. Since `lwarp` is written directly in L^AT_EX, it is able to interpret the document's meaning at a deeper level than external conversions which merely approximate T_EX. HTML5 and CSS3 are leveraged to provide advanced features such as `booktabs trim`, `multicolumns`, `side-by-side minipages`, and JAVASCRIPT-free navigation.

[For a quick-start tutorial, see section 5, Tutorial.](#)

[For a list of supported features, see table 2: Supported packages and features.](#)

[To update existing projects, see section 1: Updates.](#)

Lwarp is still in development. Changes are likely.

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Support T_EX development

T_EX and related projects:

- are mostly open-sourced and a volunteer effort;
- benefit students, academics, scientists, engineers, and businesses;
- help drive education, public and private research, and commercial activity;
- are used in the fields of mathematics, science, engineering, and humanities;
- are international in reach;
- span decades of development;
- are enduring — many older packages are still actively used and maintained;
- are largely backwards compatible;
- are portable across all the major computing platforms;
- are usable even on older computers and away from internet access;
- are continuing to maintain relevance with modern improvements;
- require no yearly subscription fees;
- and are supported by an active community of knowledgeable volunteers.

Please consider helping by joining and/or contributing to the T_EX Users Group, a United States 501(c)(3) tax-exempt charitable organization. Contributions are accepted by credit card, check, or Pay Pal, via the United Way, or by USA or European bank transfer. Membership in TUG supports the development of T_EXLive, the major T_EX distribution.

Donations may be directed towards individual projects:

TUG Bursary Fund: Assistance for attending annual TUG meetings.

CTAN: The Comprehensive T_EX Archive Network — Central storage for T_EX.

TeX Development Fund: Support for specific projects.

EduTeX: Teaching and using T_EX in schools and universities.

GUST e-foundry fonts: Enhanced for math and additional language groups.

LaTeX Project: Modernizing the L^AT_EX core.

Libre Font Fund: Fonts, tools (FontForge), and distribution (the Open Font Library).

LuaTeX: Combining the pdfT_EX engine and the Lua language.

MetaPost: Postscript graphics.

MacTeX: T_EX for Mac.

PDF Accessibility: Modern PDF standards.

Other: Additional projects may be specified.

To make a contribution: <https://www.tug.org/donate.html>

For country-specific T_EX users groups: <http://tug.org/usergroups.html>

For users of MiK_TE_X: <https://miktex.org/donations.html>

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1 Updates

The following is a summary of updates to `lwarp`, highlighting new features and any special changes which must be made due to improvements or modifications in `lwarp` itself.

For a detailed list of the most recent changes, see the end of the Change History on page [1383](#).

v0.901: Tabular columns, float caption CSS, MATHJAX packages.

- `core`
 - Added `warpsvg` to isolate SVG math, as opposed to `warpMathJax`.
 - Improved float caption CSS for newer browsers.
 - Improved emulation of `\newcolumn` type.
 - Added `\HTMLnewcolumn` type. See section [7.6](#),
 - `>{\centering\arraybackslash}`, etc. now sets HTML CSS `text-align`. Also detects `\itshape`, `\bfseries`, and `\bfseries\itshape`. See section [8.10.1](#).
- `MATHJAX`
 - Now uses MATHJAX 3.2 packages for `centernot`, `colortbl`, `gensymb`, `mathtools`, `textcomp`, `upgreek`.
- `packages`
 - `dcolumn`: Now works inside a `lateximage`.
 - Added `mwe`.
 - Added `lftj-tascmac`, which fixed `ascmac`.

v0.900: Package updates.

- `core`
 - Fix for detecting `\usepackage{lwarp}`.
- `packages`
 - `amsmath`: Fixed `alignat` with MATHJAX.
 - `changes`: Updated to v4.2.1.
 - `froufrou`: Updated to v1.4.0.
 - `lipsum`: Updated to v2.3.

v0.899: Minor updates.


- `core`
 - `lwarpmk`: Warns if `\usepackage{lwarp}` is not detected.
- `packages`
 - `graphics`: Added support for `keepaspectratio`.
 - `keyfloat`: Fix: `lw` with `h`.
 - `multicol`: Improved CSS.

v0.898: Minor updates.

- Fewer underfull `\hbox` warnings.
- `wrapfig`: Improved integration with `keyfloat`.

v0.897: `siunitx` rollback.

- `docs`
 - Added a table of file extensions to use with `\includegraphics`. See table [9](#).
- `core`
 - Added tests for additional incompatible packages.

- packages**
- `siunitx`: Supports rollback to v2. Does not yet support v3.
 - `fixme`: Improved to work if the user modifies layouts.
 - `float`: Improved integration with `newfloat`, `keyfloat`.
 - Added `centerlastline`, `decorule`, `fancypar`, `froufrou`, `pbalance`.
 - Verified works as-is with `fnpct`.
- v0.896:** Back references, accessibility.
-  **Due to changes in cross referencing, execute `lwarpmk clean` before recompiling.**
- Increased sectioning nesting stack depth. Error if overflow stack.
 - Fixed footnotes at the end of the document, or inside a description label.
 - Added an error if using braces inside `\usepackage` options.
- MATHJAX theorems**
- Fixed footnotes in bracket display math with `MATHJAX`.
 - `LATEX` theorems, `amsthm`, `ntheorem`, `theorem`: Print theorem footnotes following theorems.
- accessibility**
- Added HTML `<main>` element to each page.
 - Added ARIA math role to SVG math images, and note role to margin notes, footnotes, etc.
- packages**
- Improved citation backreferences for various packages.
 - `chemfig`: Updated to v1.6a.
 - `bigdelim`: Updated to v2.8.
 - `xetexko`: Updated to v3.1.
 - `hyperxmp`: Fix: Accept and discard additional keys.
 - `hyperref`: Fix: Added `*autorefname` macros.
 - `biblatex`: Fix: Back references.
 - `tocloft`: Fix: `\cftpagenumbersoff`, `\cftpagenumberon`.
 - `threeparttablex`: Fix: `\TPTL@tnotex`.
 - `amsthm`: Fix: Footnotes inside environment optional argument.
 - `listings`: Fixed labels. Accepts but ignores escapes w/o error.
 - `pdfscape`: Fix: Added landscape environment.
 - Added `ccicons`, `classicthesis`, `orcidlink`.
 - Added `enotez`.
 - Verified support for `doi`, `doipubmed`.
- v0.895:** Vector packages, greatly improved `MATHJAX` for `siunitx`.
- core**
- Fixed quotes in HTML tags while using old font packages with `XELATEX` and `LuaATEX`.
- MATHJAX packages**
- Added `\ifblank` and `\ifstrequal` to `MATHJAX` emulation.
 - `multirow`: Allow `\par` per v2.7.
 - `acro`: Updated to v3.5.
 - `fancyhdr`: Updated to v4.0.

- changes: Updated to v4.0.1.
- epsfig, rotating: Now work inside lateximage.
- amscdx: Verified to work with svg math. Warning added about use with MATHJAX.
- Added MATHJAX emulation for isomath, mattens, maybemath, skmath, tensor.
- Improved MATHJAX emulation for siunitx \backslash ang, \backslash num, \backslash SI.
- Added epsf, imprnattygo, isotope, lpic, luavlna, mdwmath, pinlabel, rlepf, tikz-imagelabels, xeavlna.
- Verified to work as-is: tensind.

v0.894: MATHJAX additions and improvements.

MATHJAX

- Improved warning message for enabling SVG graphics for select math expressions while using MATHJAX.
- Accept and ignore a star for \backslash hspace.
- Ignores \backslash arabic, \backslash number, \backslash noalign.

packages

- Added MATHJAX emulation for backnaur, colortbl, nicematrix.
- booktabs: MATHJAX emulation now absorbs and discards trim.
- menukeys: Updated to v1.6.1.

v0.893: Minor fixes, more packages.

MATHJAX

- Added MATHJAX emulation for \backslash mathnormal.

packages

- Fixed pstricks pspicture*.
- Fixed tikz font macros.
- braket: Now uses the MATHJAX extension.
- Added esvect, fixmath, keystroke, mathastext, menukeys, picinpar, plimsoll, repltext, selectp, seqsplit, simplebnf, statistics, swfigure.
- Added MATHJAX emulation for mathspec.
- Verified to work as-is for apxproof, syntaxdi, venndiagram.

v0.892: minted, fvextra, MATHJAX \backslash left/ \backslash right.

MATHJAX

- fourier, libertinustlmath, newpxmath, newtxmath, newtxsf, unicode-math: Added MATHJAX \backslash left/ \backslash right support for additional delimiters.

packages

- textpos: Updated to v1.10.
- xcolor: Fixed optional args for \backslash colorbox and related.
- Added fvextra, minted.

v0.891: MATHJAX additions and improvements.

- core**
 - Now displays inline `\verb` text as `\texttt`.
 - Fixed `alltt` and `verbatim` with \LaTeX lists.
 - Now generates an error if nested each of `warpHTML`, `warpprint`, `warpMathJax` inside itself.
- MATHJAX packages**
 - Added MATHJAX `textmacros` extension, allowing formatting inside `\text`.
 - `biblatex`, `hyperref`: Added back page references.
 - `fancyvrb`: Fixed `BVerbatim` with a label.
 - `listings`: Fixed MATHJAX with captions, improved HTML sanitation.
 - `babel-french`: Fixed `\texorpdfstring` conflict.
 - Now honors Greek package options for `mathdesign`, `mathpazo`, `mathptmx`, `newpxmath`, `newtxmath`.
 - Improved MATHJAX for `colonequals`, `mathdesign`, `mathdots`, `mathfixs`, `mathtools`, `multiobjective`, `nicefrac`, `shuffle`, `units`.
 - `unicode-math`: Added Greek macros, as well as macros for the first several categories listed in `texdoc unimath-symbols`. Improved symbol shape macros with Greek. Improved documentation.
 - Added `bussproofs`, `cmbright`, `fourier`, `kpfonts`, `kpfonts-otf`, `libertinustlmath`, `scalerel`, `txgreek`.

v0.89: Additional MATHJAX support.

- core**
 - Adapted to upcoming \LaTeX kernel changes.
 - Allows load of `amsmath` before `lwarp`.
- lwarpmk**
 - Also removes `*.bbl` when cleaning aux files.
- MATHJAX packages**
 - MATHJAX: Neutralized `\protect`, `\mathcode` and related, ligatures. Fixed nested environments.
 - `caption`: Updated for v3.5, fix for label sep.
 - `thmtools`: Updated for v0.72. Fixed `swapnumber`, `margin`.
 - Improved MATHJAX for `centernot`, `mathtools`, `mismath`, `Slunits`, `siunitx`, `statmath`.
 - Added MATHJAX emulation for accents, `hepunits`, `htensor`, `mathalpha`, `mathdesign`, `mathpazo`, `mathptmx`, `mleftright`, `newpxmath`, `newtxmath`, `newtxsf`, `pxfonts`, `shuffle`, `txfonts`, `upgreek`, `ushort`.
 - Verified to work as-is: `authoraftertitle`.

v0.88: Indexing, boxing, theorems.

- core**
 - **Now has programmed support for more than 500 packages and classes, of which more than 60 also support MATHJAX.**
 - Fixed: `\ref*`, and also added MATHJAX emulation.
 - If starting a new paragraph, `\hrulefill` creates a `<div>` with a thin horizontal line across the page. Use instead of `\hrule`.
 - Fixed: Use `\chaptername` where appropriate.

lwarpmk
indexing

- Fixed: Inline links causing extraneous paragraphs.
- Added `\lwarpmk -v` to print the version number.
- Added the `IndexRef` option to control the display of index entries. See section 7.5.
- Added `\IndexPageSeparator` and `\IndexRangeSeparator` for custom index styles.
- Added support for `gindex`, `xindex`.
- Verified to work as-is with `varindex`.

packages

- `cleveref`, `varioref`: Fix for starred macros.
- `varioref`: Removed page-related text from HTML output.
- `xfakebold`: Updated to v0.08, using `pdfrender`.
- `caption`, `scrextend`: Fixed `\caption*`.
- Added `fbox`, `shadethm`, `tcolorbox`, `termcal`, `thmbox`, `thmtools`.

v0.87: MATHJAX, bibliography packages.

core

- Added boolean `FixSmallCaps` for fonts which render small caps as all caps.
- Fixed `\bibliography` to use the HTML version's `.bbl` file. Previously the HTML bibliography relied on the print version's `.bbl`, thus would fail if the print document had not yet been created.
- Added `\ifstar` and `\ifnextchar` to MATHJAX, and removed `\DeclareIfstar`. See section 8.7.5.
- `physics`: Now supports the MATHJAX v3 extension.
- `mathtools`: Improved `\underbracket`, `\overbracket` for MATHJAX.
- `nccmath`: Improved `\underrel` for MATHJAX.
- `mhchem`: Now supports the MATHJAX v3 extension for `\ce` inside `math`.
- `cancel`: Now supports the MATHJAX v3 extension.
- `embrac`: Neutralized kerning for improved HTML conversion.
- Added `citeref`, `drftcite`, `jurabib`, `multibib`, `splitbib`.
- Verified to work as-is with `bibtopic`, `collref`, `mciteplus`.

MATHJAX

⚠ Removed
`\DeclareIfstar`
packages

v0.86: MATHJAX major updates.

core

- Fixed: Filename if named files with `*`, parens, period in section name.
- Fixed: Labels in `eqnarray`, `lateximage`.

MATHJAX

- Updated to MATHJAX v3. New repository.
- Fixed forward references for MATHJAX.
- Improved MATHJAX equation number formatting, now compatible with `amsmath \numberwithin` for chapters, sections, subsections, as well as `amsmath subequations`. See section 8.7.5.
- Added `\DeclareIfstar` to define starred `TEX` macros in MATHJAX. See section 8.7.5.

packages

- Generates an error if `\MathJaxFilename` file does not exist.
- `mathtools`, `nccmath`, `physics`: Added starred macros for MATHJAX.
- `nccmath`: Fixed `\nr`, `\displaybreak` for MATHJAX.
- `xcolor`: Fixed `\textcolor` with `babel-french`.

v0.85: fontspec

packages

⚠️ acro formats

- fontspec: Fixed core font change macros for world languages.
- acro: Due to v3 changes, when defining acronym formats, use `\textbf` instead of `\bfseries`, etc.
- Fixed `idxlayout`, `mathtools`, `titlesec`, `url`.

v0.84: Previous/next page links, numerous fixes.

docs

⚠️ home page footer changed

core

⚠️

- Added documentation of `BlockClass` and `\InlineClass` for `css <div>s` and `s`. See section 7.8.
- Added `\LinkPrevious`, `\LinkNext` page links. See section 7.6.
- Added `\FirstPageBottom`. Home page no longer shares `\PageBottom`. See section 7.6.
- Improved coexistence with `comment`, support for nested environments.
- No longer requires but still supports the `caption` package.
- Improved filenames and HTML titles when using special characters.
- Change: Append `-0` to section named `Index` previously `_index` to distinguish from `index.html`
- Fixed style tags for `\multicolumn`, `\multirow`.
- Fixed spacing in tabbing.
- Fixed `lateximage` for: `quote`, `quotation`, `verse`, `center`, `flushleft`, `flushright`, `<par>` tags, packages `verbatim`, `alltt`, `epigraph`.
- Fixed `textcomp` due to integration into \LaTeX kernel.
- Fixed `\itshape`, etc. Adapted to \LaTeX fontaxes integration.
- Fixed `\@fnsymbol`.
- Warns about section names with dollar-delimited math.
- Warns about a `` containing a float, caption, section, `mdframed`, or other `<div>` object.
- Only warn about \XeTeX logo and `graphics` if actually used `\Xe`.
- `lwarpmk clean` also removes `comment_*.cut`.
- `scrextend`, `scartcl`, `scrbook`: Added `\titlehead`, `\subject`, `\subtitle`, `\publishers`.
- `titling`: Fixed `\printthanks`.
- `memoir`, `abstract`: Fixed for updated memoir.
- `memoir`: Fixed `\newcomment`, `pagenotes`, `crossreferences`. Fixed setting a recursive name.
- Fixed or improved: `amsthm`, `backref`, `biblatex`, `fixme`, `nfssect-cfr`, `ntheorem`, `parcolumns`, `realscripts`, `rotfloat`, `titling`.
- Added `boxedminipage`, renamed from `boxedminipage2e` per author.
- Verified to work as-is with `mcite`.

lwarpmk

packages

v0.83: memoir fixes.

- packages
- memoir: Various fixes and updates.
 - physunits: Updated to v1.0.4.

v0.82: MATHJAX notes, xpinyin improvements, various updates.

- MATHJAX
- Improved footnotes with MATHJAX.
 - Added MATHJAX emulation for endnotes, marginnote, nccfoots, pagenote, parnotes, sidenotes.
- packages
- xpinyin: Added pinyin with modern HTML.
 - luatexko: Added `\dotemph`, `\ruby`, `\uline`, etc.
 - soul: Fixed `\<`.
 - chemfig: Updated to v1.5.
 - draftwatermark: Updated to v2.0.
 - ulem: Fixed: `\dashuline`.
 - amsmath: Fixed: `\intertext` with MATHJAX.
 - endnotes: Fixed: Marks in print mode.
 - tocvsec2, tableof: Verified to work as-is.
 - Added etoc (nullified).

v0.81: MATHJAX speedup and additional emulations.

- core
- Improved warning regarding svg math sizing/baselines and graphics/ graphicx. See section 8.7.
- MATHJAX
- Improved MATHJAX emulation processing speed.
 - Added MATHJAX emulation for accsupp, axessibility, colonequals, decimal, dotlessi, econometrics, engtlc, multiobjective, physunits, Slunits, stackrel, statmath.
- packages
- axessibility: Updated to 2020/01/08 version.
 - gridset: Updated to v0.3.
 - Slunits: Fixed for math mode.
 - Added DotArrow, nolbreaks, luamplib, returntograd, statex2, tagpdf.
 - Verified to work as-is with icomma, mathpunctspace, textualicomma.

v0.80: MATHJAX, biblatex.

- MATHJAX
- Added docs and warning/info messages re: avoiding slow MATHJAX compilation. See section 8.7.5, [Customizing MATHJAX](#).
 - Added MATHJAX emulation for accessibility, autobreak, centernot, extarrows, fouridx, gensymb, leftidx, mathcomp, mathdots, mathfixs, mismath, nccmath, noitcrul, pdfcomment, relsize, rmathbr, subsupscripts, xfrac.
 - Improved MATHJAX emulation for unicode-math.
- packages
- biblatex, url: Now create hyperlinks.
 - amsmath: Fix to center starred environments.

- xcolor, graphics: Made more macros robust.
- colortbl: Fix: Rule color in a lateximage.
- chemmacros: Updated to v5.10.
- Added fewerfloatpages, ghsystem, hline, mismath, nccmath.

v0.79: MATHJAX, nested tabular.

MATHJAX

- Added or improved MATHJAX emulation for amsmath, ar, arydshln, bm, bigdelim, bigstrut, booktabs, braket, mathtools, multirow, physics, siunitx, slashed, unicode-math, xfakebold.
- Warn if using certain packages not supported by MATHJAX.

core

- tabular: Now may be nested.
- minipage, \parbox, fminipage, \makebox, \framebox: Fix: Adjust for virtual page size.
- Uses new iftex.

packages

- graphicx: Fix: Negative angles.
- caption: Fix: \captionlistentry with longtable.
- multirow: Fix: Centered vertical alignment.
- siunitx: Fix: \square, \cubed.
- booktabs: Fix: memoir with lateximage.
- babel and polyglossia: Added troubleshooting warnings.
- fontawesome, fontawesome5: Supports text color and size.
- transparent: Fix: lateximages.
- epigraph: Updated to v1.5e.
- xurl: Updated to v0.08.
- subcaption: Fixed with memoir.
- floatrow: Fix: \linewidth. No longer require float, graphics.
- floatflt, wrapfig, niceframe: Fix: Adjust for virtual page size.
- Added widetable, witharrows, steinmetz.
- Added awesomebox, catoptions.
- Added svg, supports svg-extract.
- Added parcolumns, pdfcolparcolumns,
- Added parallel, pdfcolparallel.
- Added pdfcol, pdfcolfoot, pdfcolmk.

v0.78: Fixes for support files, alt tags, hyperlinks, and the 2019/10 L^AT_EX release.

docs

- Docs: Improved documentation regarding package options. See section 8.1.
- Fix to overwrite existing support files using new filecontents environment.

packages

- breqn: Previously broken by the 2019/10 L^AT_EX update, but now working again.
- graphics: Fix for \includegraphics alt tags.

- babel-french: Fix for hyperlinks.
- media9, movie15, multimedia: Fix for the 2019/10 L^AT_EX update.
- accessibility: Added.

v0.77: Updates to fix recently-broken packages.

- booktabs: Updated to v1.6180339.
- chemformula: Updated to v4.15.

v0.76: MATHJAX, updates for L^AT_EX 2019/10 release.

docs

- Docs: Expanded documentation regarding the use of multiple projects in the same directory. See section 5.17.

MATHJAX
packages

- MATHJAX: Updated to v2.7.6.
- xr: Updated to v5.05.
- xr-hyper: Updated to v6.1.
- Verified works as-is with xcite.
- acro: Updated to v2.10.

⚠ broken

- Currently broken in print mode by the 2019/10 L^AT_EX update, and waiting for fixes: breqrn, grffile, multimedia, movie15.

v0.75: keyfloat, wrapfig

packages

- \minipage: Fix for \linewidth.
- keyfloat: Improved color control.
- wrapfig: Fix for \linewidth.

v0.74: Docs, SVG math, *lwarpmk*, HTML alt and title text, lyluatex

docs


- Added to the tutorial the section **What next?**. See section 5.19.
- Added documentation about localization options. See section 7.1.
- Added documentation about accessibility options. See section 7.2.
- Renamed and updated HTML alt text macros:

⚠ HTML alt text
changed names

Old	New
(hard coded as “image”)	<code>\ImageAltText</code>
<code>\mathimagenname</code>	<code>\MathImageAltText</code>
<code>\packagediagramname</code>	<code>\PackageDiagramAltText</code>

- Added `\ImageAltText` for the default HTML alt text for an image. See section 7.6.
- Added `\ThisAltText`, which may be used to assign a one-time HTML alt tag to the very next image generated by *lwarp*, such as a `lateximage`, `picture`, `tikzpicture`, an image generated by various chemistry or engineering packages, or an SVG math image. This macro also adds a title tag to a reference or hyperlink. See section 7.6.
- Adjusted `\LateximageFontSize` default from .75 to 1.
- Fix: Font control for SVG math.

SVG math

- misc**
 - Fix: Ignores negative `\hspace`.
 - Warning if `SideTOCDepth < FileDepth`.
 - lwarpmk**
 - **lwarpmk**: `lwarpmk clean` removes additional files.
 - **lwarpmk**: `lwarpmk epstopdf` and `lwarpmk pdftosvg` now honor directories.
 - packages**
 - **lyuatex**: Split images by system or per fullpage, improved margins and scaling.
 - Tested to work as-is with `mathspec`, `unicode-math`.
- v0.73:** `\include`, `memoir`, `koma-script`, `caption`, `xy`, `datatool`, music scores.
- Fix for `\include`.
 - Warning for a `tabular` inside a ``.
 - `\color`: Added HTML support for rules and frames, but not inline text. Use `\textcolor` if possible.
 - Improved many HTML tags, reducing *tidy* warnings. See Change History.
- packages**
 - **memoir**: Fixes for `\frontmatter*` and `\mainmatter*`. Added `\book`.
 - **koma-script**: Fix for starred captions in the toc.
 - **caption**: Fix for starred captions.
 - **datatool**: Added pie, bar, and plot charts.
 - **threeparttable**: Added `measuredfigure`.
 - **intopdf**: Updated to v0.2.1.
 - **tocdata**: Updated to v2.03.
 - **quotchap**: Updated to v1.2.
 - **versionotes**: Updated to v0.4.
 - **backnaur**: Now uses svg images. Updated to v3.1.
 - **xy**: Fix for `\xybox`, improved `xy`, also now compatible with `qcircuit`.
 - **fancyvrb**: Fix for label HTML tags.
 - Added `stackengine`.
- music**
 - Added `lyuatex`. (Music scores.)
 - **musicography**: Updated to 2019/05/28. Added support for `lateximages`.
- v0.72:** Font control, `\multicolumn`, `xr` and `xr-hyper`.
-  **images**
 - Due to internal changes, images for inline svg math and `lateximages` will have new hash values, and will have to be regenerated using
 - Enter ⇒ `lwarpmk cleanimages`
 - and
 - Enter ⇒ `lwarpmk limages`
 - Docs: Color-codes package names in the table of supported packages and features, table 2, according to each package's level of support by `lwarp`.
 - `\multicolumn`: Fix for paragraph columns.
- packages**
 - `xr`, `xr-hyper`: Fixes for references, `\externaldocument`.

- `soulutf8`: Fix: Loads soul for emulation.
- `boxedminipage2e`: Added support for `lateximages`.
- `zhlineskip`: Updated to v1.0e.
- Added `fontaxes`, `slantsc`, `tabfigures`.
- Added `nfssect-cfr`, thus supporting `cfr-lm` and several other font packages.
- Added `backnaur`, `hypbmsec`, `minibox`, `pdfcrypt`, `shapepar`.

v0.71: Error handling, multimedia, tabular.

- `tabular`: Added support for ‘*’ columns. Fix for paragraph tags.
- `quotation`: Fix for HTML tag.
- Docs: Added a section about error conditions tested by lwarp. See section 13.1.
- `lwarpmk`: If file `lwarpmk.conf` is an older version, or the incorrect operating system, displays the print command to use to recompile.
- `chemfig`: Updated for v1.4.
- `endfloat`: Updated for v2.7.
- `textpos`: Updated for v1.9.1.
- Added `media9`, `movie15`, `multimedia`.

packages

multimedia

v0.70: Error handling, MATHJAX, mathtools.

- Error handling for “Label(s) changed.” Refuses to `lwarpmk` `limages` until recompile first.
- Fix: If Computer Modern font is used, ensures `cm-super` or `lmodern` is used.
- Fixes for `\makebox`.
- Fixes for `\parbox` inside a ``.
- `MATHJAX`: Updated to v2.7.5. Loads the `autoload-all.js` extension. Added `\MathJaxFilename` to select custom scripts.
- `textcomp`, `xunicode`: Fix for `\textinterrobang`.
- `mhchem`: Works with `MATHJAX`. See section 408.
- `changes`: Updated to v3.1.2.
- Added `autonum`, `changelayout`, `inputtrc`, `mathtools`, `metalogox`.

packages

v0.69: Error handling, many fixes, improved keyfloat / tocdata.

- Fix for HTML corruption of `lateximage` displays.
- `\makebox`, `\framebox`: Fix for `(\langle width,height \rangle)` arguments.
- `fminipage`: Honors `\minipagefullwidth`.
- `array`, `longtable`: Fix for `\tabularnewline`.
- `tabularx`, `tabulary`: Fix to require the `array` package.
- `supertabular`, `xtab`: Fix to clear caption after use.
- `graphics`: Added a warning if used the `\includegraphics scale` option.

packages

- **multirow**: Added an error if didn't use `\mrowcell` or `\mcolrowcell` when using `\multirow` or `\multicolumnrow`.
- **keyfloat**: Updated for v2.00, additional improvements.
- Added `ctable`, `eqlist`, `eqparbox`, `ftcap`, `listliketab`, `minitoc`, `tocdata`, `topcapt`.

v0.68: Error handling, tabulars, footnotes.

lwarpmk

- *lwarpmk*: Improved error handling for image generation if compile was incomplete.
- `tabular`: Fix for `\warpprintonly`.

packages

- `longtable`: Improved flexibility for `\endhead`, etc. Improved error reporting if `\endhead`, etc. incorrect for `lwarp`.
- `threeparttable`: Fix for caption type.
- `hyperref`: Fix for options with braces.
- `morefloats`: Fix to be loaded early for print output.
- `listings`: Updated for v1.7.
- Added `bigfoot`, `fnpara`, `footnotebackref`, `manyfoot`, `tablefootnote`, `threeparttablex`.
- Added `layouts`, `niceframe`, `perpage`, `showtags`.
- Prevented `alg`, `algorithmic`, `pdfcprot`, `fncylab`.

v0.67: Filename generation, symbol fonts.

docs

- Documentation fix for `<project>-images`, `<project>-images.txt`.
- Added discussion regarding section names. See section 8.4.

filenames

- Added `\FilenameNullify` and `\FilenameSimplify` for filename generation. See section 8.4.
- Core, `textcomp`, `xunicode`: Nullified additional symbols during filename generation.

packages

- `color`: Fix for version number warnings.
- Added `academicons`, `bbding`, `dingbat`, `eurosym`, `fontawesome`, `fontawesome5`, `marvosym`, `pifont`, `typicons`.
- Added `changes`, `easyReview`, `fitbox`, `foreign`, `gloss`, `karnaugh-map`, `multicap`, `nomencl`, `notes`, `struktex`, `umoline`, `xfakebold`.
- Tested to work as-is with `askmaps`, `curves`, `euro`, `karnaughmap`, `tikz-karnaugh`.

v0.66: `xr`, multiple projects, image names/directory, HTML formatting

⚠ Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.

lateximage

- Adds options `ImagesDirectory` and `ImagesName` to assign directory and name prefixes for `lateximage` images. The new defaults include the job-name, allowing the image directories for multiple projects to coexist.

⚠ existing projects

- To reuse existing `lateximage` directories, add `lwarp` options


```
\usepackage[
  ImagesDirectory={lateximages},
  ImagesName={lateximage-}
]{lwarp}
```

If not reused, the existing `lateximages` directory and `lateximages.txt` file may be removed.

filenames

⚠ Possible filename changes

WINDOWS

floats

lists, table notes

tabular

indexing

minipage

colors

HTML

docs

packages

- Added `\FilenameLimit` to control the maximum length of the filenames generated by `lwarp`.
- Improved filename generation when special characters or macros are used in section names.
- Fix for `lwarpmk cleanImages` with `WINDOWS`.
- Fixes for floats in the home page.
- Improved css for definition lists, table notes.
- `tabular`: Fixes for `\par` in column specifier, `minipage` inside `tabular`.
- Indexing: Fix for a long line of multiple entries.
- `\minipagefullwidth`: Fix for global changes.
- Added `\UseMinipageWidths` and `\IgnoreMinipageWidths`. See section 8.3.3.
- Improved `\fbox`, `\fboxBlock`, `\fminipage` to use current text color.
- Improved HTML output formatting.
- Added discussion regarding invalid HTML. See section 8.1.1.
- Added discussion regarding math in section names, `\imagegraphics scale` option. See section 6.
- Added discussion regarding international languages in section names. See section 8.14.
- `caption`: Fix for options clash.
- `xr`, `xr-hyper`: Now compatible.
- `subcaption`: Improved horizontal spacing.
- `multicol`: Fix for `minipage` inside `multicols`.
- `multicolrule`: Updated for v1.2.
- `tocbasic`: Minor update.
- `acronym`: Fix for acronym in float caption.
- `kotexutf`: Patch with `pdflatex` and new `lwarp` labels.
- `extramarks`, `fancyhdr`: Updated for v3.10.
- `memoir`: Added docs regarding version numbers. See section 8.13.
- `zref`: No longer required.
- Added `ar`, `ed`, `indentfirst`, `nameauth`, `truncate`.
- Verified to work as-is with `changelog`.
- Prevented `colortab`, `epsf`, `hyper`, `picinpar`, `picins`, `sistyle`, `ucs`.

v0.65: css layout, alt tags, Japanese.

- page layout
 - Moved the sideroc to the left side, allowing improved css for margin notes.
 - Improved page layout css.
- image alt tags
 - `graphicx \includegraphics`: Added the alt key to assign an alt tag to an image. Default is “image”, assigned to pass validation.
- duplicate HTML files
 - Detects and causes an error if duplicate HTML file names are generated, caused by identical or similar sectioning names.
- fixes
 - Fix for `tabular*`.
 - Fix for `tabular` border colors.
 - Fixes `\quad`, `\enskip`, and figure captions to pass validation.
- Japanese
 - Added `ltj*` classes, `bounddvi`, `gentombow`, `ltxtext`, `plarydshln`, `plext`, `plextarydshln`, `plextcolortbl`, `pxatbegshi`, `pxeveryshi`, `pxftnright`, `pxjahyper`, `tascmac`.
 - Verified to work with `plarray`, `plautopatch`, `plextarray`, `plextdelarray`, `pxgentombow`, `plsiunitx`, `pxpdfpages`, `pxpgfrcs`, `pxpgfmark`.
- packages
 - Added support for `fontspec \textsi` and `\sishape`.
 - Added `multicol`'s `\docolaction`.
 - Added `embrace`, `footnoterange`, `multicolrule`, `versionotes`.

v0.64: Koma-Script, Japanese, Chinese.

- Japanese
 - Added `utarticle` and related classes.
 - Improved `ujarticle` and related classes.
- Chinese
 - Fix for `biblatex` with `CTEX` and other classes.
- Koma-Script
 - Fixes for `sclayer`, `sclayer-scrpage`.
- packages
 - `addlines`: Updated to v0.3.
 - Added `bsheaders`, `gmeometric`, `marginal`, `rmpage`, `scrpage2`.

v0.63: mdframed, Chinese, Japanese, Korean

- localization
 - Added `\Linkhomename`: A user-definable name for the **Home** link.
 - Documented `\sidetocname`: A user-definable name for the sideroc.
- fixes
 - Fix: `\LinkHome` for print output.
- optimizations
 - Moved package load checks to the lwarp core to reduce the number of `lwarp-*` files.
- packages
 - `mdframed`: Fix with `amsthm`, improved titles and font control. Improved rule widths.
- Chinese
 - Fixes for `xeCJK`.
 - Added `xpinyin`, `zhlineskip`.
 - Verified to work with `ckjpunct`, `upzhkinsoku`, `zhspacing`.
- Japanese
 - Verified to work with `zxjatype`, `luatexja`, `luatexja-fontspec`.
 - Added `bxjsarticle` and related classes.
 - Added `ltjsarticle` and related classes.
 - Added `pLATEX`, `upLATEX`, `ujarticle` and related classes.

- Prevented utarticle and related classes.
 - Prevented bxcjkatype.
- Korean**
- Verified to work with kotex, xetexko, luatexko.
- v0.62:** MiKTeX docs, HTML title, CTeX, xeCJK, bitpattern.
- docs**
- Docs: Setting a UTF-8 locale. See section 9.8.
- MiKTeX**
- MiKTeX: Docs for *MiKTeX Console* and miktex-poppler-bin.
- HTML <title>**
- HTML subpage titles: Added \HTMLTitleBeforeSection and \HTMLTitleAfterSection to select whether the HTML <title> displays the website name before or after the section name. See section 7.6.
- fixes**
- Fix for package options handling.
 - Fixes for horizontal white space between fminipage, fcolorminipage, colorboxBlock, fcolorboxBlock.
 - Logos: Fix for XeTeX logo, improved css, made robust, improved search-engine optimization.
 - \[\$1]: Additional HTML
 if \$1 > 0 pt.
 - Fixes for \includgraphics filename, and with FormatWP.
 - Fix: css for \textup.
 - Fix: Added \slshape.
- Chinese**
- Added ctex package and related classes, xeCJK.
 - Prevented CJK, CJKutf8 unless xeCJK, ctex are used.
- packages**
- chemfig: Docs for new macro \polymerdelim.
 - asymptote: Docs for compilation.
 - chngpage: Fix to load lwarp-changeage.
 - algorithm2e: Fix with non-book classes.
 - register: Updated to v1.8.
 - nicefrac: Improved font control and css, honors nice and ugly.
 - units: Improved font control and css, honors tight and loose.
 - xfrac: Improved css.
 - textcomp and xunicode: Fix conflicts with \textcircled.
 - ulem: Improved compatibility with CJKulem, lateximage.
 - MATHJAX and siunitx: Removed inoperable extension.
 - Added bitpattern, pdfcomment, pdfmarginpar, tram, unitsdef, xexchangebar.
 - Added musicography, octave, semantic-markup.
 - Added 2in1, flippdf, notespages, rviewport, twoup.
- v0.61:** Custom compilation, EPS-related packages, documentation, indexes.
- docs**
- Split index into multiple indexes.
 - Improved documentation regarding font selection. See section 7.4.
 - Added documentation regarding debugging options. See section 35.

custom compiling

- Added documentation regarding HTML entities inside program listings. See section 8.2.1.
- Added options to specify the shell commands to execute for `lwarpmk print` and `lwarpmk html`, allowing the use of `lwarp` with `perltex`, `pythontex`, etc. If not specified, these are set automatically depending on the L^AT_EX engine, `--shell-escape`, and `lwarp` options. See section 9.

⚠ changed names

- Changed macro names to match `\displaymathother`, `\displaymathnormal`:

Old	New
<code>\StartDynamicMath</code>	<code>\inlinemathother</code>
<code>\StopDynamicMath</code>	<code>\inlinemathnormal</code>

fixes

- Fix: Paragraph tags in a tabular.
- Fix: `supertabular` and `xtab` captions.
- Fix: DVI L^AT_EX `\includegraphics` EPS images.
- Fix: `newfloat` lists.
- Fix: CSS footnotes text align, `minipage` tabular and footnote margins.

packages

- Added `epsfig`, `psfrag`, `psfragx`, `pstool`.
- Added `copyrightbox`, `pdfprivacy`, `thinsp`, `threadcol`, `uspace`.
- Added `chkfloat`, `cmdtrack`, `dprogress`, `lua-visual-debug`, `refcheck`, `srcltx`, `srctex`, `vpe`, `xbmks`.

v0.60: Fixes for `longtable`, listings.

fixes

- `longtable`, etc.: Fixes for slowdown and memory management for very long tables.
- listings: Fix for HTML entities, and also when used inside a list.
- `diagbox`: Fix for incorrect HTML `par` tags.

packages

- Added `2up`, `booklet`.
- Added `bophook`, `draftfigure`, `fullminipage`, `grid-system`, `layaureo`.
- Added `leading`, `widows-and-orphans`.
- Added `fancytabs`, `thumb`, `thumbs`.

v0.59: DVI `latex`, MATHJAX, `asymptote`, `pdftricks` and `pstricks`, `epstopdf`, `brqen`.

⚠ Reset the configuration

- Due to changes in `lwarpmk`, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which `lwarpmk` may then be used with the new configuration files.

`lwarpmk`

- Added an error if `lwarpmk.conf`'s format has changed and the document must be recompiled.
- Added a warning if the `lwarpmk.conf` configuration file appears to be for the wrong operating system, in case files are transferred between systems.
- Added

```
lwarpmk epstopdf <list-of-EPS-files>
```

to quickly convert a document's EPS images to PDF or SVG. See section 8.8.

DVI `latex`

- Added support for DVI `latex`. See section 7.5.

- latexmk*
 - Fix for `--shell-escape` with *latexmk*.
- math*
 - Updated MATHJAX script to v2.7.4.
 - Fix: MATHJAX chapter number removed from non-numeric tagged equations.
 - Added MATHJAX support for nicefrac, units.
 - Fix for `\[` and `\]` with `\displaymathnormal`.
- images*
 - Fix for `\includegraphics` filename expansion.
 - `\includegraphics` now works with `.pdf` and `.eps` filename extensions.
- packages*
 - Moved amsmath out of the lwarp core.
 - Fix for chemformula `\NMR`.
 - Added asymptote, pdftricks, pstricks, pst-eps.
 - Added breqn, Slunits.
 - Added bxpapersize, canoniclayout, draftcopy, fbreak, nccfancyhdr.
 - Added accsupp, axessibility.
 - Added xunicode.
 - Improved and now supports epstopdf.
 - Tested to work as-is: eepic, sepfootnotes.
- docs*
 - Added information about setting up a development version of lwarp.

v0.58: Extensive improvements in indexing, glossaries. Adds PDF-inclusion packages.



Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdf latex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.

lwarpmk

glossaries

- *lwarpmk*: Added the `-p` option to specify the project name.
- *lwarpmk*: Now uses *makeglossaries* for glossary generation, allowing the processing of multiple glossaries at once.
- Added lwarp option `GlossaryCmd` to specify the shell command used by *lwarpmk* `printglossary` and *lwarpmk* `htmlglossary`. Defaults to *makeglossaries*.

index and glossary

- Docs: Extra indexing options. See section 8.6.14.
- Added support for *makeindex*. (Previously supported only *xindy*.) Also added indexing packages listed below.
- Added lwarp options `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to specify shell commands used by *lwarpmk* `printindex`, *lwarpmk* `htmlindex`, and *latexmk*. May be preset with the `makeindex` or `xindy` lwarp options. See section 7.5.
- Added lwarp options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section 7.5.
- Added lwarp option `makeindexStyle` to tell *lwarpmk* to use a custom style instead of `lwarp.ist`. See section 8.6.20.

misc. fixes

- Fix for index entries with `\see`, `\seealso`, `\emph`, `\textbf`, etc.
- Replaced each `\csuse` with `\@nameuse` for improved error detection.

packages

- Additional internal print/HTML macro selection improvements.
- Fix: `\printindex` finishes pending `\index` writes first.
- Fixes for memoir: `makeidx`, `ccaption`, multiple indexes, `\specialindex`.
- Fixes for komascript: Indexing improvements.
- Added `imakeidx`, `index`, `repeatindex`, `splitidx`.
- Added `attachfile`, `attachfile2`, `intopdf`, `pdfpages`, `pdfx`.
- Added `cases`.
- Tested to work as-is: `notes2bib`, `hvinde`.

v0.57: `algorithm2e`, float styles, tabular packages, internal improvements.

MathJax

math macros

dynamic math

△ new name

lateximage alt tags

- Added support for MATHJAX equations with `\footnote`, `\footnotemark`.
- Added `\StartDefiningMath` and `\StopDefiningMath` for use when defining macros in the preamble which contain `$`. See section 8.7.7.
- Added `\inlinemathother` and `\inlinemathnormal` to delimit math expressions which depend on a variable condition such as a counter. Such expressions will not be hashed for reuse, and will be converted to SVG math images even when MATHJAX is enabled. See section 8.7.8.
- Renamed `\EndDefiningTabulars` to `\StopDefiningTabulars`.
- Improved localization for `lateximage` HTML alt tags. For SVG math images, the alt tag under some conditions will be set to `\MathImageAltText`, which defaults to `math image`. For packages, the alt tag is set using the package name followed by `\PackageDiagramAltText`, which defaults to `diagram`. Ex:

`(-xy- diagram)`

See section 7.6.

misc. fixes

packages

- Fix: Improved print/HTML macro selection.
- Fix: `\href` text catcodes.
- Fix: `\subref` text.
- Fixes: Colored `\rule` and `\boxframe`.
- `float`, `rotfloat`: Adds support for float styles `ruled` and `boxed`.
- `float`: Fix: Do not create `\l@<type>` until `\listof` is used.
- `marginnote`: Fix: Long optional argument.
- `ellipsis`: Adds `\midwordellipsis`.
- `breakurl`: Fix for text catcodes.
- Added `algorithm2e`, `register`, `ltablex`, `xltabular`, `xellipsis`, `trimclip`, `errata`, `vowel`, `xpiano`.
- Prevents `glossary`.
- Tested to work as-is with `gauss`, `phonrule`, `piano`, `Slunits`, `tikzcodeblocks`.

v0.56: Shell escape, tabular packages.

- lwarpmk*
 - Added
 - `lwarpmk pdftosvg <list-of-PDF-files>`
 - to quickly convert a document's PDF images to SVG, for use with HTML. See section 8.8.
 - Added support for `--shell-escape`. See section 7.3.
- tabular*
 - Added support for array `w` and `W` columns.
 - Fix: `\multicolumn` parameter handling.
 - Added support for double `\hlines`, `\midrules`, and vertical rules.
 - Added support for `arydshln` dashed lines with HTML *tabular*, but reverts to plain rules for *lateximage* and *svg math array*.
- misc. fixes*
 - Fix: `\thinspace`.
 - Fix: *paralist* compact environments.
- packages*
 - Added *parnotes*, *quoting*, *lua-check-hyphen*, *tocenter*, *underscore*.
 - Added *bibunits*.
 - Tested to work as-is with *babelbib*, *bodegraph*, *fast-diagram*, *nicematrix*, *structmech*.

v0.55: Various fixes.

- misc fixes*
 - Fix: Extraneous space in file links, which also prevented *Calibre* EPUB conversions.
 - Fix: Float optional argument regression.
 - Fix: `\ForceHTMLTOC` with `\phantomsection`.
 - Fix: Overfull boxes in *lateximages*.
 - Fix: QED symbols in *lateximage*.
- packages*
 - *koma-script*: Fix: Figure with `\centering`, etc.
 - Added *clrdblpg*.

v0.54: Float `\centering`, improved image checks.

- ⚠ Reset the configuration
 - Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.
- lwarpmk*
 - *lwarpmk limages* checks for the presence of the HTML version of the document and valid image references before attempting to create the *lateximages*.
 - *lwarpmk*: Improved error message if configuration file does not exist.
- BibTeX*
 - Added documentation for avoiding error with BibTeX and `\etalchar`. See section 8.6.9.
- polyglossia*
 - Added documentation regarding *polyglossia*. See section 8.15.4.
- macros in section names
 - Added documentation regarding the use of macros in section names. See section 8.1.
- document encoding
 - Renamed and added package options:
- ⚠ New and revised encoding options

Old Package Option	New Package Option
xdyFilename	xindyStyle
IndexLanguage	xindyLanguage
–	xindyCodepage
–	pdftotextEnc

Use these options along with `inputenc` or `inputenx` to process documents in an encoding other than UTF-8. See section 7.4.

floats with `\centering`, etc.

- Floats now honor `\centering`, `\raggedright`, `\raggedleft`, and their `ragged2e` equivalents, when placed directly after:

```
\begin{floattype}
\centering
```

misc. fixes

- `tikz`: `\pgfpicture`, `fit`, `align`, `font`.
- `ragged2e`: `\centering` etc.
- `hyperref`: `\hypertarget` was creating duplicate of `\label`.
- `hyperref`: Active chars inside `\hyperref`, `\hyperlink`.
- `hyperref`: `\ref` inside `\hyperlink` caused a nested HTML link.
- `glossaries`: Fix when not using `babel` or `polyglossia`.
- `textcomp`: `\textperthousand`.
- L^AT_EX core verse environment: line spacing.
- Removed `\citetitle`, adjusted `\attribution`.
- `memoir`: Minor update for v3.7g.
- Added `inputenx`, `bibunits`, `chnpage`, `forest`, `magaz`, `gridset`.
- Prevents loading `ae`, `aecc`, `tlenc`, and `wasysym`.



packages

v0.53: Improved image checks.

lwarpmk

- *lwarpmk*: Added a warning about corrupted images due to the need to recompile the document one more time.
- *lwarpmk*: Added the `lwarpmk cleanimages` command.
- Added documentation for `lwarpmk cleanimages` and `lwarpmk pdftohtml`.

v0.52: Improved footnotes, SVG math.

documentation

- Improved install instructions regarding `lwarp_baseline_marker.png`.
- Added documentation regarding footnotes in section headings, and footnotes with `\VerbatimFootnotes` from `fancybox`, `fancyvrb`. See section 8.5.4.
- Added documentation regarding font selection when using X_EL^AT_EX or Lua^AT_EX with `fontspec` and traditional font packages. See section 7.4.

SVG math

- Fix: Limit the number of background tasks when generating `lateximages`.
- Added user-adjustable SVG math font scaling. See section 84.3.
- Added warnings if `lwarp_baseline_marker.png` is not present, or if `graphicx` or `graphics` is not loaded.
- Improved `\ensuremath` hashing expansion.

- Fix: `equation*` with `split`.
- `tabbing` now works inside a `lateximage`. Use for math in `tabbing`.
- Fix: `MATHJAX` script was not executing in some conditions.
- Added `\CustomizeMathJax` to add custom functions. See section 8.7.
- Fix: Footnote numbering when using `HTMLDebugComments`.
- Fix: Footnote paragraph tags.
- Fix: `FootnoteDepth` defaults to `\subsubsection`.
- Fix: `\kill` in a `lateximage`.
- Fix: `\FileDepth`, misc. others, when input encoding is not `utf8`.
- Fix: `\texorpdfstring` in a section name.
- `hyperref` emulation: Fix for `#`, `%`, `&`, `~`, `_` characters in URLs.
- `fancybox`, `fancyvrb`: Initial support for `\VerbatimFootnotes`.
- `nicefrac`: Added with fix for `\ensuremath`.
- `graphicx`: Fix for option defaults. Added `v1.1a/b` options.
- `endfloat`: Updated for `v2.6`.
- `url`: Fixes for active characters.

2 Introduction

The `lwarp` project aims to allow a rich \LaTeX document to be converted to a reasonable `HTML5` interpretation, with only minor intervention on the user's part. No attempt has been made to force \LaTeX to provide for every `HTML`-related possibility, and `HTML` cannot exactly render every possible \LaTeX concept. Where compromise is necessary, it is desirable to allow the print output to remain typographically rich, and compromise only in the `HTML` conversion.

Several “modern” features of `HTML5`, `CSS3`, and `SVG` are employed to allow a fairly feature-rich document without relying on the use of `JAVASCRIPT`. Limited testing on older browsers shows that these new features degrade gracefully.

`lwarp` is a native \LaTeX package, and operates by either patching or emulating various functions. Source-level compatibility is a major goal, but occasional user intervention is required in certain cases.

As a package running directly in \LaTeX , `lwarp` has some advantages over other methods of `HTML` conversion. `TEX` itself is still used, allowing a wider range of `TEX` trickery to be understood. Lua expressions are still available with `LuaTeX`. Entire categories of \LaTeX packages work as-is when used with `lwarp`: definitions, file handling, utilities, internal data structures and calculations, specialized math-mode typesetting for various fields of science and engineering, and anything generating plain-text output. Blocks of `PDF` output may be automatically converted to `SVG` images while using the same font and spacing as the original print document, directly supporting `Tikz` and `picture`. Numerous packages are easily adapted for `HTML` versions, either by loading and patching the originals, or by creating nullified or emulated replacements, and all without resorting to external programming. As a result, several hundred packages have already been adapted (table 2), and an uncounted number more work as-is.

Packages have been selected according to several criteria: perceived importance, popularity lists, recent CTAN updates, CTAN topics, mention in other packages, support by other `HTML` conversion methods, and from sample documents taken from public archives. These include some “obsolete” packages as well.¹

Assistance is also provided for modifying the `HTML` output to suit the creation of `EPUB` documents, and for modifying the `HTML` output to ease import into a word processor.

`pdflatex`, `xelatex`, or `lualatex` may be used, allowing `lwarp` to process the usual image formats. While generating `HTML` output, `SVG` files are used in place of `PDF`. Other formats such as `PNG` and `JPG` are used as-is.

¹An amazing number of decades-old packages are still in use today.

svg images may be used for math, and are also used for picture, Tikz, and similar environments. The svg format has better browser and e-book support than MathML (as of this writing), while still allowing for high-quality display and printing of images (again, subject to potentially bug-ridden² browser support).

Furthermore, svg images allow math to be presented with the same precise formatting as in the print version. Math is accompanied by `<alt>` tags holding the L^AT_EX source for the expression, allowing it to be copy/pasted into other documents.³ Custom L^AT_EX macros may be used as-is in math expressions, since the math is evaluated entirely inside L^AT_EX. An MD5 hash is used to combine multiple instances of the same inline math expression into a single image file, which then needs to be converted to svg only a single time.

The MATHJAX JavaScript display engine may be selected for math display instead of using svg images. Subject to browser support and Internet access, MATHJAX allows an HTML page to display math without relying on a large number of external image files.⁴ lwarp maintains L^AT_EX control for cross-referencing and equation numbering, and attempts to force MATHJAX to tag equations accordingly.

A *texlua* program called *lwarpmk* is used to process either the print or HTML version of the document. A few external utility programs are used to finish the conversion from a L^AT_EX-generated PDF file which happens to have HTML5 tags, to a number of HTML5 plain-text files and accompanying images.

lwarp automatically generates the extra files necessary for the HTML conversion, such as css and .xdy files, and configuration files for the utility *lwarpmk*. Also included is a parallel version of the user's source document, `<sourcename>-html.tex`, which selects HTML output and then inputs the user's own source. This process allows both the printed and HTML versions to co-exist side-by-side, each with their own auxiliary files.

When requesting packages during HTML conversion, lwarp first looks to see if it has its own modified version to use instead of the standard L^AT_EX version. These `lwarp-packagename.sty` files contain code used to emulate or replace functions for HTML output.

²FIREFOX has had an on-again/off-again bug for quite some time regarding printing svgs at high resolution.

³There seems to be some debate as to whether MathML is actually an improvement over L^AT_EX for sharing math. The author has no particular opinion on the matter, except to say that in this case L^AT_EX is much easier to implement!

⁴One svg image file per math expression, except that duplicate inline math expressions are combined into a single file according to the MD5 hash function of its contents. A common scientific paper can easily include several thousand files, and in one case the MD5 hash cut the number of files in half and the rendering time by 30%.

2.1 Typesetting conventions

Font weight, family, and style are used to indicate various objects:

Table 1: Typesetting conventions

package	L ^A T _E X package.
<i>program</i>	Program's executable name.
option	Program or package option.
filename	File name in the operating system.
BRAND NAME	Proper name for a program, operating system, etc.
commands	Commands to be entered by the user.
code	Program code.
\macroname	L ^A T _E X macro.
environment	L ^A T _E X environment.
counter	L ^A T _E X counter.
boolean	L ^A T _E X boolean.
<element>	HTML element.
attribute	HTML attribute.
User Interface	A user-interface item.
ACRO	Acronym.

2.2 Supported packages and features

Table 2 lists some of the various L^AT_EX features and packages which may be used.

Package names are colored according to their support level:

name: Supported as-is.

name: Modified to work with HTML output, and perhaps also as print output in `svg` `math` or `lateximage` environments.

name: Emulated for HTML output.

name: Ignored for HTML output, but provides source-level compatibility.

MJ: Supported as-is for MATHJAX, subject to limitations.

MJ: Emulated for MATHJAX using custom macros, subject to limitations.

MJ: Ignored by MATHJAX, but may be used in the document source. May be converted to SVG images.

Table 2: L^AT_EX lwarp package — Supported features

Category	Status and supported features.
Engines:	DVI L ^A T _E X, pdfL ^A T _E X, X _Ǝ L ^A T _E X, LuaL ^A T _E X, upL ^A T _E X
Compiling:	<i>latexmk</i> , <i>perltex</i> , <i>pythontex</i> , <i>make</i> , etc.
Classes:	article, book, report, scrartcl, scrbook, screprt, memoir, CJK-related as listed below.
Koma-script:	scrextend , scrhack, scrlayer . Others as listed below.
Memoir:	memhfixc
Languages:	babel , ckjpunct , impnattypo, luavlina , polyglossia , xeCJK , xevlina .
Chinese:	CT _E X, ctex , upzhkinsoku , xpinyin , zhlineskip, zhspacing.
Japanese:	upL ^A T _E X, LuaT _E X-ja, gentombow, lltjext , plarray , plarydshln , plautopatch , plext , plextarray , plextarydshln , plextcolortbl , plextdelarray , pxatbegshi, pxeveryshi, pxftnright, pxgentombow , pxjahyper, pxpdfpages , pxpgfrcs , pxpgfmark , tascmac , zxjatype . bxjsarticle and related, ltjsarticle and related, luatexja , luatexja-fontspec , ujarticle and related, utarticle and related.
Korean:	kotex , luatexko , xetexko .

lwarp Supported Functions — continued

Category	Status
Page layout:	2in1, 2up, a4, a4wide, a5comb, addlines, anysize, atbegshi , balance, blowup, booklet, bophook, bounddvi, bxpapersize, canoniclayout, centerlastline, changelayout , changepage , chngpage, clrdblpg, continue, draftcopy, draftfigure, draftwatermark, ebook, everyshi, fancyhdr , fancytabs, flippdf, fullminipage, fullpage, fwlw, geometry, gmeometric, grid, grid-system , gridset, layaureo, layout, layouts, leading, lscape, ltxgrid, nccfancyhdr, notespages, nowidow, pagegrid, pagesel, parallel , parcolumns , pbalance, pdfcolparallel, pdfcolparcolumns, pdfcrypt, pdfscape, pdfprivacy, preview, ragged2e , returntogrid, rmpage, scrlayer-scrpage , scrpage2 , setspace , selectp, textarea, threadcol, thumb, thumbs, titleps, tocenter, turnthepage, twoup, typearea, underlin, vmargin, watermark, widows-and-orphans, zwpagelayout.
Sectioning:	Adds <code>FileDepth</code> for splitting the HTML output. Files may be numbered sequentially or named according to section name. Common short words and punctuation are removed from the filenames. anonchap , bsheaders, decorule , fncychap, froufrou , hypbmsc , indentfirst , quotchap , section, sectionbreak , sectdot , sectsty, titlesec, tocvsec2 .
Table of contents, figures, tables:	Supported, with hyperlinks. etoc, minitoc, multitoc, shorttoc , tableof , titletoc, tocbasic, tocbibind , tocdata , tocloft, tocstyle, tocvsec2 .
Title page:	<code>\maketitle</code> , titlepage, authblk , authoraftertitle , titling .
Front & back matter:	abstract , appendix .
Indexing:	makeindex , xindy , and xindex are supported, with hyperlinks. gindex , hvindex , idxlayout , imakeidx , index , makeidx , repeatindex , splitidx , varindex , xindex .
Glossary:	gloss , glossaries and xindy , nomencl .
Bibliography:	babelbib , bibtopic , backref , biblatex , bibunits , chapterbib , cite , citeref , collref , drftcite , hypernat , jurabib , mcite , mciteplus , multibib , natbib , notes2bib , splitbib , showtags .

lwarp Supported Functions — continued

Category	Status
Cross-references:	bookmark, breakurl , cleveref , fancyref , hypdestopt , hyperref , perpage , prettyref , titleref , url , varioref , xcite , xr , xr-hyper , xurl , zref .
Margin notes:	marginal , marginfit , marginfix , sclayer-notecolumn , versonotes .
Footnotes:	Adds FootnoteDepth to print footnotes at section breaks. MATHJAX emulation for <code>\footnote</code> , and also as marked in the following: bigfoot , dblfnote , endheads , endnotes^{MJ} , enotez^{MJ} , fixfoot , fnbreak , fnpara , fnpct , fnpos , footmisc , footnote , footnotebackref , footnoterange , footnpag , manyfoot , marginnote^{MJ} , nccfoots^{MJ} , pagenote^{MJ} , parnotes^{MJ} , pdfcolfoot , pfnote , sepfootnotes , sidenotes^{MJ} , tablefootnote .
Math:	Converted to SVG images with HTML <code><alt></code> tags containing the L ^A T _E X source for the math expression. MATHJAX supported as an alternative. amsmath^{MJ} : \mathcal{AMS} environments are supported. User-defined macros are available during conversion, due to native L ^A T _E X processing.
Theorems:	Native L ^A T _E X theorems, amsthm , apxproof , nththeorem , shadethm , theorem , thmbox , thmtools .

lwarp Supported Functions — continued

Category	Status
Additional math:	Math fonts via SVG images, <code>accents^{MJ}</code> , <code>amscd^{MJ}</code> , <code>amscdx</code> , <code>autobreak^{MJ}</code> , <code>autonum</code> , <code>backnaur^{MJ}</code> , <code>bm^{MJ}</code> , <code>braket^{MJ}</code> , <code>breqn^{MJ}</code> , <code>bussproofs^{MJ}</code> , <code>cases^{MJ}</code> , <code>centernot^{MJ}</code> , <code>cmbright^{MJ}</code> , <code>colonequals^{MJ}</code> , <code>decimal^{MJ}</code> , <code>delarray</code> , <code>DotArrow^{MJ}</code> , <code>dotlessi^{MJ}</code> , <code>dotlessj^{MJ}</code> , <code>esvect^{MJ}</code> , <code>extrarrows^{MJ}</code> , <code>fixmath^{MJ}</code> , <code>fouridx^{MJ}</code> , <code>fourier^{MJ}</code> , <code>guass</code> , <code>hhtensor^{MJ}</code> , <code>icomma^{MJ}</code> , <code>isomath^{MJ}</code> , <code>jkmath</code> , <code>kpfonts^{MJ}</code> , <code>kpfonts-otf^{MJ}</code> , <code>leftidx^{MJ}</code> , <code>libertinust1math^{MJ}</code> , <code>mathalpha^{MJ}</code> , <code>mathastext^{MJ}</code> , <code>mathcomp^{MJ}</code> , <code>mathdesign^{MJ}</code> , <code>mathdots^{MJ}</code> , <code>mathfixs^{MJ}</code> , <code>mathpazo^{MJ}</code> , <code>mathptmx^{MJ}</code> , <code>mathpunctspace^{MJ}</code> , <code>mathspec^{MJ}</code> , <code>mathtools^{MJ}</code> , <code>mattens^{MJ}</code> , <code>maybemath^{MJ}</code> , <code>mdwmath^{MJ}</code> , <code>mismatch^{MJ}</code> , <code>mleftright^{MJ}</code> , <code>multiobjective^{MJ}</code> , <code>nccmath^{MJ}</code> , <code>nicematrix^{MJ}</code> , <code>noitcru^{MJ}</code> , <code>newpxmath^{MJ}</code> , <code>newtxmath^{MJ}</code> , <code>newtxsf^{MJ}</code> , <code>pb-diagram</code> , <code>pxfonts^{MJ}</code> , <code>resizgather^{MJ}</code> , <code>rmathbr^{MJ}</code> , <code>scalerel^{MJ}</code> , <code>shuffle^{MJ}</code> , <code>skmath^{MJ}</code> , <code>stackrel^{MJ}</code> , <code>statex2^{MJ}</code> , <code>statistics</code> , <code>statmath^{MJ}</code> , <code>subsupscripts^{MJ}</code> , <code>tensind</code> , <code>tensor^{MJ}</code> , <code>textualicomma^{MJ}</code> , <code>txfonts^{MJ}</code> , <code>txgreek^{MJ}</code> , <code>unicode-math^{MJ}</code> , <code>upgreek^{MJ}</code> , <code>ushort^{MJ}</code> , <code>witharrows^{MJ}</code> , <code>xfakebold^{MJ}</code> , <code>xy</code> . Many others work as-is.
Display math with <code>\displaymath</code> or <code>\mathdisplaymath</code> :	Complicated math objects in display math, such as <code>tikz-cd</code> , etc.
Units and fractions:	<code>nicefrac^{MJ}</code> , <code>Slunits^{MJ}</code> , <code>siunitx^{MJ}</code> , <code>units^{MJ}</code> , <code>unitsdef</code> , <code>xfrac^{MJ}</code> .
Floats:	Appear where declared. <code>capt-of</code> , <code>caption</code> , <code>cutwin</code> , <code>dblfloatfix</code> , <code>endfloat</code> , <code>fewerfloatpages</code> , <code>fix2col</code> , <code>flafter</code> , <code>float</code> , <code>floatflt</code> , <code>floatrow</code> , <code>fltrace</code> , <code>ftcap</code> , <code>hycap</code> , <code>keyfloat</code> , <code>morefloats</code> , <code>multicap</code> , <code>newfloat</code> , <code>nonfloat</code> , <code>picinpar</code> , <code>placeins</code> , <code>rotfloat</code> , <code>stfloats</code> , <code>subcaption</code> , <code>subfig</code> , <code>subfigure</code> , <code>subfloat</code> , <code>swfigure</code> , <code>topcapt</code> , <code>trivfloat</code> , <code>wrapfig</code> .
Tabular:	<code>tabular</code> environment, <code>array^{MJ}</code> , <code>arydshln^{MJ}</code> , <code>bigdelim^{MJ}</code> , <code>bigstrut^{MJ}</code> , <code>booktabs^{MJ}</code> , <code>colortbl^{MJ}</code> , <code>ctable</code> , <code>dcolumn</code> , <code>diagbox</code> , <code>hhline^{MJ}</code> , <code>longtable</code> , <code>ltablex</code> , <code>ltxtable</code> , <code>multirow^{MJ}</code> , <code>supertabular</code> , <code>tabularx</code> , <code>tabulary</code> , <code>threeparttable</code> , <code>threeparttablex</code> , <code>widetable</code> , <code>xltabular</code> , <code>xtab</code> .

lwarp Supported Functions — continued

Category	Status
Graphics:	<p><code>graphics</code> and <code>graphicx</code>. <code>\includegraphics</code> supports width, height, origin, angle, and scale tags, and adds <code>class</code>. References to PDF files are changed to SVG, other image types are accepted as well. <code>\rotatebox</code> and <code>\scalebox</code> are supported as well as HTML can handle. <code>rotating</code> is emulated but all objects are unrotated in HTML. <code>picture</code>, <code>tikz</code>, and <code>xy</code> are converted to an SVG image.</p> <p><code>asymptote</code>, <code>curves</code>, <code>datatool</code>, <code>eepic</code>, <code>epsf</code>, <code>epsfig</code>, <code>epstopdf</code>, <code>figsize</code>, <code>fitbox</code>, <code>grffile</code>, <code>lpic</code>, <code>luamplib</code>, <code>media9</code>, <code>movie15</code>, <code>multimedia</code>, <code>overpic</code>, <code>pict2e</code>, <code>pinlabel</code>, <code>psfrag</code>, <code>psfragx</code>, <code>pst-eps</code>, <code>pstool</code>, <code>pstricks</code>, <code>rlepsz</code>, <code>rviewport</code>, <code>svg</code>, <code>svg-extract</code>, <code>tikz</code>, <code>tikz-3dplot</code>, <code>tikz-image-labels</code>, <code>xy</code></p>
<code>xcolor</code> :	<p>Full package color names, any color models, and <code>mixing</code>. <code>\textcolor</code>, <code>\colorbox</code>, <code>\fcolorbox</code>. Enhanced for HTML compatibility.</p>
Lists:	<p>Standard L^AT_EX environments, <code>enumerate</code>, <code>enumitem</code>, <code>eqlist</code>, <code>hang</code>, <code>listliketab</code>, <code>paralist</code>.</p>
Environments:	<p>Standard L^AT_EX environments.</p>
Paragraphs, <code>minipage</code> , <code>\parbox</code> :	<p>Some HTML5-imposed limitations. Nested <code>minipages</code> are supported. <code>eqparbox</code>, <code>fancypar</code>, <code>minibox</code>, <code>pbox</code>, <code>shapepar</code>.</p>
Quotations:	<p><code>copyrightbox</code>, <code>csquotes</code>, <code>epigraph</code>, <code>quoting</code>, <code>verse</code>.</p>
Verbatim:	<p><code>fancyvrb</code>, <code>fvextra</code>, <code>moreverb</code>, <code>shortvrb</code>, <code>verbatim</code>.</p>
Frames:	<p><code>boxedminipage</code>, <code>boxedminipage2e</code>, <code>fancybox</code>, <code>fbox^{MJ}</code>, <code>framed</code>, <code>mdframed</code>, <code>niceframe</code>, <code>shadow</code>, <code>tcolorbox^{MJ}</code>, <code>vertbars</code>.</p>
Multi-columns:	<p><code>adjmulticol</code>, <code>multicol</code>, <code>multicolrule</code>, <code>vwcol</code>.</p>
Margins:	<p><code>fullwidth</code>, <code>hanging</code>, <code>midpage</code>.</p>
Line numbering:	<p><code>fnlineno</code>, <code>lineno</code>.</p>

lwarp Supported Functions — continued

Category	Status
Direct formatting:	<code>\emph</code> , <code>\textsuperscript</code> , <code>\textbf</code> , etc are supported. <code>\bfseries</code> , etc. are only supported in some cases. <code>cancel</code> ^{MJ} , <code>ellipsis</code> , <code>embrace</code> , <code>enparen</code> , <code>hyphenat</code> , <code>lettrine</code> , <code>lips</code> , <code>lua-check-hyphen</code> , <code>luacolor</code> , <code>magaz</code> , <code>moresize</code> , <code>nolbreaks</code> , <code>normalcolor</code> , <code>pdfcol</code> , <code>pdfcolmk</code> , <code>pdfrender</code> , <code>realscripts</code> , <code>relsize</code> ^{MJ} , <code>scalegnt</code> , <code>seqsplit</code> ^{MJ} , <code>soul</code> , <code>soulpos</code> , <code>soulutf8</code> , <code>stackengine</code> , <code>textfit</code> , <code>thinsp</code> , <code>trimclip</code> , <code>truncate</code> , <code>ulem</code> , <code>umoline</code> , <code>underscore</code> , <code>uspace</code> , <code>xellipsis</code> .
Acronyms:	<code>acro</code> , <code>acronym</code> .
Ordinals:	<code>engord</code> , <code>fntcount</code> , <code>nth</code> .
Text ligatures:	Ligatures for symbols are supported. Ligatures for f, q, t are intentionally turned off because many simpler browsers do not display them correctly. Modern full-featured browsers re-create these ligatures on-the-fly.
Horizontal space:	HTML output for <code>thin-unbreakable</code> , <code>unbreakable</code> , <code>\enskip</code> , <code>\quad</code> , <code>\qqquad</code> , <code>\hspace</code> .
Rules:	<code>\rule</code> with <code>width</code> , <code>height</code> , <code>raise</code> , <code>text color</code> .
HTML reserved characters:	<code>\&</code> , <code>\textless</code> , and <code>\textgreater</code> are converted to HTML entities.
Fonts:	Used as-is. Appear in SVG math expressions or embedded image environments. <code>fontaxes</code> , <code>nfssect-cfr</code> , <code>slantsc</code> , <code>tabfigures</code> . Tested to work as-is: Special font macros in <code>cfr-lm</code> and others which use <code>nfssect-cfr</code> . Also see the math section for math and MATHJAX support for math font packages.
Symbols:	Native L ^A T _E X diacriticals, <code>academicons</code> , <code>amssymb</code> ^{MJ} , <code>bbding</code> , <code>ccicons</code> , <code>chemgreek</code> , <code>dingbat</code> , <code>euro</code> , <code>eurosym</code> , <code>fontawesome</code> , <code>fontawesome5</code> , <code>gensymb</code> ^{MJ} , <code>latexsym</code> ^{MJ} , <code>marvosym</code> , <code>metalogo</code> , <code>metalogox</code> , <code>pifont</code> , <code>textalpha</code> , <code>textcomp</code> ^{MJ} , <code>textgreek</code> , <code>typicons</code> , <code>xunicode</code> .
Files:	<code>attachfile</code> , <code>attachfile2</code> , <code>hyperxmp</code> , <code>inputtrc</code> , <code>intopdf</code> , <code>pdfpages</code> , <code>pdfx</code> , <code>xmpincl</code> .

lwarp Supported Functions — continued

Category	Status
Science and engineering:	algorithm2e , algorithmicx , ar^{MJ} , askmaps , axodraw2 , bitpattern , blochsphere , bodegraph , bohr , bytefield , chemfig , chemformula , chemgreek , chemmacros , chemnum , circuitikz , econometrics^{MJ} , elements , engtlc^{MJ} , fast-diagram , ghsystem , hepnicenames , heppennames , hepunits^{MJ} , isotope^{MJ} , karnaughmap , karnaugh-map , keystroke , listings , listingsutf8 , linop , menukeys , mhchem^{MJ} , minted , pgfgantt , phfjit , physics^{MJ} , physunits^{MJ} , plimsoll^{MJ} , qcircuit , register , simplebnf , simpler-wick , slashed^{MJ} , steinmetz^{MJ} , structmech , struktex , syntaxdi , tikz-karnaugh , tikzcodeblocks , venndiagram
Arts and humanities:	foreign , forest , lyluatex , musicography , nameauth , octave , phonrule , piano , schemata , semantic-markup , tikz-dependency , vowel , xpiano
Academic:	academicons , classicthesis , doi , doipubmed , orcidlink^{MJ} , termcal
Admonitions:	awesomebox , notes .
Editorial:	changebar , changelog , changes , easy-todo , easyReview , ed , errata , fixme , fixmetodonotes , pdfcomment^{MJ} , pdfmarginpar , todo , todonotes , tram , xchangebar .
Accessibility:	accessibility^{MJ} , accsupp^{MJ} , axessibility^{MJ} , pdfcomment^{MJ} , repltext^{MJ} , tagpdf .
Package handling:	catoptions .
Debug:	chkfloat , cmdtrack , dprogress , lipsum , lua-visual-debug , mwe , refcheck , srcltx , srctex , vpe , xbmks .
Working as-is:	Various utility, calculation, file, and text-only packages, such as calc , fileerr , somedefs , trace , xspace . Also, most math-only packages, including specialized typesetting for various fields of science and engineering.

3 Alternatives

Summarized below are several other ways to convert a \LaTeX or other document to HTML. Where an existing \LaTeX document is to be converted to HTML, `lwarp` may be a good choice. For new projects with a large number of documents, it may be worth investigating the alternatives before decided which path to take.

3.1 internet class

Cls `internet` The closest to `lwarp` in design principle is the `internet` class by Andrew Stacey— an interesting project which directly produces several versions of markdown, and also HTML and EPUB. <https://github.com/loopspace/latex-to-internet>

3.2 TeX4HT

Prog `TeX4ht` <http://tug.org/tex4ht/>
 Prog `htlatex`

This system uses native \LaTeX processing to produce a DVI file containing special commands, and then uses additional post-processing for the HTML conversion by way of numerous configuration files. In some cases `lwarp` provides a better HTML conversion, and it supports a different set of packages. `TeX4ht` produces several other forms of output beyond HTML, including ODT and a direct path to EPUB, and is still being developed.

3.3 Translators

These systems use external programs to translate a subset of \LaTeX syntax into HTML. Search for each on CTAN (<http://ctan.org>).

Prog `Hevea` **H^Ev^Ea**: <http://hevea.inria.fr/> (not on CTAN)
 Prog `TtH` **T_TH**: <http://hutchinson.belmont.ma.us/tth/>
 Prog `GELLMU` **GELLMU**: <http://www.albany.edu/~hammond/gellmu/>
 Prog `LaTeXML` **\LaTeX XML**: <http://dlmf.nist.gov/LaTeXML/>
 Prog `Plastex` **PlasTeX**: <https://github.com/tiarno/plastex>
 Prog `LaTeX2HTML` **\LaTeX 2HTML**: <http://www.latex2html.org/>
 and <http://ctan.org/pkg/latex2html>.
 Prog `TeX2page` **TeX2page**: <http://ds26gte.github.io/tex2page/index.html>

Finally, `GladTeX` may used to directly insert \LaTeX math into HTML:

Prog `GLadTeX` **GLadTeX**: <http://humenda.github.io/GLadTeX/>

3.4 ASCII DOC and ASCIIDOCTOR

AsciiDoc is one of the most capable markup languages, providing enough features to produce the typical technical-writing document with cross-references, and it writes L^AT_EX and HTML.

Prog AsciiDoc **Asciidoctor:** <http://asciidoctor.org/> (More active.)

Prog AsciiDoctor **AsciiDoc:** <http://asciidoc.org/> (The original project.)

3.4.1 ASCIIDOCTOR-L^AT_EX

The Asciidoctor-LaTeX project is developing additional L^AT_EX-related features.

Asciidoctor-Latex:

<http://www.noteshare.io/book/asciidoctor-latex-manual>

Prog AsciiDoctor-LaTeX <https://github.com/asciidoctor/asciidoctor-latex>

3.5 PANDOC

Prog Pandoc A markup system which also reads and writes L^AT_EX and HTML.

Pandoc: <http://pandoc.org/>

(Watch for improvements in cross-references to figures and tables.)

3.6 Word processors

Prog Word It should be noted that the popular word processors have advanced through the years
 Prog LibreOffice in their abilities to represent math with a L^AT_EX-ish input syntax, unicode math fonts,
 Prog OpenOffice and high-quality output, and also generate HTML with varying success. See recent
 developments in MICROSOFT[®] *Word*[®] and LIBREOFFICE[™] *Writer*.

3.7 Commercial systems

Prog Adobe Likewise, several professional systems exist whose abilities have been advancing
 Prog FrameMaker in the areas of typesetting, cross-referencing, and HTML generation. See ADOBE[®]
 Prog InDesign *FrameMaker*[®], ADOBE *InDesign*[®], and MADCAP *Flare*[™].

Prog Flare

Prog Madcap

3.8 Comparisons

AsciiDoc, Pandoc, and various other markup languages typically have a syntax which tries to be natural and human-readable, but the use of advanced features tends to

require many combinations of special characters, resulting in a complicated mess of syntax. By contrast, \LaTeX spells things out in readable words but takes longer to type, although integrated editors exist which can provide faster entry and a graphic user interface. For those functions which are covered by the typical markup language it is arguable that \LaTeX is comparably easy to learn, while \LaTeX provides many more advanced features where needed, along with a large number of pre-existing packages which provide solutions to numerous common tasks.

Text-based document-markup systems share some of the advantages of \LaTeX vs. a typical word processor. Documents formats are stable. The documents themselves are portable, work well with revision control, do not crash or become corrupted, and are easily generated under program control. Formatting commands are visible, cross-referencing is automatic, and editing is responsive. Search/replace with regular expressions provides a powerful tool for the manipulation of both document contents and structure. Markup systems and some commercial systems allow printed output through a \LaTeX back end, yielding high-quality results especially when the \LaTeX template is adjusted, but they lose the ability to use \LaTeX macros and other \LaTeX source-document features.

The effort required to customize the output of each markup system varies. For print output, \LaTeX configuration files are usually used. For HTML output, a CSS file will be available, but additional configuration may require editing some form of control file with a different syntax, such as XML. In the case of `lwarp`, CSS is used, and much HTML output is adjusted through the usual \LaTeX optional macro parameters, but further customization may require patching \LaTeX code.

The popular word processors and professional document systems each has a large base of after-market support including pre-designed styles and templates, and often include content-management systems for topic reuse.

4 Installation

Table 3 shows the tools which are used for the L^AT_EX to HTML conversion. In most cases, these will be available via the standard package-installation tools.

Detailed installation instructions follow.

Table 3: Required software programs

Provided by your L^AT_EX distribution:

From T_EXLive: <http://tug.org/texlive/>.

L^AT_EX: *pdflatex*, *xelatex*, or *lualatex*.

The lwarp package: This package.

The *lwarpmk* utility: Provided along with this package. This should be an operating-system executable in the same way that *pdflatex* or *latexmk* is. It is possible to have the *lwarp* package generate a local copy of *lwarpmk* called *lwarpmk.lua*. See table 4.

***lualatex*:** Used by the *lwarpmk* program to simplify and automate document generation.

***xindy*:** The *xindy* program is used by *lwarp* to create indexes. On a MiK_TE_X system this may have to be acquired separately, but it is part of the regular installer as of mid 2015.

***latexmk*:** Optionally used by *lwarpmk* to compile L^AT_EX code. On a MiK_TE_X system, *Perl* may need to be installed first.

***pdfcrop*:** Used to pull images out of the L^AT_EX PDF.

POPPLER PDF utilities:

***pdftotext*:** Used to convert PDF to text.

***pdfseparate*:** Used to pull images out of the L^AT_EX PDF.

***pdftocairo*:** Used to convert images to SVG.

These might be provided by your operating-system package manager, and MiK_TE_X provides *miktex-poppler-bin-** packages.

From POPPLER: poppler.freedesktop.org.

For MACOS[®], see <https://brew.sh/>, install *Homebrew*, then

```
Enter ⇒ brew install poppler
```

For WINDOWS, see MiK_TE_X *miktex-poppler-bin-**, or:

<https://sourceforge.net/projects/poppler-win32/> and:

<http://blog.alivate.com.au/poppler-windows/>

Perl:

This may be provided by your operating-system package manager, and may be required for some of the POPPLER PDF utilities.

strawberryperl.com (recommended), perl.org

Automatically downloaded from the internet as required:

MATHJAX: Optionally used to display math. From: mathjax.org

4.1 Installing the lwarp package

There are several ways to install lwarp. These are listed here with the preferred methods listed first:

Pre-installed: Try entering into a command line:

```
Enter ⇒ kpsewhich lwarp.sty
```

If a path to lwarp.sty is shown, then lwarp is already installed and you may skip to the next section.

TEX Live: If using a TEX Live distribution, try installing via *tlmgr*:

```
Enter ⇒ tlmgr install lwarp
```

MiKTeX:

1. For newer versions of MiKTeX, install or update lwarp using the *MiKTeX Console* program.
2. For older versions of MiKTeX, to install lwarp the first time, use the *MiKTeX Package Manager (Admin)*. To update lwarp, use *MiKTeX Update (Admin)*.
3. Either way, also update the package miktex-misc, which will install and update the *lwarpmk* executable.

Operating-system package: The operating-system package manager may already have lwarp, perhaps as part of a set of TEX-related packages.

CTAN TDS archive: lwarp may be downloaded from the Comprehensive TEX Archive:

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the TDS archive: lwarp.tds.zip
3. Find the TEX local directory:

TEX Live:

```
Enter ⇒ kpsewhich -var-value TEXMFLOCAL
```

MiKTeX:

In the **Settings** window, **Roots** tab, look for a local TDS root.

This should be something like:

```
/usr/local/texlive/texmf-local/
```

4. Unpack the archive in the TDS local directory.
5. Renew the cache:

```
Enter ⇒ mktexlsr
```

— or —

```
Enter ⇒ texhash
```

Or, for WINDOWS MiKTeX, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

CTAN .dtx and .ins files: Another form of TEX package is .dtx and .ins source files. These files are used to create the documentation and .sty files.

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the zip archive `lwarp.zip` into your own lwarp directory.
3. Unpack `lwarp.zip`.
4. Locate the contents `lwarp.dtx` and `lwarp.ins`
5. Create the `.sty` files:
 Enter ⇒ **pdflatex lwarp.ins**
6. Create the documentation:

```
pdflatex lwarp.dtx (several times)
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
makeindex -s gind.ist lwarp.idx
pdflatex lwarp.dtx (several times)
```

7. Copy the `.sty` files somewhere such as the T_EX Live local tree found in the previous CTAN TDS section, under the subdirectory:
 `<texlocal>/tex/latex/local/lwarp`
8. Copy `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` to the same place as the `.sty` files.
9. Copy the documentation `lwarp.pdf` to a source directory in the local tree, such as:
 `<texlocal>/doc/local/lwarp`
10. Renew the cache:
 Enter ⇒ **mktxlsr**
 — or —
 Enter ⇒ **texhash**
 Or, for WINDOWS M_IK_TE_X, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.
11. See section 4.2.1 to generate your local copy of *lwarpmk*.
12. Once the local version of `lwarpmk.lua` is installed, it may be made available system-wide as per section 4.2.

Project-local CTAN `.dtx` and `.ins` files: The `.dtx` and `.ins` files may be downloaded to a project directory, then compiled right there, alongside the document source files. The resultant `*.sty` and `lwarpmk.lua` files may be used as-is, so long as they are in the same directory as the document source. The files `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` must also be copied as well. This approach is especially useful if you would like to temporarily test lwarp before deciding whether to permanently install it.

Just testing!

4.2 Installing the *lwarpmk* utility

(Note: If *lwarpmk* is not already installed, it is easiest to use a local copy instead of installing it system-wide. See section 4.2.1.)

After the lwarp package is installed, you may need to setup the *lwarpmk* utility:

1. At a command line, try executing `lwarpmk`. If the *lwarpmk* help message appears, then *lwarpmk* is already set up. If not, it is easiest to generate and use a local copy. See section 4.2.1.
2. For MiKTeX, try updating the miktex-misc package. This may install the *lwarpmk* executable for you.

Otherwise, continue with the following:

3. Locate the file `lwarpmk.lua`, which should be in the `scripts` directory of the TDS tree. On a T_EX Live or MiKTeX system you may use

```
Enter ⇒ kpsewhich lwarpmk.lua
```

(If the file is not found, you may also generate a local copy and use it instead. See section 4.2.1.)

4. Create *lwarpmk*:

Unix: Create a symbolic link and make it executable:

- (a) Locate the T_EX Live binaries:

```
Enter ⇒ kpsewhich -var-value TEXMFROOT
```

This will be something like:

```
/usr/local/texlive/<year>
```

The binaries are then located in the `bin/<arch>` directory under the root:

```
/usr/local/texlive/<year>/bin/<architecture>/
```

In this directory you will find programs such as *pdflatex* and *makeindex*.

- (b) In the binaries directory, create a new symbolic link from the binaries directory to `lwarpmk.lua`:

```
Enter ⇒ ln -s <pathto>lwarpmk.lua lwarpmk
```

- (c) Make the link executable:

```
Enter ⇒ chmod 0755 lwarpmk
```

WINDOWS T_EX Live: Create a new `lwarpmk.exe` file:

- (a) Locate the T_EX Live binaries as shown above for UNIX.
- (b) In the binaries directory, make a *copy* of `runscript.exe` and call it `lwarpmk.exe`. This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

WINDOWS MiKTeX: Create a new `lwarpmk.bat` file:

- (a) Locate the MiKTeX binaries. These will be in a directory such as:

```
C:\Program Files\MiKTeX 2.9\miktex\bin\x64
```

In this directory you will find programs such as `pdflatex.exe` and `makeindex.exe`.

- (b) Create a new file named `lwarpmk.bat` containing:

```
texlua "C:\Program Files\MiKTeX 2.9\scripts\lwarp\lwarp.texlua" %*
```

This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

4.2.1 Using a local copy of *lwarpmk*

It is also possible to use a local version of *lwarpmk*:

1. When compiling the tutorial in section 5, use the `lwarpmk` option for the `lwarp` package:

```
\usepackage[lwarpmk]{lwarp}
```

2. When the tutorial is compiled with *pdflatex*, the file `lwarpmk.lua` will be generated along with the other configuration files.
3. `lwarpmk.lua` may be used for this project:

Unix:

- (a) Make `lwarpmk.lua` executable:

```
Enter ⇒ chmod 0755 lwarpmk.lua
```

- (b) Compile documents with

```
Enter ⇒ ./lwarpmk.lua html
```

```
Enter ⇒ ./lwarpmk.lua print
```

etc.

- (c) It may be useful to rename or link to a version without the `.lua` suffix.

WINDOWS:

Compile documents with either of the following, depending on which command shell is being used:

```
Enter ⇒ texlua lwarpmk.lua html
```

```
Enter ⇒ texlua lwarpmk.lua print
```

etc.

Or:

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print
```

etc.

4.3 Installing additional utilities

To test for the existence of the additional utilities:

Enter the following in a command line. If each programs' version is displayed, then that utility is already installed. See table 3 on page 80.

```
Enter ⇒ luatex --version
```

```
Enter ⇒ xindy --version
```

```
Enter ⇒ latexmk --version
```

```
Enter ⇒ perl --version
```

```
Enter ⇒ pdftocrop --version
```

```
Enter ⇒ pdftotext -v
```

```
Enter ⇒ pdfseparate --version
```

```
Enter ⇒ pdftocairo -v
```

To install *xindy*, *latexmk*, and *pdfcrop*:

The TEX utilities *xindy*, *latexmk*, and *pdfcrop* may be installed in *TeXLive* with *tlmgr*, installed by *MiKTeX*, provided by your operating system's package manager, or downloaded from the *CTAN* archive:

<http://ctan.org/pkg/xindy>
<http://ctan.org/pkg/latexmk>
<http://ctan.org/pkg/pdfcrop>

To install the POPPLER utilities to a UNIX/LINUX system:

The tools from the POPPLER project should be provided by your operating system's package manager.

To install the POPPLER utilities to a MACOS machine:

1. Install *Homebrew* from <https://brew.sh/>:

```
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

2. Install the POPPLER utilities:

```
Enter ⇒ brew install poppler
```

To install the POPPLER utilities to a WINDOWS machine:

If using MikTeX, install a miktex-poppler-bin-* package. Otherwise:

1. See table 3 on page 80.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfseparate* to a directory, such as Poppler.
3. In the **Start** window, type "Path" to search for results related to Path. Or, open the control panel and search for "Path".
4. Choose **Edit the system environment variables** in the control panel.
5. Choose the **Environment Variables** button.
6. Choose the **Path** variable, then the **Edit** button.
7. Choose the **New** button to make an additional entry.
8. Enter the bin directory of the POPPLER utilities, such as:

```
C:\Users\\Desktop\Poppler\poppler-0.5_x86\poppler-0.5\bin
```

Be sure to include \bin.

9. Click **Ok** when done.

To install PERL to a WINDOWS machine:

1. Download and install a version of PERL, such as STRAWBERRY PERL, to a directory without a space in its name, such as C:\Strawberry.
2. Edit the **Path** as seen above for the POPPLER utilities.
3. Enter the bin directory of the *perl* utility, such as:

```
C:\Strawberry\perl\bin
```

Be sure to include \bin.

4. Click **Ok** when done.

Any utilities installed by hand must be added to the PATH.

5 Tutorial

This section shows an example of how to create an lwarp document.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

5.1 Starting a new project

1. Create a new project directory called `tutorial`.

File `tutorial.tex`

2. Inside the `tutorial` directory, create a new file called `tutorial.tex`. This may be done several ways:

Copy from the documentation PDF:

A listing is in [fig. 1](#), which may be copied/pasted from the figure directly into your own editor, depending on the quality of the PDF viewer and editor, or:

Copy from the lwarp documentation directory:

Another copy may be found by entering into a command line:

Enter ⇒ `texdoc -l lwarp_tutorial.tex`

This should be in the `doc/latex/lwarp/` directory along with this PDF documentation. Copy `lwarp_tutorial.tex` directly into your `tutorial` directory, renamed as `tutorial.tex`.

File `lwarp_tutorial.txt`

⚠ Note: `.txt` suffix!

When using Windows, use an editor other than Notepad, since Notepad does not accept the end-of-line from a Unix text file.

⚠ Bad formatting!

3. Compile the project:

Enter ⇒ `pdflatex tutorial.tex`

(several times)

(`xelatex` or `lualatex` may be used as well. lwarp also supports DVI *latex* for use with `.eps` images.)

4. View the resulting `tutorial.pdf` with a PDF viewer.

A number of new files are created when `tutorial.tex` is compiled, as shown in [table 4](#). These files are created by the lwarp package.

(Two of the new files are configuration files for the helper program `lwarpmk`. Whenever a print version of the document is created, the configuration files for `lwarpmk` are updated to record the operating system, L^AT_EX engine (`latex`, `pdflatex`, `xelatex`, or `lualatex`), the filenames of the source code and HTML output, and whether the additional helper program `latexmk` will be used to compile the document.)

Figure 1: tutorial.tex listing

Note: There are two pages!

```
% Save this as tutorial.tex for the lwarp package tutorial.

\documentclass{book}

\usepackage{iftex}

% --- LOAD FONT SELECTION AND ENCODING BEFORE LOADING LWARP ---

\ifPDFTeX
\usepackage{lmodern}           % pdflatex or dvi latex
\usepackage[T1]{fontenc}
\usepackage[utf8]{inputenc}
\else
\usepackage{fontspec}         % XeLaTeX or LuaLaTeX
\fi

% --- LWARP IS LOADED NEXT ---
\usepackage[
% HomeHTMLFilename=index,      % Filename of the homepage.
% HTMLFilename={node-},        % Filename prefix of other pages.
% IndexLanguage=english,      % Language for xindy index, glossary.
% latexmk,                     % Use latexmk to compile.
% OSWindows,                   % Force Windows. (Usually automatic.)
% mathjax,                      % Use MathJax to display math.
]{lwarp}
% \boolfalse{FileSectionNames} % If false, numbers the files.

% --- LOAD PDFLATEX MATH FONTS HERE ---

% --- OTHER PACKAGES ARE LOADED AFTER LWARP ---
\usepackage{makeidx} \makeindex
\usepackage{xcolor}   % (Demonstration purposes only.)
\usepackage{hyperref,cleveref} % LOAD THESE LAST!

% --- LATEX AND HTML CUSTOMIZATION ---
\title{The Lwarp Tutorial}
\author{Some Author}
\setcounter{tocdepth}{2}      % Include subsections in the \TOC.
\setcounter{secnumdepth}{2}   % Number down to subsections.
\setcounter{FileDepth}{1}     % Split \HTML\ files at sections
\booltrue{CombineHigherDepths} % Combine parts/chapters/sections
\setcounter{SideTOCDepth}{1}  % Include subsections in the side\TOC
\HTMLTitle{Webpage Title}    % Overrides \title for the web page.
\HTMLAuthor{Some Author}     % Sets the HTML meta author tag.
\HTMLLanguage{en-US}        % Sets the HTML meta language.
\HTMLDescription{A description.} % Sets the HTML meta description.
\HTMLFirstPageTop{Name and \fbox{HOMEPAGE LOGO}}
\HTMLPageTop{\fbox{LOGO}}
\HTMLPageBottom{Contact Information and Copyright}
\CSSFilename{lwarp_sagebrush.css}
```

```

\begin{document}

\maketitle % Or titlepage/titlingpage environment.

% An article abstract would go here.

\tableofcontents % MUST BE BEFORE THE FIRST SECTION BREAK!
\listoffigures

\chapter{First chapter}

\section{A section}

This is some text which is indexed.\index{Some text.}

\subsection{A subsection}

See \cref{fig:withtext}.

\begin{figure}\begin{center}
\fbbox{\textcolor{blue!50!green}{Text in a figure.}}
\caption{A figure with text\label{fig:withtext}}
\end{center}\end{figure}

\section{Some math}

Inline math:  $r = r_0 + vt - \frac{1}{2}at^2$ 
followed by display math:
\begin{equation}
a^2 + b^2 = c^2
\end{equation}

\begin{warpprint} % For print output ...
\cleardoublepage % ... a common method to place index entry into TOC.
\phantomsection
\addcontentsline{toc}{chapter}{\indexname}
\end{warpprint}
\ForceHTMLPage % HTML index will be on its own page.
\ForceHTMLTOC % HTML index will have its own toc entry.
\printindex

\end{document}

```


Table 4: Configuration files created by print version

- tutorial.pdf:** The PDF output from L^AT_EX. The print version of the document.
- tutorial_html.tex:** A small .tex file used to create a parallel HTML version of the document, which co-exists with usual the PDF version, and which will have its own auxiliary files. In this way, both PDF and HTML documents may co-exist side-by-side.
- Auxiliary files:** The usual L^AT_EX files .aux, .log, .out, .toc, .lof, .idx. When an HTML version of the document is created, _html versions of the auxiliary files will also be generated.
- lwarpmk.conf:** A configuration file for *lwarpmk*, which is used to automate the compilation of PDF or HTML versions of the document.
- tutorial.lwarpmkconf:** Another configuration file used by *lwarpmk*, which is only useful if you wish to have several projects residing in the same directory.
- .css files:** *lwarp.css*, *lwarp_formal.css*, *lwarp_sagebrush.css* These files are standard for *lwarp*, and are not meant to be modified by the user.
- sample_project.css:** An example of a user-customized css file, which may be used for project-specific changes to the *lwarp* defaults.
- lwarp.ist:** Used by *lwarp* while creating an index using *makeindex*. This file should not be modified by the user. A custom file may be used instead, if necessary.
- lwarp.xdy:** Used by *lwarp* while creating an index using *xindy*. This file should not be modified by the user. A custom file may be used instead, if necessary.
- lwarp_one_limage.txt:** For WINDOWS only. Used to process svg images in the background. Copied to *lwarp_one_limage.cmd* when images are generated.
- lwarp_mathjax.txt:** Inserted into the HTML files when MATHJAX is used to display math. Do not modify, see `\MathJaxFilename` instead.
- comment_*.cut:** Temporary files used by *lwarp* to conditionally process blocks of text. These files may be ignored.

When the *lwarpmk* option is given to the *lwarp* package:

lwarpmk.lua: A local copy of the *lwarpmk* utility.

On UNIX-related operating systems this file must be made executable:

```
chmod u+x lwarpmk.lua
```

This may be useful to have to archive with a project for future use.

5.2 Compiling the print version with *lwarpmk*

The *lwarpmk* utility program is used to compile either the printed or the HTML version of the document.

`lwarpmk print` is used to recompile a printed version of the document.

⚠ Enable *lwarpmk*

1. If you have not yet done so, add `\usepackage{lwarp}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.
2. Re-compile the print version:


```
Enter ⇒ lwarpmk print
```

lwarpmk prints an introduction then checks to see if the document must be recompiled. If it seems that the files are up-to-date, then *lwarpmk* informs you of that fact and then exits.
3. Make a small change in the original document, such as adding a space character.
4. Recompile again.


```
Enter ⇒ lwarpmk print
```

The document is recompiled when a change is seen in the source. Several compilations may be necessary to resolve cross-references.
5. Force a recompile to occur.


```
Enter ⇒ lwarpmk again
```

```
Enter ⇒ lwarpmk print
```

`lwarpmk again` updates the date code for the file, triggering a recompile the next time the document is made.⁵
6. Process the index.^{6 7}

```
Enter ⇒ lwarpmk printindex
```
7. Recompile again to include the index.


```
Enter ⇒ lwarpmk print
```
8. To force a single recompile when needed, even if no changes were detected:


```
Enter ⇒ lwarpmk print1
```

Note that the HTML customization commands are ignored while making the print version.

⁵Although, when using the utility *latexmk* (introduced later), the changed date is ignored and an actual change in contents must occur to cause a recompile.

⁶The command `lwarpmk printglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.12.

⁷Also see section 8.6.15 for index options.

5.3 Compiling the HTML version with *lwarpmk*

`lwarpmk html` is used to recompile an HTML version of the document.

△ Enable *lwarpmk*

1. If you have not yet done so, add `\usepackage{lwarp}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.

2. Compile the HTML version:

```
Enter ⇒ lwarpmk html
```

- (a) *lwarpmk* uses L^AT_EX to process `tutorial_html.tex` to create `tutorial_html.pdf`.
- (b) *pdftotext* is then used to convert to the file `tutorial_html.html`. This file is a plain-text file containing HTML tags and content for the entire document.
- (c) *lwarpmk* manually splits `tutorial_html.html` into individual HTML files according to the HTML settings. For this tutorial, the result is `tutorial.html` (the home page), along with `First-chapter.html`⁸, `Some-math.html`, and the document's index in `_Index.html`.⁹

3. View the HTML page in a web browser.

Open the file `tutorial.html` in a web browser.

math

Note that `math` is still displayed as its alt tag, which is the plain-text L^AT_EX source, until the images of the math expressions have been generated. Math may be displayed as SVG images or by a MATHJAX script, as seen in sections 5.4 and 5.5.

4. Force a recompile:

```
Enter ⇒ lwarpmk again
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print
```

5. Process the HTML index and recompile:¹⁰¹¹

```
Enter ⇒ lwarpmk htmlindex
```

```
Enter ⇒ lwarpmk html
```

`_Index.html` is updated for the new L^AT_EX index.

6. Reload the web page to see the added index.

7. To force a single recompile when needed, even if no changes were detected:

```
Enter ⇒ lwarpmk html1
```

⁸`First-chapter.html` also contains the first section, even though the second section is its own HTML page. This behavior is controlled by the boolean `CombineHigherDepths`.

⁹`index.html` is commonly used as a homepage, so the document index is in `_Index.html`.

¹⁰The command `lwarpmk htmlglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.12.

¹¹Also see section 8.6.15 for index options.

5.4 Generating the svg images

math as svg images By default `lwarp` represents math as svg images, with the \LaTeX source included in `alt` attributes. In this way, the math is displayed as it was drawn by \LaTeX , and the \LaTeX source may be copied and pasted into other documents.


picture and Tikz `lwarp` uses the same mechanism for `picture` and `Tikz` environments.

1. Create the svg images:


Enter \Rightarrow `lwarpmk limages`


Enter \Rightarrow `lwarpmk html`

2. Move to the tutorial's HTML math page and reload the document in the browser.
3. The math images are displayed using the same font and formatting as the printed version.
4. Copy/paste a math expression into a text editor to see the \LaTeX source.

 **adding/removing** When a math expression, picture, or `Tikz` environment is added or removed, the svg images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline svg math may be hashed and thus not need to be recreated, but display math and objects such as `Tikz` may move to new image numbers when the document is changed.


recompile first Before attempting to create the svg image files, `lwarpmk` verifies that the HTML version of the document exists and has correct internal image references.¹² If it is necessary to recompile the document's HTML version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the \LaTeX recompile warnings.

 **HTML instead of images** If HTML appears where an svg image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

 **page counter** Incorrect svg images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

 **Lots of files!** Expressing math as svg images has the advantage of representing the math exactly as \LaTeX would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, `lwarp` uses an MD5 hash on its \LaTeX source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `Tikz` require one image file each. For a document with a large amount of math, see section 5.5 to use `MATHJAX` instead.

¹²This becomes important when dealing with a document containing thousands of images.

5.5 Using MATHJAX for math

math with MATHJAX Math may also be represented using the MATHJAX JAVASCRIPT project.


1. In the tutorial's source code, uncomment the mathjax package option for lwarp:

```
mathjax, % Use MathJax to display math.
```

2. Recompile

```
Enter ⇒ lwarpmk html
```

3. Reload the math page.

 **MATHJAX requirements** MATHJAX requires web access unless a local copy of MATHJAX is available, and it also requires that JAVASCRIPT is enabled for the web page. The math is rendered by MATHJAX. Right-click on math to see several options for rendering, and for copying the L^AT_EX source.

While using MATHJAX has many advantages, it may not be able to represent complex expressions or spacing adjustments as well as L^AT_EX, and it may not support some math-related packages.

5.6 Changing the css style

For a formal css style, add to the preamble:

```
\usepackage{lwarp}  
...  
\CSSFilename{lwarp_formal.css}  
...  
\begin{document}
```

For a modern css style, `lwarp_sagebrush.css` is also provided:

```
\CSSFilename{lwarp_sagebrush.css}
```

See section [7.7](#) for more information about modifying the css styling of the document.

5.7 Customizing the HTML output

A number of settings may be made to control the HTML output, including filename generation, automatic compilation, math output, document splitting, meta data, and page headers and footers.

See section [7.6](#) for more information.

5.8 Using *latexmk*

latexmk is a L^AT_EX utility used to monitor changes in source files and recompile as needed.

1. In the tutorial's source code uncomment the `latexmk` option for the `lwarp` package:

```
latexmk, % Use latexmk to compile.
```

2. Recompile the printed version of the document.

```
Enter ⇒ lwarpmk print
```

`lwarp` updates its own configuration files (`lwarpmk.conf` and `tutorial.lwarpmkconf`) whenever the printed version of the document is compiled. These configuration files remember that *lwarpmk* should use *latexmk* to compile the document.

3. Recompile the document.

```
Enter ⇒ lwarpmk print
```

and/or

```
Enter ⇒ lwarpmk html
```

Changes are detected by comparing checksums rather than modification times, so `lwarpmk` again will not trigger a recompile, but *latexmk* has a much better awareness of changes than the *lwarpmk* utility does and it is likely to correctly know when to recompile. A recompile may be forced by making a small change to the source, and a single recompile may be forced with:

```
Enter ⇒ lwarpmk print1
```

and/or

```
Enter ⇒ lwarpmk html1
```

forced single-pass recompile

5.9 Using Xe_{La}TeX or Lua_{La}TeX

Xe_{La}TeX or Lua_{La}TeX may be used instead of \LaTeX .

1. Remove the auxiliary files for the project:

```
Enter ⇒ lwarpmk cleanall
```

2. Use *xelatex* or *lualatex* to compile the printed version a single time.

```
Enter ⇒ xelatex tutorial.tex
```

— *or* —

```
Enter ⇒ lualatex tutorial.tex
```

When the compile occurs, the configuration files for *lwarpmk* are modified to remember which TeX engine was used. Xe_{La}TeX or Lua_{La}TeX will be used for future runs of *lwarpmk*.

3. To recompile the document:

```
Enter ⇒ lwarpmk print
```

-and-

```
Enter ⇒ lwarpmk html
```

4. Also remember to update the indexes and recompile again:

```
Enter ⇒ lwarpmk htmlindex
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk print
```

5.10 Using DVI \LaTeX


Traditional DVI \LaTeX may also be used along with *.eps* image files. An *svg* version of each image must also be provided. *lwarpmk* may be used to convert image formats.

To convert EPS files to PDF:

```
Enter ⇒ lwarpmk epstopdf *.eps (or a list of files)
```

To convert PDF files to SVG:

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of files)
```

 **bitmapped fonts** See section 7.4 regarding font selection to avoid the use of bitmapped fonts.

5.11 Using a glossary

lwarp supports the `gloss` and `glossaries` packages, although this tutorial does not supply an example.

5.11.1 `gloss` package

See section [8.6.11](#).

5.11.2 `glossaries` package

To process the glossary for the print version:

```
Enter ⇒ lwarpmk printglossary
```



(If `makeglossaries` is not found, see section [8.6.12](#).)

To process the glossary for the HTML version:

```
Enter ⇒ lwarpmk htmlglossary
```

In each case, the document will have to be recompiled afterwards:

```
Enter ⇒ lwarpmk html1
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print1
```

```
Enter ⇒ lwarpmk print
```

See section [8.6.12](#) to set options for processing glossaries.

5.12 Cleaning auxiliary files

To remove the auxiliary files `.aux`, `.toc`, `.lof`, `.lot`, `.idx`, `.ind`, `.log`, and `.gl*`, and a few others:

```
Enter ⇒ lwarpmk clean
```

5.13 Cleaning auxiliary and output files

To remove the auxiliary files, and also remove the `.pdf` and `.html` files:

```
Enter ⇒ lwarpmk cleanall
```

5.14 Cleaning the images from the `<project>-images` directory

The `<project>-images` directory contains SVG images automatically generated for inline and display math, tikz, etc. To remove all the images from the `<project>-images` directory:

```
Enter ⇒ lwarpmk cleanimages
```

5.15 Converting PDF or EPS images to SVG

HTML cannot display PDF or EPS images, so any external PDF graphics images must be converted to SVG format. *pdftocairo* and *epstopdf* may be used one image at a time, but *lwarpmk* also provides a way to convert PDF or EPS images in bulk:

```
Enter ⇒ lwarpmk epstopdf *.eps (or a list of files)
```

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of files)
```

Be sure to always provide SVG files for HTML output.

5.16 Creating HTML from an incomplete compile

During testing it may be useful to finish the HTML conversion even when the document had errors and did not compile successfully. To attempt an HTML conversion of an incomplete document:

```
Enter ⇒ lwarpmk pdftohtml [-p project]
```

5.17 Processing multiple projects in the same directory

 `xr`, `xr-hyper`, `xcite`

It is possible to have several projects in the same directory. *lwarpmk* has an optional parameter which is the document to compile.

To create each project:

```
Enter ⇒ pdflatex project_a
```

```
Enter ⇒ pdflatex project_b
```

Each project is given its own configuration file:

```
project_a.lwarpmkconf, project_b.lwarpmkconf
```

To compile each project with `lwarkmk`:

```
Enter ⇒ lwarpmk print -p project_a
```

```
Enter ⇒ lwarpmk print -p project_b
```

```
Enter ⇒ lwarpmk html -p project_a
```

```
Enter ⇒ lwarpmk html -p project_b
```

To generate each project's images:

```
Enter ⇒ lwarpmk limages -p project_a
```

```
Enter ⇒ lwarpmk limages -p project_b
```

To clean each project's images:

```
Enter ⇒ lwarpmk cleanlimages -p project_a
```

```
Enter ⇒ lwarpmk cleanlimages -p project_b
```

To clean each project's auxiliary files:

```
Enter ⇒ lwarpmk cleanall -p project_a
```

```
Enter ⇒ lwarpmk cleanall -p project_b
```

If using *bibtex*, for example, the HTML version must also be processed:

```
Enter ⇒ bibtex project_a_html
```

5.18 Using the *make* utility

lwarpmk has an action which may be useful for integration with the common *make* utility:

```
lwarpmk pdftohtml [-p project]
```

make may be used to compile the code to PDF with HTML tags (`project_html.pdf`), then *lwarpmk* may be used to convert each target to HTML files.

5.19 What next?

How do I do something? See the [General Index](#).

Something do not work! See the [Troubleshooting Index](#) or section 13: [Troubleshooting](#).

Package options: See section 29, [Package options](#).

HTML and filename settings: See section 7.6, [Customizing the HTML output](#).

Footnote placement: See section 7.6, [Customizing the HTML output](#).

Title page, indexing, glossaries: See section 8.6, [Front and back matter](#).

Shell escape: See section 7.3, [Shell escape](#).

css customization: See section 7.7, [Customizing the css](#).

MATHJAX customization: See section 8.7.5, [Customizing MATHJAX](#).

Localization: (languages) — See section 7.1, [Localization](#).

Accessibility: (alt and title tags) — See section 7.2, [Accessibility](#).

Converting an existing document: See section 6, [Converting an existing document](#).

EPUB conversion: See section 10, [EPUB conversion](#).

Word processor conversion: See section 11, [Word-processor conversion](#).

6 Converting an existing document

To convert an existing document for use with lwarp:

1. Arrange the document in the following order:

- (a) Declare the `\documentclass`.
- (b) Load text fonts.
- (c) Load `inputenc` or `inputenx`, `fontenc`, or `fontspec`.
- (d) Load `lwarp`.
- (e) Load remaining packages.

2. Modify the document:

- (a) If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{$1+2=3$}{three}}
```

- (b) Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{ . . . }
```

to:

```
\includegraphics[width=<yy>\linewidth]{ . . . }
```

- (c) Possible changes to `tabular` environments include: `* columns`, `multirow`, `longtable`, `supertabular`, `xtable`, `bigdelim`. See section 8.10.1.

- (d) If using braces in package options, such as with `caption`, see section 8.1.

- (e) Possible option clashes with `memoir`. See section 8.13.

- (f) If using indexes, see section 8.6.15.

- (g) If using many indexes, glossaries, `.aux` files, etc., see section 8.6.15 regarding `morewrites`. If `morewrites` is already used, be sure to add the setup with `allocate=10`.

- (h) Other changes as per [Special cases and limitations](#), section 8.

3. Convert any PDF images to SVG. See section 8.8.

4. Manually compile the print version with `latex`, `pdflatex`, `lualatex`, or `xelatex`.

5. `lwarpmk print` to finish the print version.

6. `lwarpmk html` to create the HTML version.

7. `lwarpmk limages` to create the SVG images of any SVG math, `lateximage`, `Tikz`, etc.

[Need help?](#)

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

 [math in section names](#)

 [scale](#)

 [tabular](#)

 [package options](#)

 [indexes](#)

Table 5: Localization settings

Object names: L^AT_EX provides redefinable names for various objects, and lwarp adds a few more. Use `\renewcommand` to change these.

`\abstractname`: This macro is honored by lwarp.

`\linkhomename`: Displayed by the link to the homepage.

`\linkpreviousname`: Displayed by the link to the previous page

`\linknextname`: Displayed by the link to the next page.

`\sitetocname`: Displayed at the head of the sideroc.

HTML settings: See table 8 and section 7.6 for details.

`\HTMLLanguage`: The language to declare for each web page.

`\ImageAltText`, `\MathImageAltText`, `\PackageDiagramAltText`, `\AltTextOpen`, `\AltTextClose`: The defaults used for HTML alt text for images. See section 7.2.

`\CSSFilename`: The name of the css file to use.

`\MathJaxFilename`: The name of the MATHJAX script to use.

Package options:

`ImagesName` and `ImagesDirectory`: These options control the filenames used by lwarp when it automatically generates images. See table 7 and section 7.5.

`xindyStyle`, `xindyLanguage`, `xindyCodepage`: When using *xindy*, these options may be set according to local use. See section 8.6.21.

`pdftotextEnc`: To adjust the encoding of *pdftotext*.

7 Additional details

7.1 Localization

Regional localization is supported by lwarp via the package options and macros shown in table 5.

7.2 Accessibility


lwarp provides several methods for improving access to the document using tools such as text-only browsers, copy/paste, text-to-speech readers, or Braille readers. lwarp can use the HTML alt text attribute for images, as describe below. lwarp can also use the HTML title attribute, which usually generates a pop-up text. lwarp can add this to a reference or hyperlink. lwarp also uses standard HTML5 elements which are pre-assigned ARIA roles for increased accessibility, and lwarp assigns the math role for

SVG math images, and the note role for footnotes, end notes, margin paragraphs and notes, etc. MATHJAX also has provisions for improved accessibility as well. See table 6.

7.3 Shell escape

Opt `--shell-escape` Some documents require the use of an external program, which is allowed when using the `--shell-escape` command-line option. When the document is first compiled manually, and also whenever the print version is recompiled, `lwarp` detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with `lwarpmk`.

7.4 Font and UTF-8 support

 **type 3 bitmapped fonts** `lwarp` uses `pdftotext` to convert PDF output into UTF-8-encoded text. This process requires that UTF-8 information be embedded in the PDF file, which may prevent the use of older “type 3” bit-mapped fonts, and of older packages such as `ae`. The `lwarp` option `pdftotextEnc` may be useful in some situations. See section 7.5.

vector fonts While using DVI `latex` or PDF `pdflatex`, if no font-related package is specified then the default COMPUTER MODERN font is used, which may be a “type 3” bit-mapped font which may not convert well to plain text. A “type 1” vector font is required.

 **pdflatex**

 **DVI latex**

Pkg `cm-super`

To use the updated `cm-super`’s type 1 fonts instead of Computer Modern, install the `cm-super` font package.

Pkg `lmodern`

To use Latin Modern instead, add

```
usepackage{lmodern}
```


to the preamble.

Pkg `dejavu`

Another useful option is the Deja Vu series of fonts, which have an increased coverage of language and glyphs:

```
\usepackage{dejavu}
```

latex, pdflatex, T1, UTF8 While using DVI `latex` or PDF `pdflatex`, `lwarp` automatically loads `fontenc` with T1 encoding. `fontenc` may be loaded with an additional encoding after `lwarp`. `inputenc` is automatically loaded with UTF8 encoding if it has not yet been loaded, but may also be specified with another encoding such as `latin1`. See the next section regarding index encoding.

 **xelatex, lua_latex, fontspec** Xe_LTeX and Lua_LTeX users must use the `fontspec` package. Do NOT use `fontenc`!

Place `fontspec` or `fontenc`, `xunicode`, and other font and UTF-8 related commands after the `\documentclass` command and before `\usepackage{lwarp}`.


 **package conflicts** In some cases, a package conflict may require that a font package be loaded after `lwarp`, which should work as well:

Table 6: Accessibility settings

\ImageAltText: The default HTML alt text for `\includegraphics` and `lateximages`. Set with `\renewcommand`.

\includegraphics alt key: For `\includegraphics`, `lwarp` adds the alt key/value. For example:

```
\includegraphics[alt={Some text.}]{filename}
```

svg math: For simple svg math, `lwarp` places the L^AT_EX math expression in the alt text, so that the L^AT_EX expression may be copied and pasted to another document as plain text.

\MathImageAltText: For complicated svg math, such as enclosed in `\InlineMathOther/\InlineMathNormal`, or `\DisplayMathOther/\DisplayMathNormal`, the HTML alt text will be set to `\MathImageAltText`. Set with `\renewcommand`.

MATHJAX: For MATHJAX, the accessibility tools provided by MATHJAX are enabled by default by `lwarp`'s MATHJAX scripts.

\PackageDiagramAltText: Various packages create diagrams which `lwarp` converts into svg images. These are given alt text set to `\PackageDiagramAltText`. Set with `\renewcommand`.

\ThisAltText: The HTML alt text of the next image may be set with:

```
\ThisAltText{Custom text about the image.}
<SVG math, Tikz, picture, etc.>
```

The next single image will be generated with the given text, and the following images will revert to back to their defaults.

`\ThisAltText` may also be used to assign an HTML title to the next reference or hyperlink.

```
\ThisAltText{Custom text about the link.}
Text ... \ref{label_name} ... text.
```

See section 7.6.

\AltTextOpen and \AltTextClose: By default, HTML alt text is enclosed by parentheses. This may be changed by redefining `\AltTextOpen` and `\AltTextClose`. Set with `\renewcommand`.

1. documentclass{article/book/report} comes first, followed by any of:
2. Font and UTF-8 related commands:

Pkg fontspec
ligatures

- For X_YL^AT_EX or Lua^AT_EX:
 - fontspec and font choices

lwarp sets the following to turn off T_EX ligatures during the generation of HTML tags, and turn off common ligatures in regular text, since older browsers may not display them correctly and newer browsers can automatically re-create them.

```
\defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
```

- For *pdf_latex*:
 - (a) \usepackage{lmodern}, or other font-related packages
 - (b) \usepackage[T1]{fontenc}
 - (c) \usepackage[utf8]{inputenc}, or latin1, etc. Or use inputenx.
 - (d) \usepackage{newunicodechar} along with related definitions.
 - (e) To assist with the PDF-HTML conversion:
 - i. \input glyphtounicode.tex
 - ii. \input glyphtounicode-cmr.tex% from the pdfx package
 - iii. \pdfgentounicode=1
 - (f) Another option to assist with the PDF-HTML conversion, such as the dotless j (\j):
 - \usepackage{cmap} — or —
 - \usepackage{mmap} — or —
 - \usepackage[noTeX]{mmap}
 - (g) \usepackage{textcomp}

Pkg lmodern
Pkg fontenc
Pkg inputenc
Pkg inputenx
Pkg newunicodechar
File glyphtounicode.tex

⚠ dotless j

Pkg cmap
Pkg mmap

Pkg textcomp

3. \usepackage{newtxmath} or other math-related font packages. Many of these load amsmath, which may now be loaded before lwarp.
4. \usepackage{lwarp} (section 7.5) is placed after any of the above, followed by:

⚠ fontspec with monospaced fonts

5. \setmonofont{TeX Gyre Cursor} or similar may be required if using X_YL^AT_EX or Lua^AT_EX and fontspec along with traditional font packages such as txfonts, newtxtext, etc. This is required to turn off the monospaced font’s ligatures with fontspec after loading the traditional font packages. Monospaced output ligatures must be turned off to produce the correct HTML characters.

Any monospace font with built-in ligatures may require these ligatures to be disabled for HTML. In one example, JETBRAIN MONO, it is required to use

```
\setmonofont{JetBrains Mono}[%
...
Contextuals=AlternateOff,
]
```

After lwarp is loaded, the ligature may be re-enabled for print mode by using \setmonofont again inside a warpprint environment.

6. ... the rest of the preamble and the main document.

⚠ JETBRAIN MONO
⚠ HTML corrupted

⚠ UTF-8 locale In some cases, an external program may require a UTF-8 “locale”. See section 9.8.

7.4.1 Indexes, glossaries, and encoding

lwarp supports *makeindex*, *xindy*, *xindex*, and glossaries, gloss, and nomencl.

See section [8.6.14](#) for indexing, and section [8.6.12](#) for the glossaries package.

7.5 lwarp package loading and options

lwarp supports book, report, and article classes, as well as the equivalent Koma-script classes and memoir, and various CJK-related classes and packages.

Load the lwarp package immediately after the font and UTF-8 setup commands.

Package options may be set while loading lwarp, or later with

```
\lwarpsetup{<key=value, . . . >}
```

Pkg lwarp lwarp package options are as follows:

Opt mathsvg **mathsvg** and **mathjax**: Selects SVG images or MATHJAX for math display. See section 8.7.

Opt mathjax

Default: mathsvg

Opt latexmk **latexmk**: Tells *lwarpmk* to use *latexmk* to recompile the document several times if necessary. Otherwise, *lwarpmk* attempts to determine for itself whether to recompile. See section 7.6.

Default: false

Opt dvips **dvips**: Tells *lwarpmk* to use *dvips* and *ps2pdf* to convert DVI output to PDF.

Default: false

Opt dvipdfm **dvipdfm**: Tells *lwarpmk* to use *dvipdfm* to convert DVI output to PDF.

Default: false

Opt dvipdfmx **dvipdfmx**: Tells *lwarpmk* to use *dvipdfmx* to convert DVI output to PDF.

Default: false

Opt HomeHTMLFilename **HomeHTMLFilename**:

Default: \BaseJobname

Filename of the homepage, without the “.html” suffix. Defaults to the \BaseJobname. A common setting is:

```
HomeHTMLFilename=index
```

causing the homepage to be the file index.html. Underscores are allowed in HomeHTMLFilename and HTMLFilename options, but may need to be escaped elsewhere, such as when appearing in a list:

filename underscores

```
\item [\href{file\_name.pdf}{text}] \
```

See section 7.6.1 for examples of naming and numbering HTML files.

Opt HTMLFilename **HTMLFilename**: A filename prefix for the rest of the HTML web pages. Useful for numbered web pages with a common prefix. May be empty. See section 7.6.1 for examples of naming and numbering HTML files.

Default: <empty>

Opt ImagesName **ImagesName**: The prefix for the images automatically generated by lwarp for objects such as svg math and lateximages.

Default: image-

Opt ImagesDirectory **ImagesDirectory**: The directory for the images automatically generated by lwarp for

Default: \jobname-images

Table 7: Lwarp package options

Option	Description
mathsvg	Show math using SVG images.
mathjax	Show math using MATHJAX.
latexmk	Use <i>latexmk</i> for compiling documents.
dvips	Use <i>dvips</i> and <i>ps2pdf</i> to convert DVI documents.
dvipdfm	Use <i>dvipdfm</i> to convert DVI documents.
dvipdfmx	Use <i>dvipdfmx</i> to convert DVI documents.
HomeHTMLFilename	The filename of the home page.
HTMLFilename	A prefix for the filenames of the remaining web pages.
ImagesName	A prefix for the filenames of generated images.
ImagesDirectory	The directory used to hold generated images.
PrintLatexCmd	The shell commands for lwarpmk print .
HTMLLatexCmd	The shell commands for lwarpmk html .
For indexing (section 8.6.15) and glossaries (section 8.6.12):	
makeindex	Use <i>makeindex</i> to generate indices.
makeindexStyle	Set a custom style for <i>makeindex</i> .
xindy	Use <i>xindy</i> to generate indices.
xindyStyle	Set a custom style for <i>xindy</i> .
xindyLanguage	The <i>xindy</i> language option used for index generation.
xindyCodepage	The <i>xindy</i> codepage option used for index generation.
xindex	Use <i>xindex</i> to generate indices.
xindexConfig	Set a custom configuration file for <i>xindex</i> .
PrintIndexCmd	Shell commands executed by lwarpmk printindex .
HTMLIndexCmd	Shell commands executed by lwarpmk htmlindex .
LatexmkIndexCmd	Shell commands executed by <i>latexmk</i> .
IndexRef	How to format index links.
GlossaryCmd	Shell command executed by lwarpmk printglossary and lwarpmk htmlglossary .
Seldom necessary:	
OSWindows	Force compatibility with MS-WINDOWS.
pdftotextEnc	Set the encoding for <i>pdftotext</i> .
Lwarpmk	Generate a local copy of <code>lwarpmk.lua</code> .
Used internally by lwarp:	
warpprint	Generate print output, and also generate configuration files.
warpHTML	Generate HTML output.
BaseJobname	The <code>\jobname</code> to use. Set to the <code>\jobname</code> of the printed version even while generating HTML.

objects such as `svg math` and `lateximages`. By default, these images will appear in a directory named `<jobname>-images`, and the images will be named and numbered `image-<nn>`.

- Opt `PrintLatexCmd` **PrintLatexCmd:** Sets the shell commands executed by `lwarpmk print`. If not specified, will automatically be set according to the detected `LATEX` engine and the use of `--shell-escape`.
Default: `<automatic>`
- Opt `HTMLLatexCmd` **HTMLLatexCmd:** Sets the shell commands executed by `lwarpmk html`. If not specified, will automatically be set according to the detected `LATEX` engine and the use of `--shell-escape`.
Default: `<automatic>`
- Opt `makeindex` **makeindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `makeindex` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`. If neither `makeindex` nor `xindy` is used, `makeindex` is assumed.
Default: `makeindex`
- Opt `makeindexStyle` **makeindexStyle:** If you wish to use a custom `.ist` file for index generation, see section 8.6.20.
Default: `lwarp.ist`
- Opt `xindy` **xindy:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `xindy` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.
Default: `makeindex`
- Opt `xindyStyle` **xindyStyle:** If you wish to use a custom `.xdy` file for index generation, see section 8.6.21.
Default: `lwarp.xdy`
- Opt `xindyLanguage` **xindyLanguage:** If using an index or glossary, see section 29.
Default: `english`
- Opt `xindyCodepage` **xindyCodepage:** If using an index, see section 29.
Default: `utf8`
- Opt `xindex` **xindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `xindex` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.
Default: `makeindex`
- Opt `xindexConfig` **xindexConfig:** If you wish to use a custom `xindex-*.lua` file for index generation, see section 8.6.22.
Default: `<empty>`
- Opt `PrintIndexCmd` **PrintIndexCmd:** Sets the shell commands executed by `lwarpmk printindex`. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.15.
Default: `<automatic>`

Examples:

```
makeindex -s lwarp.ist projectname.idx (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname.idx (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `PrintIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

⚠ **xindy**

If specifying `PrintIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `PrintIndexCmd` option when it is set manually.

This option is stored in the configuration files `lwarpmk.conf` and `*.lwarpmkconf`, and is then passed by the `lwarpmk printindex` command to the operating system to compile the print indexes. Since the command string is parsed by `TEX`, written to a file, read from the file by `LuaTEX`, and finally passed to the operating system, any attempt at quoting will be problematic. For complicated commands, it would be best to create a shell script, and simply refer to the script with the `lwarp PrintIndexCmd` option.

Opt HTMLIndexCmd

Default: <automatic>

HTMLIndexCmd: Sets the shell commands executed by `lwarpmk htmlindex`. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.15.

⚠ **filenames**

Example settings are similar to `PrintIndexCmd`, but append `_html` to the filenames:

```
makeindex -s lwarp.ist projectname_html.idx (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname_html.idx (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `HTMLIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

⚠ **xindy**

If specifying `HTMLIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `HTMLIndexCmd` option when it is set manually.

As with `PrintIndexCmd`, to generate complicated indexes it may be worthwhile to use a shell script, then refer to that script with `HTMLIndexCmd`.

Opt LatexmkIndexCmd

Default: <automatic>

LatexmkIndexCmd: Sets the shell commands executed by `latexmk`. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include any filenames, which will be provided instead by `latexmk`. See section 8.6.15.

Example settings are similar to `PrintIndexCmd`, but without a filename:

```
makeindex -s lwarp.ist (makeindex)
xindy -M lwarp.xdy -L english -C utf8 (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `LatexmkIndexCmd` to either of the two settings show above. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, *latexmk* uses either of the single-line settings of `LatexmkIndexCmd` shown above to compile each of multiple indexes if necessary.

⚠ xindy

If specifying `LatexmkIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `LatexmkIndexCmd` option when it is set manually.

Opt IndexRef Default: cref

IndexRef: Describes how to display the index entries for HTML output. Possible values are `ref`, `nameref`, `refnameref`, `cref`, `crefnameref`, `autoref`, or a text string such as `(link)` or `(*)` for each index entry reference. (Adding parentheses around a single character makes the link larger and easier to click on.) The default is `cref`, which is available even if the print document does not use `cleveref`, as the `lwarp` package relies on `cleveref` during HTML output. Option `autoref` gives the same results as `cref`.

`\ref` and `\cref` to starred or otherwise unknown links will display as `(*)` instead of `??`.

⚠ ??

If using `cref` (the default), and if a reference appears as `??` with a non-functional link, use `cleveref`'s `\crefname` to give a name to that type of label.

In general, `crefnameref` gives the most information, but the index can become quite verbose. Using `(*)` or similar yields a very compact index.

Opt GlossaryCmd Default: makeglossaries

GlossaryCmd: Sets the shell command executed by `lwarpmk printglossary` and `lwarpmk htmlglossary`. The print or HTML glossary filename is appended to this command. See section 8.6.12.

Opt OSWindows

OSWindows: `lwarp` attempts to automatically sense WINDOWS, but it may be forced with this option. See section 7.9.

Opt pdftotextEnc Default: UTF-8

pdftotextEnc: Used to specify the encoding used by `pdftotext` during the PDF-HTML conversion. In most situations, the default is the correct choice.

Opt lwarpmk

lwarpmk: If you wish to have `lwarp` generate a local copy of `lwarpmk.lua` for archival or local-installation purposes, compile the print version with the `lwarpmk` option set. See section 29.

The following options are used internally by `lwarp`, and usually are not used in the user's document:

Opt warpprint Opt warpHTML

warpprint and **warpHTML:** Usually controlled by `lwarpmk`, and not set in the docu-

ment. Select the `warpprint` option to generate print output (default), or the `warpHTML` option to generate HTML5 output. The default is print output, so the print version may be compiled with the usual *pdflatex*, etc. When `lwarp` is loaded in print mode, it creates `<project>_html.tex`, which sets the `warpHTML` option before calling the user's source code `<project>.tex`. In this way, `<project>.tex` can `\usepackage{lwarp}` without any options to create a printed version, while `<project>_html.tex` will create an HTML version.

Opt BaseJobname **BaseJobname:** Not intended for the user. Used internally by `lwarp` when creating the
Default: `\jobname` `*_html.tex` file used to compile the HTML version. See section 29.

7.6 Customizing the HTML output

⚠ Placement!

Table 8 shows several settings may be used to customize the HTML output. Watch for the correct placement of each!

⚠ Changes!

Note that if changes are made, it is best to first:

1. Clear all the HTML, PDF, and auxiliary files:

Enter ⇒ `lwarpmk clearall`

2. Recompile the print version in order to recreate the configuration files for *lwarpmk*:

Enter ⇒ `lwarpmk print`

3. Finally, recompile the HTML version with the new settings:

Enter ⇒ `lwarpmk html`

Placed in the preamble before `\begin{document}`:

<code>\HTMLFirstPageTop</code> Default: <code><empty></code>	<code>\HTMLFirstPageTop: {<contents>}</code> A user-definable custom action applied to the top of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\HTMLFirstPageBottom</code> Default: <code><empty></code>	<code>\HTMLFirstPageBottom: {<contents>}</code> A user-definable custom action applied to the bottom of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\linkhomename</code> Default: <code>Home</code>	<code>\linkhomename</code> : Name of the link to the home page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linkpreviousname</code> Default: <code>Previous</code>	<code>\linkpreviousname</code> : Name of the link to the previous page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linknextname</code> Default: <code>Next</code>	<code>\linknextname</code> : Name of the link to the next page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
Ctrl <code>tocdepth</code>	<code>tocdepth</code> : Sectioning depth of the table of contents. See section 16 for a list of L ^A T _E X stack depths.
Ctrl <code>SideTOCDepth</code> Default: <code>1</code> <code>sideroc</code>	<code>SideTOCDepth</code> : Sectioning depth of the sideroc. Defaults to 1, causing the sideroc to show sections but not subsections. Each subpage of the website has its own small table of contents on the side (the “sideroc”). Its depth is set by <code>SideTOCDepth</code> . This sideroc is only shown if the browser display is wide enough. When using a narrow web browser window, “responsive web design” is used to show the sideroc at the top of the page, as well as a link back to Home at the top and bottom.

It is recommended to set:

```
SideTOCDepth = FileDepth
```

Table 8: HTML settings

Macro/Cntr/Bool	Loc [*]	Description
<code>\linkhomename</code>	P	Name of the link to the homepage.
<code>\linkpreviousname</code>	P	Name of the link to the previous page.
<code>\linknextname</code>	P	Name of the link to the next page.
<code>SideTOCDepth</code>	P	Sectioning depth of the sideroc.
<code>\sidetocname</code>	P	Name of the sideroc.
<code>FileDepth</code>	P	Sectioning depth of the file splits.
<code>CombineHigherDepths</code>	P	Combine higher section levels.
<code>FileSectionNames</code>	P	Use section names for file names, else use numbers.
<code>\FilenameLimit</code>	P	Maximum length of the generated filenames.
<code>FootnoteDepth</code>	P	Sectioning depth of footnotes.
<code>\abstractname</code>	P	The name of the abstract.
<code>\ImageAltText</code>	PD	<code>\includegraphics</code> and other images' alt tag.
<code>\ThisAltText {(text)}</code>	PD	Assigns an alt/title tag for the next image or link.
<code>\MathImageAltText</code>	PD	The svg math image <code>lateximage</code> alt tag.
<code>\PackageDiagramAltText</code>	PD	The suffix for a package's <code>lateximage</code> alt tags.
<code>\AltTextOpen</code>	PD	Start an HTML alt tag.
<code>\AltTextClose</code>	PD	End an HTML alt tag.
<code>\CSSFilename</code>	PS	The css for the following files.
<code>\MathJaxFilename</code>	PS	The MATHJAX script for the following files.
<code>\HTMLLanguage</code>	PS	The HTML lang tag.
<code>\HTMLTitle</code>	PS	The homepage's <code><title></code> , overriding <code>\title</code> .
<code>\HTMLTitleBeforeSection</code>	PS	Set subpage <code><title>s</code> to <code>\HTMLTitle - sectionname</code>
<code>\HTMLTitleAfterSection</code>	PS	Set subpage <code><title>s</code> to <code>sectionname - \HTMLTitle</code>
<code>\HTMLAuthor</code>	PS	The HTML author meta tag, overriding <code>\author</code> .
<code>\HTMLDescription</code>	PS	The HTML description meta tag.
<code>\HTMLFirstPageTop</code>	P	Heading for the home page.
<code>\HTMLFirstPageBottom</code>	P	Footer for the home page.
<code>\HTMLPageTop</code>	PS	Heading for the other pages.
<code>\HTMLPageBottom</code>	PS	Footer for the other pages.
<code>\HTMLnewcolumntype</code>	D	<code>\newcolumntype</code> for HTML.
<code>\IndexPageSeparator</code>	P	Index page list separator.
<code>\IndexRangeSeparator</code>	P	Index page range separator.
<code>FixSmallCaps</code>	P	Set true if small caps rendered as all caps.
<code>HTMLDebugComments</code>	P	Boolean to generate HTML comments.

* **P**: Preamble, **D**: Anywhere in the document. **S**: Before a section.

or

$$\text{SideTOCDepth} = \text{FileDepth} + 1$$

 **inaccessible pages**

If $\text{SideTOCDepth} < \text{FileDepth}$, web pages will be inaccessible via the sideroc.

`\sidedotocname`
Default: Contents

\sidedotocname: Name of the sideroc. Paragraphs are allowed. Redefine with `\renewcommand`.

Ctrl `FileDepth`
Default: -5

FileDepth: Sectioning depth of file splits. Defaults to -5, causing the entire HTML website to be one single file.

- To place the entire file into one HTML page, use:
`\setcounter{FileDepth}{-5}`
- To split the HTML file at `\section` depth, use:
`\setcounter{FileDepth}{1}`
- To ensure that the HTML pages/files are accessible:
Place a `\tableofcontents` somewhere before the first section break (therefore in the “home page”), and set
`tocdepth >= FileDepth`



Bool `CombineHigherDepths`
Default: true

CombineHigherDepths: Combine a higher section with its first lower subsections, down to the `FileDepth`. Defaults to true. Set to false to simulate the concept of a chapter opening on its own page, for example.

The file splits are controlled by the counter `FileDepth` and the boolean `CombineHigherDepths`. Setting `FileDepth` to 0 splits the file at chapters, 1 at sections, etc. `CombineHigherDepths` controls whether to combine pages at levels higher than the chosen `FileDepth`, such as in this tutorial where the page which opens the chapter also contains the first section. Be careful to set `tocdepth` and `SideTOCDepth` to allow access to each page of the website. Set `tocdepth` and `SideTOCDepth` to be greater than or equal to `FileDepth`.

 **Inaccessible pages!**

 **Lost in an old page!**

When making changes to the file structure, it is possible to end up with the web browser pointing to an old file which is no longer in use. When this occurs, changes to the web site will not appear in the browser, even if reloading the page, because that page is no longer in use. It is best to return to the home page, clean the files (`lwarpmk cleanall`), change `FileDepth` and/or `CombineHigherDepths`, then finally recompile and renavigate to the desired page using the new file structure.

Bool `FileSectionNames`
Default: true

FileSectionNames: If true, web page filenames are derived from a sanitized version of the section names. If false, web pages are numbered. Either way, the `HTMLFilename` option is used as a prefix. See section 7.6.1 for examples of naming and numbering HTML files. The user must ensure that filenames are unique after begin sanitized. For example, math in the section name is removed before creating the filename, so the rest of the filename must be sufficiently unique to avoid name collisions.

 **Unique filename!**

`\FilenameLimit`
Default: 80

\FilenameLimit: The maximum length of the filenames generated by `lwarp`. “.html” is added to this length. Redefine with `\renewcommand`.

Ctrl `FootnoteDepth`
Default: 3

FootnoteDepth: Determines where to place pending footnotes. 3 places foot-

notes before each break down to the `\subsubsection` level. 1 places footnotes before each `\section` break. Any pending footnotes are also placed at the bottom of each page before each file break.

Bool	<code>FixSmallCaps</code> Default: <code>false</code>	FixSmallCaps: Set true if SMALL CAPS are rendering in all caps (“SMALL CAPS”). May be required for some fonts (erewhon, utopia, fbb, et al.), and packages such as embrac.
Bool	<code>HTMLDebugComments</code> Default: <code>false</code>	HTMLDebugComments: Set true to generate HTML comments, such as which section or <code><div></code> is being opened or closed.
	<code>\abstractname</code> Default: <code>Abstract</code>	\abstractname: The name of the abstract. This may also be over-written by the babel package. Defaults to “Abstract”. Redefine with <code>\renewcommand</code> .
	<code>\IndexPageSeparator</code> Default: <code>“ , ”</code>	\IndexPageSeparator: Index page list separator. Adjust to match index style file. If using <code>gindex</code> , this is set automatically to <code>gindex’s \indexpagessep</code> .
	<code>\IndexRangeSeparator</code> Default: <code>“--”</code>	\IndexRangeSeparator: Index page range separator. Adjust to match index style file. If using <code>gindex</code> , this is set automatically to <code>gindex’s \indexrangesep</code> .

Placed before `\begin{document}`, or before any sectioning command which causes a file break:

`\CSSFilename`
Default: `lwarp.css`

\CSSFilename: `{\filename.css}` Sets the css file to use for the following files. May be changed before each each sectioning command which would cause a file split.

The css styles of the web pages are set by the `\CSSFilename` command. If `\CSSFilename` is not used, a default plain style is used to mimic printed L^AT_EX output. `lwarp_sagebrush.css` is a semi-fancy colored style as shown in this tutorial. Change it to `lwarp_formal.css` for a more formal look, or comment out the `\CSSFilename` command to see the default. `\CSSFilename` may be used before each file break to set the css for individual pages of the website.

`\MathJaxFilename`
Default: `lwarp_mathjax.txt`

\MathJaxFilename: `{\filename}` Sets the MATHJAX script file to use for the following files. May be changed before each each sectioning command which would cause a file split.

The MATHJAX script file is copied into the head of each HTML file. This may be used to point to a local repository, add extensions, or change the script somewhere in the middle of the document. `\MathJaxFilename` may be used before each file break to set the script file for individual pages of the website.

`\HTMLLanguage`
Default: `en-US`

\HTMLLanguage: `{\langauge}` The HTML file’s HTML lang meta tag. Defaults to en-US.

`\HTMLTitle`
Default: `\thetitle`

\HTMLTitle: `{\title}` Overrides `\title` for the HTML header’s meta title. Defaults to `\thetitle`, which is set by `\title`, or empty otherwise. Unlike the author, `\thetitle` is set by `\title` even if not using the titling package.

`\HTMLTitleBeforeSection`
Default: `\HTMLTitleBeforeSection`

\HTMLTitleBeforeSection: Sets subpage `<title>` tags to show the website title followed by the section name.

<code>\HTMLTitleAfterSection</code>	\HTMLTitleAfterSection: Sets subpage <code><title></code> tags to show the section name followed by the website title.
<code>custom <title></code>	To customize subpage <code><title></code> s, redefine <code>\theHTMLTitleSection</code> , which defaults to: <pre> \def\theHTMLTitleSection{% \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection% } </pre>
<code>\HTMLAuthor</code> Default: <code>\theauthor</code>	\HTMLAuthor: <code>{\langle author \rangle}</code> The HTML header's meta author. Defaults to <code>\theauthor</code> , which is set by <code>\author</code> if using the <code>titling</code> package, but is empty otherwise. There are several ways to represent the author and affiliations, especially if using the <code>authblk</code> package, most of which do not result in a sensible <code>\theauthor</code> , so <code>\HTMLAuthor</code> is useful to create a list of authors without their affiliations.
<code>\HTMLDescription</code> Default: <code><empty></code>	\HTMLDescription: <code>{\langle description \rangle}</code> Sets the HTML description tag for the following files. May be changed before each each sectioning command which would cause a file split.
<code>\HTMLPageTop</code> Default: <code><empty></code>	\HTMLPageTop: <code>{\langle contents \rangle}</code> A user-definable custom action applied to the top of pages other than the home page. Useful for logos, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\HTMLPageBottom</code> Default: <code><empty></code>	\HTMLPageBottom: <code>{\langle contents \rangle}</code> A user-definable custom action applied to the bottom of pages other than the home page. Useful for authors, copyright notices, contact information, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\LinkHome</code>	\LinkHome: Creates a link to the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkPrevious</code>	\LinkPrevious: Creates a link to the previous HTML page, unless already at the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkNext</code>	\LinkNext: Creates a link to the next HTML page, unless already at the end. Usually used in <code>\HTMLPageTop</code> and related.

Placed in the home page before the first sectioning command which causes a file break:

<code>\tableofcontents</code> △ TOC on the homepage!	\tableofcontents: Used to place a table of contents on the home page. This command must be used before the first file split, so that a way is available to navigate to other files from the homepage. Links to each chapter/section are provided, as selected by <code>tocdepth</code> .
---	--

Placed in the document wherever necessary:

<code>\ImageAltText</code> Default: <code>image</code>	\ImageAltText: Redefine with <code>\renewcommand</code> . <code>\includegraphics</code> and other images are assigned an HTML alt tag according to <code>\ImageAltText</code> along
---	--

with `\AltTextOpen` and `\AltTextClose`. This text is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following `\includegraphics` and other images.

`\ThisAltText`

\ThisAltText: `{\text}` `\ThisAltText` can be used to assign an HTML alt text attribute to the next image generated by a `lateximage`, `picture`, `tikzpicture`, or any other similar environment which generates an image, or the next SVG math expression. This tag is cleared after use. The tag is also cleared after each MATHJAX expression, in case the user changes between SVG math and MATHJAX.

`\ThisAltText` also may be used to add an HTML title to a reference or hyperlink, such as a `\ref`, `\cref`, `\href`, `\url`, `\hyperref`, or `\hyperlink`. In each case, the alternative text is cleared after use.

`\MathImageAltText`

Default: `math image`

\MathImageAltText: Redefine with `\renewcommand`. When creating an SVG math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the alt tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

`\PackageDiagramAltText`

Default: `diagram`

\PackageDiagramAltText: Redefine with `\renewcommand`. For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by `\PackageDiagramAltText`. For example:

`(-xy- diagram)`

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

`\AltTextOpen`

Default: `(`

`\AltTextClose`

Default: `)`

\AltTextOpen: Redefine with `\renewcommand`.

\AltTextClose: Redefine with `\renewcommand`. HTML alt text is enclosed by the macros `\AltTextOpen` and `\AltTextClose`, which default to an opening and closing parenthesis.

`\HTMLnewcolumnntype`

\HTMLnewcolumnntype: `\newcolumnntype` may not always work with `lwarp` for HTML output, since it often involves TeX boxes and fills. To provide a simplified column type for HTML, add `\HTMLnewcolumnntype` in addition.

Env `warpprint`

warpprint: An environment which is only used while generating print output. Place inside anything which does not apply to HTML and which may cause

problems with `lwarp`. If `lwarp` knows about and emulates or supports a package then its related macros, lengths, counters, etc. probably won't have to be placed inside a `warpprint` environment, but unknown packages may cause problems which may be isolated from `lwarp` using this environment.



Do not place anything else on the same line as `\end{warpprint}`. Also do not nest `warpprint` inside itself.

Env `warpHTML`

warpHTML: An environment which is only included while generating HTML output. This is useful for website logos and other items which have no purpose in printed output.



Do not place anything else on the same line as `\end{warpHTML}`. Also do not nest `warpHTML` inside itself.

`\warpprintonly`

`\warpprintonly: {<contents>}` A macro version of the `warpprint` environment.

`\warpHTMLonly`

`\warpHTMLonly: {<contents>}` A macro version of the `warpHTML` environment.

7.6.1 Example HTML file naming

Examples of ways to name or number HTML files:

Numbered HTML nodes:

Example: Homepage `index.html`, and `node-1`, `node-2`.¹³

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={node-}
]{lwarp}
\boolfalse{FileSectionNames}
```

Named HTML sections, no prefix:

Example: `index.html`, and `About.html`, `Products.html`

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={}
]{lwarp}
\booltrue{FileSectionNames}
```

Named HTML sections, with prefix:

Example: Homepage `mywebsite.html`, and additional pages such as `mywebsite-About.html`, `mywebsite-Products`, etc.

¹³See `\SetHTMLFileNumber` to number in groups by chapter, for example.

```

\usepackage[
  HomeHTMLFilename=mywebsite,
  HTMLFilename={mywebsite-}
]{lwarp}
\booltrue{FileSectionNames}

```

7.7 Customizing the css

`\CSSFilename` `{<filename>}`
 Default: `lwarp.css`

`\CSSFilename` may be used to choose which `.css` file is used to display each page of the web site. Use `\CSSFilename` before `\begin{document}` to assign the style of the home page. If different parts of the website should have different styles, call `\CSSFilename` again before each section heading which creates a new file. This may be changed numerous times throughout the file, resulting in different HTML pages having different css files assigned:

```

...
\CSSFilename{myCSS.css}
\chapter{Another Chapter}
...

```

The styles provided by `lwarp` include:


lwarp.css: A default style if `\CSSFilename` is not used. This style is comparable to a plain L^AT_EX document. To set this style, you may use `\CSSFilename{lwarp.css}`, or no `\CSSFilename` call at all.

lwarp_formal.css: A formal style with a serif fonts and a traditional look.

lwarp_sagebrush.css: A style with muted colors, gradient backgrounds, additional borders, and rounded corners.

To see each style in use, change the `\CSSFilename` entry in the tutorial, `lwarpmk.html` again, and then reload the tutorial webpage.

Custom css A customized style may also be created. For each new project a file called `sample_project.css` is generated. This may be renamed to `<project>.css` then used by assigning `\CSSFilename{<project>.css}`.

 **Rename it!** Note that `sample_project.css` is overwritten whenever `lwarp` is loaded in print mode. It is therefore important to rename the file to something like `<project>.css` before using it, so that your own changes are not overwritten.

`<project>.css` has an entry which loads `lwarp.css`, and this entry may be changed to load `lwarp_formal.css` or `lwarp_sagebrush.css` if desired. Additional changes to the css may be made by making entries later in the `<project>.css` file.

File `lwarp.css`

File `project.css`

File `sample_project.css`

It is best to make a local project-specific css file such as `project.css`, containing only things which are different from `lwarp.css`. The file `project.css` should refer to `lwarp.css` as follows:

```

/* ( --- Start of project.css --- ) */
/* ( --- A sample project-specific CSS file for lwarp --- ) */

/* Uncomment one of the following: */
@import url("lwarp.css") ;
/* @import url("lwarp_formal.css") ; */
/* @import url("lwarp_sagebrush.css") ; */

/* Project-specific CSS setting follow here. */
/* . . . */

/* ( --- End of project.css --- ) */

```

Finally use `\CSSFilename{<project>.css}` in the document to activate the custom CSS.

7.8 Assigning CSS classes and styles

HTML CSS classes and styles may be assigned to fragments of the document.

Env BlockClass [*<style>*] {*<class>*}

An entire block of text, including paragraphs, may be assigned a CSS class and optional CSS style using the BlockClass environment. The result is placed inside a `<div>`. A BlockClass may nest other BlockClasses or \InlineClasses.

\InlineClass (*<wp css style>*) [*<web css style>*] {*<css class>*} {*<text>*}

A section of text without paragraphs may be assigned a CSS class and optional CSS style using the \InlineClass macro. The result is placed inside a ``. \InlineClass may be nested, but per the HTML standard it must not contain BlockClass, nor may it contain a paragraph, nor several other objects such as HTML figures. \InlineClass also accepts a second optional parameter, enclosed inside parentheses, which assigns the style while generating output for a word processor, while ignoring the web style.

Nullified versions of BlockClass and \InlineClass are provided for the print version, so they may be used in the document without placing them inside `warpHTML` or `\warpHTMLonly`.

7.9 Selecting the operating system

Prog Unix	lwarp tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as "UNIX" in the configuration files), and MS-WINDOWS is supported as well.
Prog Mac OS	
Prog Linux	
Prog MS-Windows	If MS-WINDOWS is not correctly detected, use the lwarp option OSWindows.
Prog Windows	
Opt OSWindows	

When detected or specified, the operating-system path separator used by `lwarp` is modified, and the boolean `usingOSWindows` is set `true`. This boolean may be tested by the user for later use.

7.10 Selecting actions for print, HTML, or MATHJAX output


The following environments and macros are used to select actions which only apply to either traditional \LaTeX print-formatted PDF generation, or to HTML generation, or to HTML with `MATHJAX`.


For most of built-in \LaTeX and many additional packages there is user-level source code support or emulation, so no special handling will be required. For those cases which `lwarp` does not handle by itself, the following environments and macros may be used to isolate sections of code for print-only or HTML-only.

These environments are also useful for creating a special version of the titlepage for print and another for HTML.

Env `warpHTML` Anything which is to be done only for HTML5 output is surrounded by a `warpHTML` environment:


```
\begin{warpHTML}
... something to be done only during \HTML\ generation
\end{warpHTML}
```


 `\end{warpHTML}` Do *not* place anything else on the same line as `\end{warpHTML}`. The exact phrase is used to mark the end of the environment. Do not nest `warpHTML` inside itself.

 **nesting** `warpMathJax` may be used inside `warpHTML`.

Env `warpprint` Anything which is to be done only for print output is surrounded by a `warpprint` environment:


```
\begin{warpprint}
... something to be done only during traditional \PDF\ generation
\end{warpprint}
```

 `\end{warpprint}` As above, do not place anything else on the line with `\end{warpprint}`. Do not nest `warpprint` inside itself.

 **nesting**

Env `warpall` Anything which is to be done for any output may be surrounded by a `warpall` environment. Doing so is optional.

```
\begin{warpall}
... something to be done during print \PDF\ or \HTML\ output
\end{warpall}
```

 `\end{warppall}` As above, do not place anything else on the line with `\end{warppall}`. Do not nest `warppall` inside itself.

 **nesting**

Macros are also provided for print-only or HTML-only code:

`\warpprintonly` $\{\langle actions \rangle\}$

Performs the given actions only when print output is being generated.

`\warppHTMLonly` $\{\langle actions \rangle\}$

Performs the given actions only when HTML output is being generated.

Env `warpMathJax` Anything which is to be done only while using HTML output with MATHJAX is surrounded by a `warpMathJax` environment. Usually, this is `\CustomizeMathJax`, used to add emulation macros. `\end{warpMathJax}` must appear on its own line. Do not nest `warpMathJax` inside itself. `warpMathJax` may be used inside `warpHTML`.

 `\end{warpMathJax}`

 **nesting**

Env `warpsvg` Anything which is to be done only while using print output or HTML output with SVG math is surrounded by a `warpsvg` environment. `\end{warpsvg}` must appear on its own line. Do not nest `warpsvg` inside itself. `warpsvg` may be used inside `warpHTML`.

 `\end{warpsvg}`

 **nesting**

7.11 Commands to be placed into the warpprint environment

Certain print-related commands should always be placed inside a `warpprint` environment, or may need other special handling. These are unrelated to HTML output, but are hard to isolate automatically. For example:

- Paragraph formatting: `\parindent` `\parskip`
- Manual page positions such as the `textpos` package, which is emulated but only in a limited way.
- Anything changing the page counter. `lwarp` requires that the page counter not be adjusted during HTML output.

Some packages require additional setup commands. Where these packages are emulated for HTML, setup commands may work for the emulated HTML output as well as for print output. See the details for each package in this document for more information.

Also see section 13: [Troubleshooting](#).

7.12 Title page

In the preamble, place an additional block of code to set the following:

```
\title{Document Title} % One line only
\author{Author One\affiliation{Affiliation One} \and
  Author Two\affiliation{Affiliation Two} }
\date{Optional date}
```

The title is used in the meta tags in the HTML files, unless overridden by `\HTMLTitle`, and the rest are used in `\maketitle`. To use a `\subtitle` or `\published` field, see section 69.8.

`\maketitle` Use `\maketitle` just after the `\begin{document}`, as this will establish the title of the homepage. Optionally, use a `titlepage` environment instead.

Env `titlepage` The `titlepage` environment may be used to hold a custom title page. The `titlepage` will be set in a `<div>` class `titlepage`, and `\printtitle`, etc. may be used inside this environment.

Env `titlingpage` Another form of custom title page, where `\maketitle` is allowed, and additional information may be included as well.

`\title` `{<title>}`

⚠ **HTML corrupted** Avoid newlines in the `\title`; these will interfere with the file break and CSS detection.
 ⚠ **newlines** Use a `\subtitle` command instead (section 69.8). The title will appear in the document `\maketitle` as a heading `<h1>`. The HTML meta title tag will also have this title, unless `\HTMLTitle` is used to set the meta title to something else instead.

`\author` `{<author>}`

In `\author`, `\protect` may be needed before some formatting commands. In HTML, the author will appear in a `<div>` of class `author` in the `\maketitle`. If the `titling` package is used, the author will also appear in a HTML meta tag, but `\HTMLAuthor` may be necessary to create a plain list of names if `\author` had affiliations added. `\affiliation` is a new addition to `lwarp`.

`\date` `{<date>}`

`\date` works as expected. In HTML, this will appear in a `<div>` class `datedate`.

`\thanks` `{<text>}`

`\thanks` are allowed in the `titlepage` fields, and will be rendered as HTML notes at the bottom of the title page.

7.13 HTML page meta descriptions

`\HTMLDescription` `{<A description of the web page.>}`

Default: (none)

limitations Each page of HTML output should have its own HTML meta description, which usually shows up in web search results, is limited to around 150 characters in length, and should not include the ASCII double quote character (`"`).

placement Use `\HTMLDescription` just before `\begin{document}` to set the description of the home page, and also just before each sectioning command such as `\chapter` or `\section` where a new file will be generated, depending on `FileDepth`. For example, if `FileDepth` is 1, use `\HTMLDescription` just before each `\section` command, and that description will be placed inside the HTML page for that `\section`. The

same description will be used for all following HTML files as well, until reset by a new `\HTMLDescription`. It is best to use a unique description for each HTML file.

disabling To disable the generation of HTML description meta tags, use:

```
\HTMLDescription{}
```

7.14 HTML homepage meta title

`\HTMLTitle` `{\langle title \rangle}`

Default: `\HTMLtitle{\thetitle}`

Sets the contents of the web page `<meta name="title">` element. May be set empty to cancel the meta title tag.

See section 7.6 for `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection`, used to set the title for HTML subpages.

7.15 HTML page meta author

`\HTMLAuthor` `{\langle author \rangle}`

Default: `\HTMLAuthor{\theauthor}`

Sets the contents of the web page `<meta name="author">` element. May be set empty to cancel the meta author tag.

`\author` may be used to create a list of authors and their affiliations, in several formats if using `authblk`, and these may not successfully parse properly into a sensible list for `\theauthor`. `\HTMLAuthor` may be used to set the meta tag to a simple list of names.

8 Special cases and limitations


Some commonly-used L^AT_EX expressions should be modified as follows to allow for a smooth conversion to both HTML and print-formatted outputs.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

8.1 Things to avoid

In the document, avoid the following:

 **options with braces** **Package options:** Package options may cause problems with `lwarp`, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading `lwarp`:

```
\PassOptionsToPackage{font={it,small}}{caption}
```

```
...
```

```
\usepackage{lwarp}
```

```
...
```

```
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
```

```
\captionsetup{font={it,small}}
```

page counter: Do not adjust the page counter. If doing so is required for the print version, place the adjustment inside a `warpprint` environment.

Custom math environment macros: Do not use expressions such as `\beq` as a replacement for `\begin{equation}`.

Custom macros in section, figure, table names: Custom macros which appear in sectioning commands or float captions then appear in the `.toc`, `.lof`, and `.lot` lists, and should be made robust using `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

When setting `FileSectionNames` to `true` to name the HTML files from the section names, the file names are created from sanitized versions of the chapter or section names, but the section names must be plain text or something which expands into plain text. Robust macros will not work at the sectioning level which is used for file names, but a robust macro or other complicated name may be used for the mandatory argument of `\chapter`, `\section`, etc., if a plain-text version is also included in the optional argument:

```
\chapter[Plain Name]{\ARobustMacro{Fancy Name}}
```

8.1.1 Invalid HTML

Additionally, some objects are valid \LaTeX , but invalid HTML. An example is a tabular inside `\textbf`, since HTML does not allow a table inside a span. `lwarp` will create the table, and the browser may support it, but the result is technically invalid.

8.2 Formatting

8.2.1 Text formatting

- △ `\bfseries`, etc. `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.
- △ **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.
 - program listings For program listings, the `listings` package is supported, and its `literate` option is used to convert `&`, `<`, and `>` to proper HTML entities.
 - verbatim The various `verbatim`-related environments do not convert `&`, `<`, and `>`, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

8.2.2 Small caps

- `Bool` `FixSmallCaps` Some fonts, such as `erewhon`, `utopia`, or `fbf`, and some packages such as `embrac`, copy/paste “SMALL CAPS” as all caps (“SMALL CAPS”), which `lwarp` then reads as all caps, so the text is printed in all caps. If small caps are being rendered as all caps, set:

```
\booltrue{FixSmallCaps}
```

- △ **CJK fonts** Some CJK fonts may not work if `FixSmallCaps` is set true.

8.2.3 Horizontal and vertical space and rules

- `\hspace` `\hspace` is converted to an inline HTML span of the given width, except that `0` width is ignored, a width of `.16667em` is converted to an HTML thin breakable space (`U+2009`), and a `\fill` is converted to a `\quad`.
- `\vspace` `\vspace` is ignored for HTML.
 - `\,` `~` and `\,` are converted to HTML entities.
- `\kern` `\kern` and `\hskip` are entered into the HTML PDF output as-is, then interpreted by `\hskip` `pdftotext`, and thus usually appear as a single space.
- `\rule` `\rule` is converted to an HTML rule of the same dimensions, of the currently selected


text color.

`\hrule` Both `\hrule` and `\vrule` are ignored for HTML. To create a horizontal dividing rule across the page, use `\hrulefill` in its own paragraph.

`\hrulefill` `\hrulefill` usually creates a one-inch rule, similar to a “fill in the blank”. If it is used at the start of a new paragraph, it creates a `<div>` with a thin horizontal border across the page, as would often be done with `\hrule`.

8.2.4 Text alignment

Use the environments `center`, `flushright`, `flushleft` instead of the macros `\centering`, `\raggedright`, `\raggedleft`.

 **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:


```
\begin{table*}
\centering
\caption{A Table}
...
```

8.2.5 Accents

Native \LaTeX accents such as `\'` will work, but many more kinds of accents are available when using Unicode-aware $X\TeX$ and $\Lua\TeX$. If using accents in section names which will become file names, it is recommended to use the \LaTeX accents such as `\'` and `\v` instead of Unicode accents. The \LaTeX accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

8.2.6 textcomp package

Pkg `textcomp` Some `textcomp` symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many `textcomp` symbols are not supported by many system / browser fonts. In the CSS try referencing fonts which are more complete, but expect to see gaps in coverage.

8.2.7 Superscripts and other non-math uses of math mode

Use `x` instead of $\text{\$}^{\text{\$}}\text{\$}$

8.2.8 Empty `\item` followed by a new line of text or a nested list:

[lists](#) Use a trailing backslash: `\item[label] \`

8.2.9 Filenames and URLs in lists or footnotes

filename underscore Escape underscores in the filenames:


```
\item[\href{file\_name.pdf}{text}]
```

8.2.10 relsize package

Pkg relsize For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

8.3 Boxes and minipages


8.3.1 Marginpars

`\marginpar` [*left*] [*right*] `\marginpar` may contain paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `
` tags.

`\marginparBlock` [*left*] [*right*] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a ``. A line break will occur in the text where the `\marginBlock` occurs.


8.3.2 Save Boxes

 **HTML corrupted**

 **boxes** TeX boxes are placed inline and do not allow line breaks, so boxes with long contents may overflow the line during HTML conversion. `lwarp` uses methods which help avoid this problem.

 **minipage, \parbox** `\savebox` and related do not (yet) support `minipage` or `\parbox`.


8.3.3 Minipages


 **inline** A line of text with an inline `minipage` or `\parbox` will have the `minipage` or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made inline-block.

placement `minipages` and `\parboxes` will be placed side-by-side in HTML unless you place a

`\newline` between them.


side-by-side Side-by-side minipages may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a `center` environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.


 **minipage in a span** There is limited support for minipages inside an HTML ``. An HTML `<div>` cannot appear inside a ``. While in a ``, minipages, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.


 **minipage size** When using `minipage`, `\parbox`, and `fminipage`, a virtual 6 × 9 inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.

if width is `\linewidth` If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.

full-width if HTML A new macro `\minipagefullwidth` requests that, during HTML output, the next single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version’s width makes no sense in HTML.

 **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following minipages and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.

 **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.

 **text alignment** Nested minipages adopt their parent’s text alignment in HTML, whereas in regular L^AT_EX PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

8.3.4 Side-by-side minipages

Place side-by-side minipages inside a `center` environment, with horizontal space between them, such as `\quad`, `\qquad`, `\hspace`, or `\hfill`. The result is similar in print and HTML. Do not use space commands at the start or end of the line.

8.3.5 Framed minipages and other environments

`\fbox` can only be used around inline `` items during HTML output, but HTML cannot place a block element such as a `<div>` for a minipage or a list inside of a ``. Several options are provided for framing an object, depending on which kind of object and which packages are loaded:

`\fbox`
`\fboxBlock`
 Env `fminipage`

For a framed object, options include:

To remove the frame in HTML output: Place the `\fbox` command and its closing brace inside `\warpprint` environments. This will nullify the frame for HTML output.

For inline text:

To frame the contents inline with some formatting losses in HTML: This is the default action of `\fbox` when enclosing a `minipage`. During HTML output, `\fbox` nullifies the HTML tags for `minipage`, `\parbox`, and lists. The contents are included as inline text inside the `\fbox`'s `` of class `framebox`. For lists, line breaks are converted to HTML breaks. The result is a plain-text inline version of the contents, framed inline with the surrounding text, but lacking any extra HTML markup.

For inline `minipage` and lists:

To frame the contents on their own line with improved formatting in HTML: A new command `\fboxBlock` is included, intended to be a direct replacement for `\fbox` for cases where the `\fbox` surrounds a `minipage`, table, or list. For print output, this behaves as `\fbox`. For HTML output, the contents are placed inside an HTML `<div>` with the class `framed`, resulting in the contents being placed on their own line with a frame surrounding them. The contents preserve their HTML formatting, so lists and `minipages` look nicer, and valid HTML is created for a `tabular`. While an `\fbox` containing a `tabular` is valid L^AT_EX code, the result in HTML is problematic since a table is a `<div>` not a ``, so use `\fboxBlock` around a `tabular`, or else place the `tabular` inside a `minipage`, or use `fminipage`, described next. Also see below regarding the “Misplaced alignment tab character &.” error.

For display `tabular`, `minipages`, and lists:

To create a framed `minipage` in both print and HTML: A new environment `fminipage` is included. For print output, this is identical to `minipage`, except that it is also framed. For HTML output, this forms a `<div>` of class `framed`, the contents preserve their HTML formatting, and valid HTML is created for a `tabular`. Also see section 89 for a new environment `fcolorminipage`. Also see below regarding the “Misplaced alignment tab character &.” error.

colored boxes and frames:

To create colored frames and boxes: See section 665 for `xcolor`'s `\colorbox` and `\fcolorbox`, and `lwarp`'s additional `\colorboxBlock` and `\fcolorboxBlock`.

⚠ Misplaced alignment
tab character &

To frame tables or verbatim environments: Place the contents inside a `fminipage`, or perhaps a `\fboxBlock` for a `tabular`. Also, if using `\fboxblock` with `tabular`, you will have to use `\StartDefiningTabulars` before the start of the macro which uses `\fboxBlock` and the `tabular`, and `\StopDefiningTabulars` afterwards. Also see the `lwarp` documentation for the `fancybox` package.

To frame equations: See section 258 for the `fancybox` package.

For fancy framed `minipages`: See packages `boxedminipage`, `shadow`, `fancybox`, `framed`, `mdframed`.

Custom environments: Use a custom environment to create a sidebar, containing a `BlockClass` environment with custom CSS formatting, and `\warpprintonly{\hrule}` command:

```
\begin{BlockClass}{frameminipage}% ignored in print output
% use \CSS\ to format div class framedminipage
```

```

\warpprintonly{\hrule} % only appears in print output
Contents
\warpprintonly{\hrule} % only appears in print output
\end{BlockClass}

```

8.3.6 fancybox package

Pkg fancybox
framed equation example

fancybox's documentation has an example FramedEqn environment which combines math, \Sbox, a minipage, and an \fbox. This combination requires that the entire environment be enclosed inside a lateximage, which is done by adding \lateximage at the very start of FramedEqn's beginning code, and \endlateximage at the very end of the ending code. Unfortunately, the HTML alt attribute is not used here.

```

\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}

```

framing alternatives

\fbox works with fancybox. Also see lwarp's \fboxBlock macro and fminipage environment for alternatives to \fbox for framing environments.

framed table example

The fancybox documentation's example of a framed table using an \fbox containing a tabular does not work with lwarp, but the FramedTable environment does work if \fbox is replaced by \fboxBlock. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a fminipage environment. The caption may be placed either inside or outside the fminipage:

```

\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}

```

⚠ framed verbatim

lwarp does not support the verbatim environment inside a span, box, or fancybox's \Sbox, but a verbatim may be placed inside a fminipage. The fancybox documentation's example FramedVerb may be defined as:

```

\newenvironment{FramedVerb}[1] % width
{
  \VerbatimEnvironment
  \fminipage{#1}
  \beginVerbatim
}{
  \endVerbatim
  \endfminipage
}

```

framed `\VerbBox` fancybox's `\VerbBox` may be used inside `\fbox`.

indented alignment `LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

8.3.7 mdframed package

Pkg `mdframed` Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for `mdframed` environments and frame titles.

△ loading When used, `lwarp` loads `mdframed` in HTML with `framemethod=none`.

font For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the `mdframed` source). Since `lwarp` does not support `\bfseries` and friends, only one font selection may be made at a time.

theoremtitlefont `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

ignored options `userdefinedwidth` and `align` are currently ignored.

css classes Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `[mdframedtitle]`. Subtitles are in a `<div>` of class `[mdframedsubtitle]`, and likewise for subsubtitles.

8.3.8 tcolorbox package

Pkg `tcolorbox` `tcolorbox` is emulated for HTML and MATHJAX, and supported as-is inside a `lateximage`

or `svg math`.

What has been tested to work (at least partly) includes:

- `tcolorbox`, `\tcbbox`.
- Title, subtitle.
- Upper, lower parts.
- Colors and title fonts.
- Floating objects.
- Some layered box features.
- Counters, labels, references.
- `listings`, `listingsutf8`.
- theorems: Theorems are supported. `math`, `ams equation`, etc. are not supported. Use a `tcolorbox` with regular math inside it. `\tcbboxmath` and `\tcbhighmath` are supported in `svg math`, and emulated in `MATHJAX`.
- Fitting features: `\tcbboxfit` becomes `\tcbbox` in `HTML`.
- Footnote numbering does not match the printed output.
- `MATHJAX` emulation is provided for common macros.

⚠ **math**

⚠ **footnotes**

⚠ **undefined references** If using `cleveref`, it may be necessary to name theorems such as:

```
\crefname{tcb@cnt@mytheo}{my theorem}{my theorems}
```

8.4 Section names

If using named `HTML` files, by selecting `\booltrue{FileSectionNames}`, the generated filenames may be simplified by using `\FilenameSimplify` and `\FilenameNullify`:

```
\FilenameSimplify {<text>}
```

To remove common short words from the automatically-generated filenames, replacing each with a single hyphen “-”, use `\FilenameSimplify`:

```
\FilenameSimplify*{-in-}
\FilenameSimplify*{A-}
```

The first example removes the word “in” in the middle of a filename, and the second example removes “A” at the start of the filename. The star forces the arguments to be detokenized, which is required for a plain-text comparison. (The unstarred form is used for a token-sensitive comparison, which is seldom required by the user.) After simplification, repeated hyphen characters will be further simplified to a single hyphen “-”. Finally, single hyphens at the start or end of the filename are removed.

```
\FilenameNullify {<macros>}
```

⚠ **macros in section names** Macro names may appear in the automatically-generated file names. To remove these, create *non-robust* nullified versions of the macros, ensuring that each line ends with a percent character % as shown below. These are placed inside `\FilenameNullify`, which adds them to the list of macros which are nullified during filename generation. Low-level macros such as `\begingroup` will cause problems when nullified. Many macros such as `\textbf` are already nullified. `lwarp` also already nullifies built-in symbol and

`textcomp` macros, including if defined by `xunicode`, but not all `xunicode` macros. See the definition of `\LWR@nullfonts` for a complete list.

```
\FilenameNullify{%
  \renewcommand*{\macroname}[1]{#1}%
  \renewcommand*{\anothermacro}{}%
}
```

⚠ **duplicate filename** Avoid duplicate file names. Section names at levels which result in HTML file splits must be unique. `lwarp` will generate an error if a duplicate HTML filename is generated. Use the optional TOC caption entry parameter for formatting. Remember to `\protect` L^AT_EX commands which appear in section names and TOC captions.

⚠ **math in section names** If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{$1+2=3$}{three}}
```

8.5 Cross-references

labels Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French).

⚠ **label characters**

\nameref `\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.

⚠ **empty link**

8.5.1 Page references

⚠ **L^AT_EX page numbers** The printed page does not translate to the HTML page, so `\pageref` references are converted to parentheses containing `\pagerefPageFor`, which defaults to “see”, followed by a hyperlink to the appropriate object.

Ex:

```
\ref{sec:name} on page \pageref{sec:name}
```

in HTML becomes:

```
“Sec. 1.23 on page (see sec. 1.23)”.
```

`\pagerefPageFor` may be redefined to “page for”, empty, etc. See page 528.

8.5.2 `cleveref` and `varioref` packages

Pkg `cleveref` `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\pageref` and `\cpagerefrange`. This phrase includes `\pagerefFor`, which defaults to “for”.

Pkg `varioref`

⚠ **cleveref page numbers**

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 768 to redefine the message which is printed for page number references.

- ⚠ **varioref types** `cleveref` changes the behavior of `varioref` in that the reference type is automatically printed if `cleveref` is loaded. `Lwarp` requires `cleveref`, so the HTML version will always automatically print the reference types even if the print mode does not. The simplest way to make them match is to require the `cleveref` package for the document.

8.5.3 Hyperlinks, hyperref, and url

`Pkg hyperref` `lwarp` emulates `hyperref`, including the creation of active hyperlinks, but does not require that `hyperref` be loaded by the document.

`Pkg url`

- ⚠ **comments between arguments** Do not place a comment with a % character between arguments for `\hyperref`, etc., as it is neutralized for inclusion in HTML URLs.

`lwarp` can also load `url`, but `url` should not be used at the same time as `hyperref`, since they both define the `\url` command. `lwarp` does not (yet) attempt to convert `url` links into hyperlinks during HTML output, nor does the print version of `url` create hyperlinks.

- ⚠ **backref** When generating HTML, `lwarp`'s emulation of `hyperref` does not automatically load `backref`, so `backref` must be loaded explicitly.

8.5.4 Footnotes, endnotes, and page notes

`lwarp` uses native `LATEX` footnote code, although with its own `\box` to avoid the `LATEX` output routine. The usual functions mostly work as-is.

footnote numbering To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

MATHJAX Also for `MATHJAX`, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading `lwarp`:


```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

footmisc The `footmisc stable` option is emulated by `lwarp`.

⚠ **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the `footmisc` package with the `stable` option, provide a short TOC entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

memoir with footmisc If using `memoir` class, with which `lwarp` preloads `footmisc`, the `stable` option must be declared before `lwarp` is loaded:

⚠ **memoir**

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

fancybox, fancyvrb

If using `fancybox` or `fancyvrb` with `\VerbatimFootnotes`, and using footnotes in a sectioning command or `display math`, use `\footnotemark` and `\footnotetext`:

⚠ **\VerbatimFootnotes**

⚠ **sectioning or displaymath**

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.
```

and likewise for equations or `display math`.

At present there is a bug such that paragraph closing tags are not present in footnotes when `\VerbatimFootnotes` are selected. The browser usually compensates.

pfnote

⚠ **pfnote numbers**

While emulating `pfnote`, `lwarp` is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. `lwarp` therefore uses continuous footnote numbering even for `pfnote`.

bigfoot, manyfoot

⚠ **verbatim**

Verbatim footnotes are not yet supported.

If using the `bigfoot` package, and possibly also `manyfoot`, problems may occur with counter allocation because `lwarp` uses many counters, and there is a difference in how counters numbered 256 and up are handled in `pdfLATEX`. With `bigfoot` this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use `X3LaTeX` or `LuaLaTeX` instead of `pdfLaTeX`.

8.5.5 `xr`, `xr-hyper`, and `xcite` packages

See section 5.17.

8.6 Front and back matter

8.6.1 Custom classes with multiple authors and affiliations

Some classes allow multiple authors and affiliations. Often it is possible to emulate these using a standard class along with `authblk`:

```
%\documentclass{customclass} % for print document
\documentclass{article} % for html document

\usepackage{lwarp}
\begin{warpHTML}
\usepackage{authblk}
\let\affiliation\affil % maybe required
\end{warpHTML}
```

8.6.2 Starred chapters and sections


[HTML page and TOC](#) The following describes `\ForceHTMLPage` and `\ForceHTMLTOC`, which may be used for endnotes, glossaries, `tocbibind`, bibliographies, and the index. See the following sections where applicable. Continue here if interested in the reason for adding these commands to `lwarp`.

Some packages use `\chapter*` or `\section*` to introduce reference material such as notes or lists, often to be placed in the back matter of a book. These starred sections are placed inline instead of on their own HTML pages, and they are not given TOC entries.

`lwarp` provides a method to cause a starred section to be on its own HTML page, subject to `FileDepth`, and also a method to cause the starred section to have its own TOC entry during HTML output.

`\ForceHTMLPage` To place a starred section on its own HTML page, use `\ForceHTMLPage` just before the `\chapter*` or `\section*`. `lwarp` will create a new page for the starred sectional unit.


A starred sectional unit does not have a TOC entry unless one is placed manually. The typical method using `\phantomsection` and `\addcontentsline` works for inline text but fails when the new starred section is given its own webpage after the TOC entry is created, or when creating an EPUB where the TOC entry will point to the page before the starred section. If the starred section has its own HTML page but no correct TOC

 **inaccessible HTML page** entry pointing to that page, the page will be inaccessible unless some other link is created.


`\ForceHTMLTOC` To automatically force the HTML version of the document to have a TOC entry for a starred section, use `\ForceHTMLTOC` just before the `\chapter*` or `\section*`, and place `\phantomsection` and `\addcontentsline` inside a `warpprint` environment.

For print output, `\ForceHTMLTOC` and `\ForceHTMLPage` have no effect.

8.6.3 abstract package

`Pkg abstract`
 **missing TOC** If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

8.6.4 titling and authblk


`Pkg titling`
`Pkg authblk`
[package support](#)
 **load order**
[\published and \subtitle](#) `lwarp` supports the native L^AT_EX titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.
 If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 69.8.

8.6.5 tocloft package

`Opt [tocloft] titles`
`Pkg tocloft`
`Pkg tocloft` If using `tocloft` with `tocbibind`, `anonchp`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.


 **tocloft & other packages**

8.6.6 appendix package

`Pkg appendix`
 **incorrect TOC link** During HTML conversion, the option `toc` without the option `page` results in a TOC link to whichever section was before the `appendices` environment. It is recommended to use both `toc` and `also page` at the same time.

8.6.7 pagenote package

`Pkg pagenote` `pagenote` works as-is, but the `page` option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

8.6.8 endnotes package

`Pkg endnotes`
[table of contents](#) To place the endnotes in the TOC, use:

```

\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional

```

HTML page To additionally have the endnotes on their own HTML page, if FileDepth allows:

```


\ForceHTMLPage
\theendnotes

```

 **\endnotemark numbering** If using MATHJAX, see section 8.5.4 regarding the use of \endnotemark and \endnotetext.

8.6.9 BibTeX

`\etalchar` Displays a superscript “+” to indicate “and others”.

 **Modify *.bib** When enough authors are cited for a source, BibTeX may use the `\etalchar` command to display a math superscript with a + character to indicate “and others”. Without modification, this will result in an “Improper \prevdepth” error. At present, lwarp requires that `\etalchar` be replaced by a text superscript. To do so, add to the start of the .bib file the following:

```
@PREAMBLE{"\let\etalchar\relax \newcommand{\etalchar}[1]{\textsuperscript{#1}}"}

```

8.6.10 xcite package

See section 5.17.

8.6.11 gloss package

Pkg gloss To process the HTML glossary:

 **compiling** `bibtex <projectname>_html.gls`

8.6.12 glossaries package

Pkg `glossaries`
[processing glossaries](#)

Opt `GlossaryCmd`

Default: `makeglossaries`

Opt `[lwarpmk] printglossary`

Opt `[lwarpmk] htmlglossary`

`lwarpmk` has the commands `lwarpmk printglossary` and `lwarpmk htmlglossary`, which process the glossaries created by the `glossaries` package using that package's `makeglossaries` program.

The shell command to execute is set by the `lwarp` option `GlossaryCmd`, which defaults to `makeglossaries`. The print or HTML glossary filename is appended to this command.

⚠ [makeglossaries not found](#)

In some situations it may be required to modify the default command, such as to add the `perl` command in front:

```
\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}
```

[xindy language](#)

To set the language to use for processing glossaries with `xindy`:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for `makeglossaries` may be set as well.

[placement and toc options](#)

The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ [glossary style](#)

The default `style=item` option for `glossaries` conflicts with `lwarp`, so the style is forced to `index` instead.

⚠ [number list](#)

The page number list in the printed form would become `\namerefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

[print/HTML versions](#)

The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

8.6.13 nomencl package

Pkg nomencl To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.ist -o <project>_html.nls
```

8.6.14 Indexing overview

There are many ways to process indexes for a L^AT_EX document, including native L^AT_EX capabilities, a number of packages and classes, the possible availability of shell escape and *latexmk*, and the need to process print and HTML versions. *lwarp* attempts to provide easy recompilation of indexes along with the rest of the document, but the various indexing options must be set correctly. Numerous examples are given below. Some differ in minor details, so the important parts are highlighted in red, and options are in green.

Once set up properly, the entire document may be recompiled with **lwarpmk print** and **lwarpmk html**. In some cases, it will also be necessary to compile the indexes with **lwarpmk printindex** and **lwarpmk htmlindex**. A recompile may then be forced with **lwarpmk print1** and **lwarpmk html1**.

[manual processing](#) The user may continue to process indexes manually or by shell script without the use of *lwarpmk*, but adjustments will be required to process HTML indexes as well. In general, *.idx and *.ind files will be accompanied by *_html.idx and *_html.ind files.

[custom index style](#) If using a custom indexing style file, see sections [8.6.20](#) to [8.6.22](#).

[link appearance](#) To control how the index links appear in the HTML output, see the IndexRef option in section [7.5](#), page [111](#).

[source code](#) See section [79](#) for *lwarp*'s core index and glossary code, section [339](#) for index, section [567](#) for splitidx, section [337](#) for imakeidx, section [620](#) for tocbibind, and section [686.17](#) for memoir's indexing patches.

8.6.15 Indexing with makeidx, makeindex, xindy, xindex, gindex

[lwarpmk processing](#) The following allow the user to process indexes automatically, or using *lwarpmk*'s commands:

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

Prog makeindex **For a single index using *makeindex*:**

```
\usepackage[makeindex,latexmk] {lwarp}
```

The usual .idx and .ind files will be used, along with the new lwarp.ist style file. When creating the HTML index, "_html" is automatically appended to each of the names.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section [8.6.20](#).

Prog xindy **For a single index using *xindy*:**

```
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk                           <optional>
]{lwarp}
```

The usual `.idx` and `.ind` files will be used, along with the new `lwarp.xdy` style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section [8.6.21](#).

Prog xindex **For a single index using *xindex*:**

```
\usepackage[
  xindex,
  latexmk                           <optional>
]{lwarp}
```

The usual `.idx` and `.ind` files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section [8.6.22](#).

Pkg gindex **For a single index using gindex:**

```
\usepackage[
  makeindex,
  makeindexStyle=gindex.ist,
  . . . or . . .
  makeindexStyle=gindexh.ist,
  latexmk
]{lwarp} <optional>
```

The usual .idx and .ind files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

To use a custom configuration file, copy `gindex.ist` to a new file, modify, then specify it with `MakeindexStyle` as above. *lwarp* will automatically adapt to *gindex*'s `\indexpagessep` and `\indexrangesep` settings.

8.6.16 Indexing with index

Prog index

lwarp is told how to use *makeindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarp.ist` is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

For multiple indexes using *makeindex* and *index*:

(Assuming that the second index has file extensions .sist and .sind)

```
\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist
      -o <projectname>.sind <projectname>.sidx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist
      -o <projectname>_html.sind <projectname>_html.sidx
  }
]{lwarp}
\usepackage{index}
. . .
\makeindex
\newindex{secondname}{sidx}{sind}{Second Index}
```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

When creating the HTML index, “_html” is automatically appended to the index filenames.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.


If the `latexmk` option is selected for `lwarp`, `latexmk` will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

8.6.17 Indexing with `splitidx`

Prog `splitidx`

`lwarp` is told how to use *splitindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarp.ist` is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

If the `latexmk` option is selected for `lwarp`, `latexmk` will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

 **`\thepage`** When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer to `\thepage` during HTML output, as the concept of a page number is meaningless. Instead, do

```
\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}
```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section [686.17](#) in the `lwarp-patch-memoir` package for the `\@@wrsindexhyp` macro as an example.

For multiple indexes using *makeindex* and *splitidx*:

```

\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    splitindex <projectname> -- -s lwarp.ist
  },
  HTMLIndexCmd={
    splitindex <projectname>_html -- -s lwarp.ist
  }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}

```

When creating the HTML index, “_html” is automatically appended to each of the names.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes using *xindy* and *splitidx*:

```

\usepackage[
  xindy, latexmk,
  PrintIndexCmd={
    splitindex -m xindy <projectname> -- -M lwarp.xdy
    -L english -C utf8 <optional>
  },
  HTMLIndexCmd={
    splitindex -m xindy <projectname>_html -- -M lwarp.xdy
    -L english -C utf8 <optional>
  }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}

```

When creating the HTML index, “_html” is automatically appended to each of the names.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

8.6.18 Indexing with imakeidx

Prog imakeidx

Due to the number of methods which may be used to process multiple indexes, the options for style file and *xindy* language and codepage must be specified in one of several different ways. These are described in detail later in this section, but are summarized here.

If shell escape is used, *imakeidx* will automatically compile the indexes by itself. Options specifying a custom style file and *xindy* language and codepage must be specified for each `\makeindex` command using its `options=` option, which must include *lwarp*'s special `lwarp.ist` or `lwarp.xdy` file, or a file based on them. If using a custom indexing style file, see sections 8.6.20 to 8.6.22.

The `splitindex` option is also available if shell escape is used, in which case the `splitidx` package and *splitindex* program will also be used.

If shell escape is not possible, *latexmk* may be used to automatically compile the indexes. The style, language, and codepage options are specified with *lwarp*'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options. These are passed to *latexmk* by *lwarpmk*'s `lwarpmk printindex` and `lwarpmk htmlindex` commands.

Where shell escape and *latexmk* are not possible, *lwarpmk* may be used to manually compile the indexes. *lwarp*'s `PrintIndexCmd` and `HTMLIndexCmd` options are used.

For a single or multiple indexes using *makeindex* and *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex]{imakeidx}
...
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```

imakeidx will automatically compile the indexes. Shell escape is not required while using *makeindex*. *latexmk* may be specified, and if so it will be used for `lwarpmk print` and `lwarpmk html`, but *imakeidx* will actually create the indexes.

For a single or multiple indexes using *makeindex* and *splitindex* with *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```

\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
. . .
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]

```

⚠ enable shell escape

Shell escape is required while using *splitindex*. For the first compile, use

```
Enter ⇒ pdflatex --shell-escape projectname.tex
```

```
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used.

imakeidx will automatically execute *splitindex*, and will also use *makeindex* to compile the indexes.

latexmk may be specified, and if so it will be used for *lwarpmk print* and *lwarpmk html*, but *imakeidx* will actually create the indexes.

For multiple indexes using *xindy* and *imakeidx*, using shell escape:

Options may be given to *imakeidx*'s *\makeindex* command. The style file *lwarp.xdy* is automatically used for HTML output, and is not necessary for print output since the output will be similar. If language or codepage must be set, they should be specified as options for *\makeindex*, since *imakeidx* will process the indexes.

```

\usepackage[xindy,latexmk] {lwarp}
\usepackage[xindy,splitindex]{imakeidx}
. . .
\makeindex[
  options={ -M lwarp.xdy -L english -c utf8 }
]
\makeindex[
  name=secondname,
  options={ -M lwarp.xdy -L english -c utf8 }
]

```

⚠ enable shell escape

For the first compile, use

```
Enter ⇒ pdflatex --shell-escape projectname.tex
```

```
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used.

imakeidx will automatically execute *splitindex* if selected, and will also use *xindy* to compile the indexes.

If selected, *latexmk* will automatically recompile the entire document as necessary.

For indexes using *xindy* and *imakeidx*, without shell escape, but *with latexmk*:

lwarp's options are used, and are passed to *latexmk*.

```

\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk,
]{lwarp}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]

```

latexmk will create the indexes automatically when `lwarpmk print` and `lwarpmk html` are executed.

For indexes using *xindy* and *imakeidx*, without shell escape, and *without latexmk*:

lwarpmk must be told how to create the indexes:

```

\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]

```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes using *xindex* and *imakeidx*, using shell escape:

xindex, *makeindex*, *imakeidx*, and *splitindex* can all work together:

```
\usepackage[%
  xindex,
  xindexConfig=-imakeidx,
  latexmk
]{lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
...
\makeindex[%
  options={ -s lwarp.ist} }
]
\makeindex[
  name=secondname,
  options={ -s lwarp.ist} }
]
```

⚠ enable shell escape

For the first compile, use:

```
Enter ⇒ pdflatex --shell-escape projectname.tex
```

```
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember if shell escape was used.

xindex will use *imakeidx*, and *imakeidx* will automatically execute *splitindex* if selected.

If selected, *latexmk* will automatically recompile the entire document as necessary.

8.6.19 Indexes with memoir**For a single index with memoir and *makeindex*:**

```
\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
...
\makeindex
```

The usual *.idx* and *.ind* files will be used, along with the *lwarp.ist* style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes with memoir and makeindex, using latexmk:

lwarp's options are used, and are passed to *latexmk*.

```
\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
...
\makeindex
\makeindex[secondname]
```

lwarpmk will use *latexmk* to create the indexes automatically when the user executes `lwarpmk print` and `lwarpmk html`.

For multiple indexes with memoir and makeindex, without latexmk:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
  makeindex,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist secondname.idx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist secondname_html.idx
  }
]{lwarp}
...
\makeindex
\makeindex[secondname]
```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For a single index with memoir and xindy:

```

\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,
  xindyCodepage=utf8,
  latexmk
]{lwarp}
...
\xindyindex
\makeindex

```

<optional>

<optional>

<optional>

The usual .idx and .ind files will be used, along with the lwarp.xdy style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes with memoir and xindy, using latexmk:

lwarp's options are used, and are passed to *latexmk*.

```

\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,
  xindyCodepage=utf8,
  latexmk
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]

```

<optional>

<optional>

lwarpmk will use *latexmk* to create the indexes automatically.

For multiple indexes with memoir and *xindy*, without latexmk:

lwarpmk must be told how to create the indexes:

```

\documentclass{memoir}
\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]

```

⚠ WINDOWS

For Windows, replace the four “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

8.6.20 Using a custom *makeindex* style file

Prog	makeindex	When using <i>makeindex</i> , <i>lwarpmk</i> uses the file <code>lwarp.ist</code> to process the index. This file
File	<code>lwarp.ist</code>	is over-written by <i>lwarp</i> whenever a print version of the document is processed.

To use a custom *makeindex* style file:

1. Copy `lwarp.ist` to a new filename such as `projectname.ist`
2. Make changes to `projectname.ist`. Keep the lines which refer to `\hyperindexref`. These lines creates the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.
3. If changing

```
delim_n -and- delim_r
```

in `projectname.ist`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

Opt makeindexStyle

4. In the document source use the `makeindexStyle` option for `lwarp`:

```
\usepackage[
... other options ...
makeindex,
makeindexStyle=projectname.ist,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.ist` file instead of `lwarp.ist`.

8.6.21 Using a custom *xindy* style file

Prog xindy
File lwarp.xdy

When using *xindy*, `lwarpmk` uses the file `lwarp.xdy` to process the index. This file is over-written by `lwarp` whenever a print version of the document is processed.

To use a custom *xindy* style file:

1. Copy `lwarp.xdy` to a new filename such as `projectname.xdy`
2. Make changes to `projectname.xdy`.

Keep the lines which refer to `\hyperindexref`:

```
(define-attributes (("hyperindexref"))
(markup-locref :open "\hyperindexref{" :close "}")
...
(markup-locref :open "\textit{\hyperindexref{" :close "}" :attr "textit")
```

These lines create the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

To create custom styles, refer to the lines for `\textbf` and `\textit`.

3. If changing any of

```
markup-locref-list :sep
markup-locclass-list :open
markup-locclass-list :sep
markup-crossref-layer-list :sep
markup-range :sep
```

in `projectname.xdy`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

- Opt xindyStyle
- In the document source use the xindyStyle option for lwarp:


```
\usepackage[
  ... other options ...
  xindy,
  xindyStyle=projectname.xdy,
]{lwarp}
```

Likewise, refer to the custom style file if using \PrintIndexCmd, \HTMLIndexCmd, or \LatexmkIndexCmd.
 - Recompile the print version, which causes lwarp to rewrite the lwarpmk.conf configuration file. This tells *lwarpmk* to use the custom projectname.xdy file instead of lwarp.xdy.

8.6.22 Using a custom *xindex* style file

Prog xindex To use a custom *xindex* style file:

⚠ filename

- Copy xindex-cfg.lua to a new filename such as xindex-projectname.lua. The filename must start with xindex- and end with .lua.
- Make changes to xindex-projectname.lua.

- If changing

```
itemPageDelimiter -and- rangeSymbol
```

in xindex-projectname.lua, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

- Opt xindexConfig
- In the document source use the xindexConfig option for lwarp:



```
\usepackage[
  ... other options ...
  xindex,
  xindexConfig=projectname, % (without xindex- or .lua)
]{lwarp}
```

Likewise, refer to the custom style file if using \PrintIndexCmd, \HTMLIndexCmd, or \LatexmkIndexCmd.
 - Recompile the print version, which causes lwarp to rewrite the lwarpmk.conf configuration file. This tells *lwarpmk* to use the custom xindex-projectname.lua file instead of the default xindex-cfg.lua.

8.6.23 Additional indexing limitations

⚠ *xindy* with *hyperref* *xindy* and *hyperref* may not work well together for print output with “see”, “see also”, reference ranges, or stylized index references. It may be necessary to turn off hyper-referencing for indexes:

```
\usepackage[hyperindex=false]{hyperref}
```

 **empty index** If an HTML index is empty, it may be necessary to add the following before `lwarp` is loaded:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
. . .
\usepackage{lwarp}
```

makeindex custom display styles When using *makeindex*, custom display styles are possible:

```
\begin{warpprint}
\newcommand{\notesstyle}[1]{#1nn}
\end{warpprint}

\begin{warpHTML}
\makeatletter
\newcommand{\notesstyle}[1]{\LWR@doindexentry{#1} notes }
\makeatother
\end{warpHTML}
. . .
A sentence.\index{key|notesstyle}
```

xindy custom display styles For custom styles with *xindy*, see `lwarp.xdy` for `\textbf` and `\textit` as examples.

8.6.24 Index positions, `roc`, `tocbibind`

placement and `roc` options An index may be placed inline with other HTML text, or on its own HTML page:

Pkg `makeidx` **Inline, with a manual `roc` entry:**

A commonly-used method to introduce an index in a \LaTeX document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex
```

Pkg `makeidx` **On its own HTML page, with a manual `roc` entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

Pkg `tocbibind` **Inline, with an automatic `roc` entry:**

The `tocbibind` package may be used to automatically place an entry in the `roc`.

```

\usepackage[nottoc]{tocbibind}
. . .
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

Pkg `tocbibind` **On its own HTML page, with an automatic toc entry:**

```

\usepackage[nottoc]{tocbibind}
. . .
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex

```

Opt [`tocbibind`] `numindex` Use the `tocbibind` `numindex` option to generate a numbered index. Without this option, the index heading has no number.

[numbered index section](#)

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.


Pkg `tocloft`

If using `tocloft` with `tocbibind`, `anonchp`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

 [tocloft & other packages](#)

8.7 Math

8.7.1 Math in section names

 [math in section names](#) If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the toc entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```

\section{Some math \texorpdfstring{$1+2=3$}{three}}

```

8.7.2 Rendering tradeoffs

[Math rendering](#) Math may be rendered as SVG graphics or using the MATHJAX JavaScript display engine.

[svg files](#) Rendering math as images creates a new SVG file for each expression, except that an MD5 hash is used to combine identical duplicates of the same inline math expression into a single file, which must be converted to SVG only once. Display math is still handled as individual files, since it may contain labels or references which are likely to change.

[svg inline](#) The SVG images are currently stored separately, but they could be encoded in-line directly into the HTML document. This may reduce the number of files and potentially speed loading the images, but slows the display of the rest of the document before the images are loaded.

- PNG files** Others L^AT_EX-to-HTML converters have used PNG files, sometimes pre-scaled for print resolution but displayed on-screen at a scaled down size. This allows high-quality print output at the expense of larger files, but SVG files are the preferred approach for scalable graphics.
- MathML** Conversion to MathML might be a better approach, among other things allowing a more compact representation of math than SVG drawings. Problems with MathML include limited browser support and some issues with the fine control of the appearance of the result. Also see section 10 regarding EPUB output with MATHJAX.

8.7.3 SVG option

- SVG math option** For SVG math, math is rendered as usual by L^AT_EX into the initial PDF file using the current font¹⁴, then is captured from the PDF and converted to SVG graphics via a number of utility programs. The SVG format is a scalable-vector web format, so math may be typeset by L^AT_EX with its fine control and precision, then displayed or printed at any size, depending on (sometimes broken) browser support. An HTML alt attribute carries the L^AT_EX code which generated the math, allowing copy/paste of the L^AT_EX math expression into other documents.

- SVG image font size** For the lateximage environment, the size of the math and text used in the SVG image may be adjusted by setting \LateximageFontSizeName to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline SVG math, font size is instead controlled by \LateximageFontScale, which defaults to:

```
\newcommand*{\LateximageFontScale}{.75}
```

- SVG math copy/paste** For SVG math, text copy/paste from the HTML <alt> tags lists the equation number or tag for single equations, along with the L^AT_EX code for the math expression. For $\mathcal{A}\mathcal{M}\mathcal{S}$ environments with multiple numbers in the same environment, only the first and last is copy/pasted, as a range. No tags are listed inside a starred $\mathcal{A}\mathcal{M}\mathcal{S}$ environment, although the \tag macro will still appear inside the L^AT_EX math expression.

- ⚠ **SVG math size, baseline** SVG math sizing and baselines are improved if the graphics or graphicx package is loaded. An almost-invisible marker is placed at either end of the image to assist in cropping and computing the baseline. A warning is issued at the end of the compile if graphics or graphicx are not used.

- ⚠ **SVG math in T_EX boxes** SVG math does not work inside T_EX boxes, since a \newpage is required before and after each image.

8.7.4 MATHJAX option

- MATHJAX math option** The MATHJAX (mathjax.org) L^AT_EX-math to HTML converter may be used to display math.

Prog MathJax

¹⁴See section 671 regarding fonts and fractions.


When MATHJAX is enabled, math is rendered twice:

1. As regular L^AT_EX PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of L^AT_EX, and
2. As detokenized printed L^AT_EX commands placed directly into the HTML output for interpretation by the MATHJAX display scripts. An additional script is used to pre-set the equation number format and value according to the current L^AT_EX values, and the MATHJAX equation numbering system is ignored in favor of the L^AT_EX internal system, seamlessly integrating with the rest of the HTML output, including any math appearing in non-MATHJAX SVG output.

8.7.5 Customizing MATHJAX

equation numbering lwarp detects and adjusts MATHJAX equation numbering format for article and book style equations as well as `amsmath \numberwithin` for chapters, sections, and subsections. Custom equation number formats may be set as follows, for example:


```
\renewcommand*{\theequation}{\Alph{section}.\arabic{equation}}
\AtBeginDocument{
  \renewcommand*{\theMathJaxsection}{\Alph{section}.}
}
```

 **subequation** The `amsmath` `subequations` environment is supported, but only with `\alpha` subequation numbering.

global customizations MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined in the preamble. These will be declared at the start of each HTML page, and thus will have a global effect across all HTML pages.

Examples:

```
\begin{warpMathJax}
\CustomizeMathJax{
  \newcommand{\expval}[1]{\langle#1\rangle}
  \newcommand{\abs}[1]{\lvert#1\rvert}
}
\CustomizeMathJax{\newcommand{\arcsinh}{\text{arcsinh}}}
\CustomizeMathJax{\newcommand{\arccosh}{\text{arccosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}
\end{warpMathJax}
```

 **slow compilation** To avoid a slowdown in compile speed, use the `warpMathJax` environment to prevent its contents from being processed in print or SVG math output. Also, place each new definition inside its own `\CustomizeMathJax`. A warning to this effect is issued if an overly-long definition is attempted.

lwarp already provides MATHJAX customizations for some packages.

siunitx When using `siunitx`, a similar process may be used to add custom units:

```

\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{WXYZ}}}}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{\micro\myunit}}}}
\end{warpMathJax}

```

advanced control For more advanced control over dynamically creating custom definitions, see as an example the `lwarp` definition for `\DeclarePairedDelimiterX`, in section 397, [mathtools](#).

local customizations For customizations local to the current HTML page only, macros may be defined as follows:

```

\begin{warpMathJax}
\(\ \newcommand{\macroname}{. . . } \)
\(\ \newcommand{\anothername}{. . . } \)
\end{warpMathJax}

```

To maintain compile speed, use the `warpMathJax` environment, and use a separate math environment for each definition.

`\ifstar` For MATHJAX, use `\ifstar` instead of `\@ifstar`:

```

\CustomizeMathJax{
  \def\myname{
    \ifstar\starredaction\unstarredaction
    % (Do not place anything after!)
  } }

```

`\ifnextchar` For MATHJAX, use `\ifnextchar` instead of `\@ifnextchar`:

```

\CustomizeMathJax{\def\myname{\ifnextchar X \found\notfound}}

```

“X” may be a single ASCII character, or a hex number inside braces, ex:

```

\CustomizeMathJax{\def\myname{\ifnextchar{0x7B}\found\notfound}}

```

Use “(” or “{0x28}” for a left parenthesis, “{0x7B}” for a left brace, “{0x7D}” for a right brace, or “{0x5C}” for a backslash.

8.7.6 MATHJAX limitations

MATHJAX limitations Limitations when using MATHJAX include:

Prog MathJax



`\multicolumn`, `multirow`

- MATHJAX does not support `\multicolumn` or `multirow`. These may be used in text tabulars or SVG math, but in MATHJAX math arrays they are emulated. `\multicolumn` only fills a single cell, resulting in a short row. `\multirow` simply prints its text on the first line.



footnotes


- Footnotes are emulated when used inside a MATHJAX expression. For an equation with a single footnote, the correct footnote number is used. For non-equations, `\footnotename` is used instead, since the actual number cannot be tracked. See section 8.5.4 regarding the use of footnotes with MATHJAX.



references

- Inside a MATHJAX expression, references to equations work within the same HTML web page, but do not work when referring to an equation in a different

HTML web page. Outside of a MATHJAX expression, in the text body, references work as expected.

- [lateximage](#)
 - Math appearing inside a `lateximage`, and therefore also inside a `Tikz` or `picture` environment, is rendered as SVG math even if MATHJAX is used in the rest of the document.
- [siunitx](#)
 - For `siunitx`, see [siunitx package](#), section 8.7.13.
- [physics](#)
 - For `physics`, see [physics package](#), section 8.7.15.
- [tabbing](#)
 - A `tabbing` environment is emulated using an HTML `<pre>`. While MATHJAX is enabled inside `tabbing`, the browser may not correctly render the horizontal alignment of the math and text following after on the same line.
- [\text](#)
 - MATHJAX includes the `textmacros` extension, which supports various macros which are commonly used inside `\text`, such as `\textbf` and text accents. `Lwarp` supports this extension.
-  [other macros and packages](#)
 - Many other math-related macros and packages are not directly supported by MATHJAX, including `\ensuremath` and occasionally-used macros such as `\relax`. While using MATHJAX, `lwarp` provides emulation for many of these macros, as well as for footnotes and emulation for dozens of packages (see table 2). In many cases these emulations simply ignore the package in a source-compatible way. Others produce a result which represents the meaning, even if they don't look exact. Look up each package in this document for a description of the limitations of each.

8.7.7 Catcode changes

- [preamble macros with math](#) The math shift character `$` is not set for HTML output until after the preamble. Macros defined in the preamble which contain `$` must be enclosed between `\StartDefiningMath` and `\StopDefiningMath` to temporarily change to the HTML meaning of `$`:

```
\StartDefiningMath
\newcommand{. . .}
\StopDefiningMath
```

As an alternative, use `\(` and `\)` instead of `$`, in which case `\StartDefiningMath` and `\StopDefiningMath` are not necessary.

If a package defines macros using `$`, it may be necessary to use `\StartDefiningMath` and `\StopDefiningMath` before and after loading the package.

8.7.8 Complicated inline math objects

- [\inlinemathnormal](#)
[\inlinemathother](#) An inline math expression is usually converted to a reusable hashed SVG math image, or a MATHJAX expression. The hash or expression depends on the contents of the math expression. In most cases this math expression is static, such as `$x+1$`, so the image can be reused for multiples instances of the same expression. In some cases, the math expression includes a counter or other object which may change between uses.
- [changing contents](#)
- [complicated alt tag](#) Another problem is complicated contents which do not expand well in an `alt` tag. Yet


MATHJAX limitations another problem is math packages which are only partially emulated in MATHJAX. The macro `\inlinemathother` may be used before a sequence of dynamic or complicated math expressions, and `\inlinemathnormal` after. Doing so tells `lwarp` to use unhashed SVG math images for those particular expressions, even if MATHJAX is otherwise in use. See section 44.

8.7.9 Complicated display math objects

`\displaymathnormal` By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and SVG display math environments render their contents as SVG images and use their contents as the `alt` tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated Tikz pictures, compilation will fail.

`\displaymathother` When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate Tikz picture, which will not render in MATHJAX and will not make sense as an HTML `alt` tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML `alt` tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as Tikz pictures are more likely to compile successfully.

8.7.10 Theorems


 **cref reference format undefined** If the print version does not use `cleveref`, place all `\theoremstyle` and `\newtheorem` declarations in the preamble inside `\AtEndPreamble`.¹⁵ For some theorems, it may also be required to add inside `\AtEndPreamble` something such as:

```
\usepackage{etoolbox} % for \ifdef, \AtEndPreamble
\AtEndPreamble{ % if not using cleveref package
  \theoremstyle{definition}
  \newtheorem{dtheorem}{Definition}
  . . .
  \ifdef{\cref}{
    \crefname{Proof}{Proof}{Proofs}
  }{ }
}
```

8.7.11 ntheorem package

`Pkg ntheorem` This conversion is not total. Font control is via CSS, and the custom L^AT_EX font settings are ignored.


 **Font control**


 **Equation numbering** `ntheorem` has a bug with equation numbering in $\mathcal{A}\mathcal{M}\mathcal{S}$ environments when the option `thref` is used. `lwarp` does not share this bug, so equations with `\split`, etc, are


¹⁵`lwarp` uses `cleveref` for the HTML conversion, and loads `cleveref \AtEndPreamble`, just before `\AtBeginDocument`. This is also before the `.aux` file is read.

numbered correctly with `lwarp`'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

8.7.12 `mathtools` package

 **equation numbering** Pkg `mathtools` `showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarp`. Equation numbers may not match the print version.

 **italic correction** `mathic` is not emulated for HTML.

 **MATHJAX** If using `MATHJAX`:

- `mathtools disallowspaces` does not work for `MATHJAX`. Protect brackets which are not optional arguments, such as:

```
\begin{gathered}{{} 
[p]=1 . . .
\end{gathered}
```

- `showonlyrefs` does not work in `MATHJAX`, and will result in a difference in equation numbering compared to the print version.
- `alignat` in `MATHJAX` requires math mode, but in `LATEX` it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

8.7.13 `siunitx` package


Pkg `siunitx` `siunitx v3` is not yet supported. For now, specify version 2:

 **v3 not yet!** `\usepackage{siunitx}[=v2]`

This may be also be necessary before loading other packages which also use `siunitx`, such as `chemmacros`.

fractions Due to *pdftotext* limitations, fraction output is replaced by symbol output for `per-mode` and `quotient-mode`.

 **math mode required** Some units will require that the expression be placed inside math mode.

 **tabular** Tabular `S` and `s` columns are rendered as simple `c` columns. These may be replaced by `c` columns with each cell contained in `\num` or `\si`.

For math mode with `svg display`, the original `siunitx` code is used while generating the `svg` image. For text mode, `lwarp` uses an emulation which provides a very effective HTML interpretation of `siunitx`. For math expressions while using `MATHJAX`, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. Complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

 **MathJax**

Document modifications required for `MATHJAX`:

custom units

- Custom units may be added with `\CustomizeMathJax`. See the `lwarp-siunitx` code for examples.

⚠ unit spacing

- Units work better using `~` between units instead of using periods.

⚠ `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

Also see [MATHJAX option](#), section 8.7.4.

8.7.14 units and nicefrac packages

Pkg units
Pkg nicefrac

`units` and `nicefrac` work with `lwarp`, but `MATHJAX` does not have an extension for `units` or `nicefrac`. These packages do work with `lwarp`'s option `svgmath`.

8.7.15 physics package

Pkg physics

`physics` works as-is for HTML with SVG math.

For `MATHJAX`, the `MATHJAX v3 physics` extension is used.

8.8 Graphics

Pkg graphics
Pkg graphicx
[file extensions](#)

Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase extension, and `lwarp` cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with `lwarp`. For example, name the image file `image.pdf` instead of `image.PDF`, but refer to it in the source as `image`, without an extension. For images which may be used as-is with either print or HTML, such as JPG or PNG, you may use a capitalized extension if it is specified in the source, such as `image.JPG`.

⚠ case sensitive

[\includegraphics file formats](#)

For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, `lwarp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

Table 9: `\includegraphics` and file names

Print image file	HTML image file	Command to use
image.pdf ^a	image.svg ^a	<code>\includegraphics{image}</code>
image.eps ^a	image.svg ^a	<code>\includegraphics{image}</code>
image.jpg	— ^b	<code>\includegraphics{image}</code>
image.png	— ^b	<code>\includegraphics{image}</code>
image.JPG	— ^b	<code>\includegraphics{image.JPG}</code> ^c
image.PNG	— ^b	<code>\includegraphics{image.PNG}</code> ^c
image.jpg	image.gif	<code>\includegraphics{image}</code>

^a: Must be a lowercase file extension.

^b: The same file is used for print and HTML.

^c: The uppercase extension must be specified.

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

Prog `pdftocairo` To convert a PDF image to SVG, use the utility *pdftocairo*:

[PDF to SVG](#)

Enter ⇒ `pdftocairo -svg filename.pdf`

Prog `lwarpmk pdftosvg` For a large number of images, use *lwarpmk*:

Enter ⇒ `lwarpmk pdftosvg *.pdf` (or a list of filenames)

Prog `lwarpmk epstopdf` For EPS images converted to PDF using the package *epstopdf*, use

Prog `epstopdf`

[epstopdf package](#)

Enter ⇒ `lwarpmk pdftosvg *.PDF`

to convert to SVG images.

[DVI L^AT_EX](#) When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ `lwarpmk epstopdf *.eps` (or a list of filenames)

Enter ⇒ `lwarpmk pdftosvg *.pdf` (or a list of filenames)

[PNG and JPG](#) For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

[GIF](#) GIF files may be used for HTML, but another format must also be provided for print output.

[file extension priorities](#) If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.


- duplicate files** A complication occurs if a file of the same name exists elsewhere in the T_EX tree, such as a test image from some L^AT_EX package. T_EX looks in the local document directory before considering the directories specified by `\graphicspath`, but the T_EX tree is found as “local”, so any file in the tree is found before the directories in `\graphicspath`. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.
- ⚠ **image not displayed**
- ⚠ **graphics vs. graphicx** If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that viewports are not supported by `lwarp`—the entire image will be shown.
- ⚠ **viewport**
- units** For `\includegraphics`, avoid `px` and `%` units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use `ex` or `em`. For fixed-sized images, use `cm`, `mm`, `in`, `pt`, or `pc`. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.
- options** `\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus `new class` and `alt` keys.
- HTML class** With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.
- HTML alt tags** Likewise, the `\includegraphics alt` key adds an HTML `alt` tag to an image, and is ignored for print output. If not assigned, each image is given an `alt` tag according to `\ImageAltText`.
- ⚠ **scale** Avoid using the `\includegraphics scale` option. Change:
- ```
\includegraphics[scale=<xx>]{ . . . }
```
- to:
- ```
\includegraphics[width=<yy>\linewidth]{ . . . }
```
- \rotatebox** `\rotatebox` accepts the optional `origin` key.
- ⚠ **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The css3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike L^AT_EX, so expect some ugly results for scaling and rotating.

8.8.1 tikz package

- Pkg tikz** If using display math with `tikzpicture` or `\tikz`, along with matrices with the `&` character, the document must be modified as follows:
- ⚠ **displaymath and matrices**
- ```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of & in the tikz expression must be replaced with \&.

### 8.8.2 grffile package

 **matching PDF and SVG** Pkg grffile grffile is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

### 8.8.3 color package

Pkg color color is superceded by xcolor, and lwarp requires several of the features of xcolor. When color is requested, xcolor is loaded as well.

### 8.8.4 xcolor package

Pkg xcolor \colorboxBlock and \fcolorboxBlock are provided for increased HTML compatibility, and they are identical to \colorbox and \fcolorbox in print mode. In HTML mode they place their contents into a <div> instead of a <span>. These <div>s are set to display: inline-block so adjacent \colorboxBlocks appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for \colorboxBlock and \fcolorboxBlock are created by lwarp's core if xcolor is loaded.

**background: none** \fcolorbox and \fcolorboxBlock allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.


**color support** Color definitions, models, and mixing are fully supported without any changes required.

**colored tables** \rowcolors is supported, except that the optional argument is ignored so far.

**colored text and boxes** \textcolor, \colorbox, and \fcolorbox are supported.

**\color and \pagecolor** \color and \pagecolor are ignored. Use css or \textcolor where possible.

### 8.8.5 epstopdf package

 **convert to .svg** Pkg epstopdf Images with an .eps extension will be converted to .pdf. The HTML output uses the .svg version, so use

Enter ⇒ **lwarpmk pdftosvg <listofPDFfiles>**

to generate .svg versions.

### 8.8.6 pstricks package

Pkg pstricks All pstricks content should be contained inside a pspicture environment.

⚠ use pspicture

### 8.8.7 pdftricks package

Pkg pdftricks The pdftricks image files <jobname>-fig\*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

⚠ convert image files

```
Enter ⇒ lwarpmk pdftosvg <jobname>-fig*.pdf
```

### 8.8.8 psfrag package

Pkg psfrag The psfrags environment is modified to use lateximage to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by lwarp.

⚠ use psfrags

⚠ Tip: Use a mono-spaced font for the tags in the EPS file.

### 8.8.9 pstool package

Pkg pstool \graphicspath is ignored, and the file directory must be stated.

⚠ path and filename The filename must not have a file extension.

Use

```
Enter ⇒ lwarpmk html
```

followed by

```
Enter ⇒ lwarpmk limages
```

.



### 8.8.10 asymptote package

Pkg asymptote To compile:

```


pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

### 8.8.11 overpic package

Pkg overpic The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

 scaling

### 8.8.12 Multimedia packages

Pkg multimedia The packages `multimedia`, `movie15`, and `media9` are supported.

Pkg movie15 HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

Pkg media9 HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

## 8.9 Tabbing

The tabbing environment works, except that `svg math` and `lateximages` do not yet work inside the environment.


 **math in tabbing** If math is used inside tabbing, place tabbing inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

## 8.10 Tabular

### 8.10.1 tabular environment

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, `multirows`, `siunitx S` columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.

#### Defining macros and environments:

 **Misplaced alignment tab character &**

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.


```
\StartDefiningTabulars
```

```
<define macros or environments using tabular and & here>
```

```
\StopDefiningTabulars
```

 **floatrow**

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

 **tabular inside another environment**

- When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```

\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
 \tabular{cc}
 left & right \\
}
{
 \TabularMacro\ResumeTabular
 left & right \\
 \endtabular
}
\StopDefiningTabulars

```

#### For developers:

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an HTML environment definition to automatically change the catcode of `&` before absorbing the arguments. Another environment may be embedded as well.

```

% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@subsomename}[2]{%
 . . .
 \otherenvironmentname [<args>] {<args>} % for example
}
% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename{%
 \StartDefiningTabulars
 \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
 . . .
 \endotherenvironmentname % for example
 \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}

```

#### Cell contents:

##### ⚠ macro in a table

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \\
```

#### Column specifiers:

##### ⚠ math

- Due to the way math is gathered for processing, column specifiers such as `>{$}c<{$}` do not work with lwarp. Instead, each cell must specify math mode individually.

##### @ and !

- Only one each of @ and ! is used at each column, and they are used in that order.

##### \multirow

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the HTML version.

⚠ `\newcolumn`

font and alignment

- If `\newcolumn` does not work for HTML, add a simplified column type using `\HTMLnewcolumn`.
  - `lwarp` detects each of the following, and sets HTML CSS appropriately:
    - `>\centering\arraybackslash`
    - `>\raggedright\arraybackslash`
    - `>\raggedleft\arraybackslash`
    - `>\itshape`
    - `>\bfseries`
    - `>\bfseries\itshape`
- These may be used with `\newcolumn`, such as:
- ```
\newcolumn{P}[1]{>\centering\arraybackslash}p{#1}}
```

Rules:

vertical rules

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

width and trim

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

combined rules

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:


```
\cmidrule{2-3} \[-2ex]
\bottomrule
```

 The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

⚠ `\warpprintonly`

⚠ Misplaced `\noalign`

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warppHTML` environment, if a “Misplaced `\noalign`” error occurs, change


```
This & That \endhead
```

 to


```
\warpprintonly{This & That \endhead}
```

 and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

Other:

longtable headings

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.
- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

⚠ S columns

- For S columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{ }` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:


```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\\}
\warppHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\\}
```

⚠ tabular inside a

- In L^AT_EX, a tabular may be placed inside a minipage, but in HTML a <table> may not be inside a . If this situation is detected, a warning is printed instructing the user to isolate the using \warpprintonly or the warpprint environment.

8.10.2 multirow package

vposn

- Note that recent versions of multirow include a new optional vposn argument.

multirow cells

- For multirow, insert \mrowcell into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

colored cells

- The multirow documentation regarding colored cells recommends using a negative number of rows. This will not work with lwarp, so \warpprintonly and \warpHTMLonly must be used to make versions for print and HTML.

with \multicolumn

- See section 427.2 for \multicolumnrow.

⚠ \multicolumn & \multirow

lwarp does not support directly combining \multicolumn and \multirow. Use \multicolumnrow instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for \multicolumn come first, followed by the five arguments for \multirow, many of which are optional, followed by the contents.

⚠ skipped cells

As per \multirow, skipped cells to the right of the \multicolumnrow statement are not included in the source code on the same line. On the following lines, \mcolrowcell must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ empty cells

⚠ MathJax

- MATHJAX does not support multirow, so it is emulated to only print its text on the first row. \multirow works as expected in text tabulars or svg math.

8.10.3 longtable package

Pkg longtable

Use one of either \endhead or \endfirsthead for both print and HTML, and use a \warpprintonly macro to disable the other head phrase, and also the \endfoot and \endfirstfoot phrases. (See section 8.10.4 if using threeparttablex.)

```

\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
. . . table contents . . .
\warppHTMLonly{
[ <lastfoot macros> ] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}

```

⚠ **Misplaced \noalign** Use the `\warpprintonly` macro instead of the `\warpprint` environment. Doing so helps avoid “Misplaced \noalign.” when using `\begin{warpprint}`.

⚠ **\kill** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **lateximage** `longtable` is not supported inside a `lateximage`.

8.10.4 threeparttablex package

Pkg `threeparttablex` `threeparttablex` is used with `longtable` and `booktabs` as follows:

```

\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warppHTMLonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}

```

table width The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

8.10.5 supertabular and xtab packages

Pkg supertabular For `\tablefirsthead`, etc., enclose them as follows:

⚠ Misplaced alignment
tab character &

```
Pkg xtab
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ lateximage supertabular and xtab are not supported inside a lateximage.

8.10.6 colortbl package

Pkg colortbl Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

⚠ row/cell color colortbl ignores the overhang arguments.

8.10.7 ctable package

⚠ Misplaced alignment
tab character & Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand `&` character.

8.10.8 bigdelim package

⚠ use \mrowcell Pkg bigdelim `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:


```
\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}
```

```
<-> a b
left { c d
      e f
      g h
<-> i j
```

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

8.11 Floats

8.11.1 Float contents alignment

 **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:

```
\begin{table*}
\centering
\caption{A Table}
...
```

8.11.2 float, trivfloat, and/or algorithmicx together

Pkg float If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 631.1.

Pkg trivfloat

Pkg algorithmicx

 **package conflicts**

8.11.3 caption and subcaption packages

Pkg caption

Pkg subcaption

Package options may cause problems with `lwarp`, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:


```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading `lwarp`:

```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwarp}
...
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
\captionsetup{font={it,small}}
```

 **numbering** To ensure proper float numbering, set caption positions such as:

```
\captionsetup[figure]{position=bottom}
\captionsetup[subfigure]{position=bottom}
\captionsetup[table]{position=top}
\captionsetup[subtable]{position=top}
```

Similarly for `longtable`. These positions depend on where the user places the `\caption` command inside each float.

8.11.4 subfig package

Pkg subfig

- ⚠ **table numbering** To have correct sub table numbers:


```
\usepackage{caption}
\captionsetup[table]{position=top}
```
- ⚠ **lof/lotdepth** At present, the package options for lofdepth and lotdepth are not working. These counters must be set separately after the package has been loaded.
- ⚠ **horizontal spacing** In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

8.11.5 floatrow package

Pkg floatrow

- ⚠ **Misplaced alignment tab character & subfig package** Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

When combined with the subfig package, while inside a `subfloatrow` `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.
- ⚠ **\FBwidth, \FBheight** The emulation of floatrow does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:
 - Use fixed lengths. `lwarp` will scale the HTML lengths appropriately.
 - Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
 - Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

8.11.6 keyfloat package

Pkg keyfloat

- ⚠ **keywrap** If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the `lw` option.)

For wrapped figures, overhang and number of lines are ignored.

8.12 KOMA-SCRIPT classes

Cls komascript

Many features are ignored during the HTML conversion. The goal is source-level com-

patibility.

`\captionformat`, `\figureformat`, and `\tableformat` are not yet emulated.

⚠ **Not fully tested!** [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

8.13 MEMOIR class

`\cls memoir` lwarp uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.

⚠ **captions**

⚠ **options clash**

While emulating `memoir`, `lwarp` pre-loads a number of packages (section 686.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading `lwarp`:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}
```

⚠ **version numbers** `memoir` emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since `lwarp` is intended to support the freestanding packages, which are often newer than the date declared by `memoir`, it is hoped that `memoir` will update and change its emulated version numbers to match.

`\label{bookmark}{tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in HTML.

⚠ **comment** The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with `\newcomment` use `memoir`'s definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

⚠ **verbatim footnotes** `\verbfootnote` is not supported.

⚠ **\newfootnoteseries** `\newfootnoteseries`, etc. are not supported.

⚠ **page notes** `lwarp` loads `pagenote` to perform `memoir`'s `pagenote` functions, but there are minor differences in `\pagenotesubhead` and related macros.

page notes with cleveref To add support for `pagenotes` with `cleveref`, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

- [page note \nameref](#) Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.
- ⚠ [poems](#) Poem numbering is not supported.
- ⚠ [verbatim](#) The `verbatim` environment does not yet support the memoir enhancements. It is currently recommended to load and use `fancyvrb` instead.
- ⚠ [glossaries](#) The memoir glossary system is not yet supported by *lwarpmk*. The `glossaries` package may be used instead, but does require the glossary entries be changed from the memoir syntax to the `glossaries` syntax.
- ⚠ [framewithtitle, titledframe](#) The custom frame commands in the memoir manual may be emulated by placing the original definitions in the preamble inside `warpprint` environments, and then providing an HTML equivalent:

```

\begin{warpHTML}
\newcommand{\FrameTitle}[2]{%
  \textbf{#2}
}

\newenvironment{framewithtitle}[2][\FrameFirst@Lab\ (cont.)]{%
  \begin{fminipage}{\linewidth}
  \textbf{#2}
  \begin{minipage}{\linewidth}
  }
  {\end{minipage}\end{fminipage}}

\newcommand{\TitleFrame}[2]{%
  \par
  \textbf{#1}\par
  \fboxBlock{#2}
}

\newenvironment{titledframe}[2][\FrameFirst@Lab\ (cont.)]{%
  \par
  \textbf{#2}
  \begin{fminipage}{\linewidth}
  }
  {\end{fminipage}}
\end{warpHTML}

```

8.14 International languages

- ⚠ [section and file names](#) If using *pdflatex* with the setting `\booltrue{FileSectionNames}`, non-ASCII text in section names can result in corrupted HTML file names. *pdflatex* may be used if setting `\boolfalse{FileSectionNames}`, in which case HTML file numbers will be generated.

For correct HTML file names, use *xelatex*, *lualatex*, or dedicated document classes / engines.

(As of this writing, this warning is only relevant to the `kotex` package.)

8.15 Miscellaneous packages

8.15.1 verse and memoir

Pkg `verse` When using `verse` or `memoir`, always place a `\\` after each line.

Cls `memoir`
`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

Len `\vleftskip` These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

Len `\vleftmargini`

Len `\HTMLvleftskip`

Len `\HTMLleftmargini`

⚠ **spacing** Horizontal spacing relies on *pdftotext*'s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLvleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.

⚠ **verse margin**

8.15.2 newclude package

Pkg `newclude` `newclude` modifies `\label` in a non-adaptive way, so `newclude` must be loaded before `lwarp` is loaded:

⚠ **loading**

```
\documentclass{article}
... <font setup>
\usepackage{newclude}
\usepackage[warpHTML]{lwarp}
...
```

8.15.3 babel package

Pkg `babel` When French is used, the caption separator is changed to a dash. To restore it to a colon, the following may be placed before `lwarp` is loaded:

⚠ **\CaptionSeparator**

```
\renewcommand*{\CaptionSeparator}{:~}
```

punctuation spaces Also when French is used, `lwarp` creates fixed-width space around punctuation by patching `\FBcolonspace`, `\FBthinspace`, `\FBguillspace`, `\FBmedkern`, `\FBthickkern`, `\FBtextellipsis`, and the tilde. If the user's document also changes these parameters, the user's changes should be placed inside a `warpprint` environment so that the user's changes do not affect the HTML output.

⚠ **customized spacing**

8.15.4 polyglossia package

Pkg polyglossia `lwarp` uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . \__hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

8.15.5 todonotes and luatodonotes packages

Pkg todonotes The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

Pkg luatodonotes

8.15.6 fixme

Pkg fixme External layouts (`\fxloadlayouts`) are not supported.


⚠ **external layouts**

Customized layouts are overwritten by `lwarp`'s versions `\AtBeginDocument` in order to provide the HTML conversion. If creating a new layout, see `lwarp`'s changes to provide similar for the new layout, inside a `warpHTML` environment.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

8.15.7 acro package


 **formats** Define acronymn formats using `\textbf` instead of `\bfseries` etc.

8.15.8 chemfig package

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{. . . }
\polymerdelim[. . . ]{. . . }
\end{lateximage}
```

8.15.9 chemformula package

 **chemformula with MATHJAX** `chemformula` works best without `MATHJAX`. If `MATHJAX` is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The `chemformula` package adapts to `array`, but does not know about `MATHJAX`, and `MATHJAX` does not know about `chemformula`.)

While using `MATHJAX`, `\displaymathother` may also be used for other forms of display and inline math which contain `chemformula` expressions.

8.15.10 mhchem package

See section 408.

8.15.11 kotex package

Pkg kotex See section 8.14 regarding *pdf_latex* and Korean section names.

 **Korean section names**

9 Compiling using custom shell commands

`lwarp` and `lwarpmk` try to make it easy to process print and HTML compilation tasks in most situations. Depending on the operating system, command-line options, T_EX engine, and `lwarp` options, the commands `lwarpmk print` and `lwarpmk html` are automatically set up to correctly recompile the project. These actions may be overridden using `lwarp` options, thus allowing the use of packages such as `perltex` and `pythontex`.

9.1 Command options


Opt `PrintLatexCmd` The `lwarp` options `PrintLatexCmd` and `HTMLLatexCmd` are used to set customized commands to be executed by `lwarpmk print` and `lwarpmk html`.
 Opt `HTMLLatexCmd`

PrintLatexCmd should be set to shell commands which take `project.tex` and generate `project.pdf`.

HTMLLatexCmd should be set to take `project_html.tex` and generate `project_html.pdf`. `lwarpmk` will then take `project_html.pdf` and automatically convert it and generate `project.html`.

9.2 Literal character macros

The `lwarp` package options are parsed by T_EX, and so some characters require the use of a special macro to represent them. See table 10. `\LWRopquote` and `\LWRopseq` may be used to increase operating-system portability. `\jobname` must have `_html` appended for processing HTML. `\space` may be necessary between other macros.

 **macro not found** To use these macros, either `kvoptions-patch` must be loaded before `lwarp`:

```
\usepackage{kvoptions-patch}
\usepackage[
  PrintLatexCmd={ ... } ,
  HTMLLatexCmd={ ... }
]{lwarp}
```

Table 10: Literal character macros

Character	Macro	Comment
%	\LWRpercent	
\$	\LWRdollar	
&	\LWRamp	
%	\LWRhash	
\	\LWRbackslash	
' or "	\LWRopquote	Depends on the operating system.
& or &&	\LWRopseq	Depends on the operating system.
(space)	\space	Forces an extra space.
(jobname)	\jobname	Without file extension.

or `\lwarpssetup` must be used to set `PrintLatexCmd` and `HTMLLatexCmd`:

```

\usepackage[...]{lwarp}
\lwarpssetup{
  PrintLatexCmd=
  {
    latex tm \LWRopseq
    dvips -o tm-pics.ps tm.dvi \LWRopseq
    ps2pdf tm-pics.ps \LWRopseq
    pdflatex tm.tex
  } ,
  HTMLLatexCmd=
  {
    latex tm_html \LWRopseq
    dvips -o tm_html-pics.ps tm_html.dvi \LWRopseq
    ps2pdf tm_html-pics.ps \LWRopseq
    pdflatex tm_html.tex
  }
}

```

9.3 *latexmk*

Prog `latexmk` If *latexmk* is used for a project, it may be easiest to continue using it.

latexmk project.tex would create `project.pdf` as normal.

latexmk project_html.tex would create `project_html.pdf`, then

lwarpmk pdftohtml project_html.pdf would take `project_html.pdf` and convert it to `project.html`.

Pkg `sagetex` *latexmk* may simplify the use of packages such as `sagetex`.

9.4 `perltex` package

Pkg `perltex` The `lwarp` package option settings to use `perltex` would be similar to:

```
\usepackage[
  . . .
  PrintLatexCmd={perltex -latex=pdflatex project.tex} ,
  HTMLLatexCmd={perltex -latex=pdflatex project_html.tex} ,
  . . .
]{lwarp}
```

⚠ “impure” math Place `perltex` math expressions between `\displaymathother` and `\displaymathnormal`, or `\inlinemathother` and `\inlinemathnormal`. See section 8.7.9.

9.5 `pythontex` package

Pkg `pythontex` An example using `pythontex`:

```
\usepackage[
  . . .
  PrintLatexCmd={
    pdflatex project.tex \LWRopseq
    pythontex project \LWRopseq
    pdflatex project.tex
  } ,
  HTMLLatexCmd={
    pdflatex project_html.tex \LWRopseq
    pythontex project_html \LWRopseq
    pdflatex project_html.tex
  } ,
  . . .
]{lwarp}
```

Another possibility is to use *latexmk*, placing the `latexmk . . .` commands in the `PrintLatexCmd` and `HTMLLatexCmd` options. While using these options, the `lwarp` option `latexmk` would not be used.

⚠ “impure” math No attempt has yet been made to make `pythontex` robust with HTML output. Some math objects must be surrounded by `\displaymathother ... \displaymathnormal`, or `\inlinemathother ... \inlinemathnormal`. Displays of code may have to be enclosed

⚠ HTML look-alike inside a `lateximage` environment to prevent `<`, `>` and similar from being interpreted by the browser as HTML entities.

9.6 Other packages

Pkg `sympytex` Other packages such as `sympytex` and `rterface` would be set up similar to `pythontex`,

Pkg `rterface`


and the same warnings would apply.

9.7 *make* program

Prog **make** To use `lwarp` with the *make* program, have the makefile take `project.tex` and generate the print version `project.pdf`, as normal. `\usepackage{lwarp}` must be used, and it generates `lwarpmk.conf` when the print version is created.

To generate HTML, first have `project_html.tex` be compiled to generate `project_html.pdf`. This must be in PDF format. Finally, have `project_html.pdf` be converted to HTML using `lwarpmk pdftohtml project_html.pdf`, and convert SVG math with `lwarpmk limages`.

9.8 UTF-8 locale

 **UTF-8 locale** *lwarpmk* uses the *texlua* program, which sets the “locale” to “C”, including for external operating-system calls such as when executing `lwarpmk html`. In some cases, an external program called from the user’s document may require the use of a UTF-8 “locale”. For UNIX-related operating systems, it may be required to use `lwarp`’s custom compilation options to add a locale change:

```
\usepackage{lwarp}[
  PrintLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project.tex
  }
  HTMLLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project_html.tex
  }
]
```

Pkg **ditaa** The only example seen so far where this is required is the *ditaa* package, where the locale change allows the use of UTF-8 with Xe^LA^TE^X and *ditaa*. To use Lua^AT^EX instead, the locale change would have to be made inside the *ditaa* package where it calls the *ditaa* program.

10 EPUB conversion

lwarp does not produce EPUB documents, but it may be told to modify its HTML output to greatly assist in the conversion. An external program may then be used to finish the conversion to EPUB.

<meta> author To assign the author's name for regular lwarp HTML files, and also for the EPUB, use `\HTMLAuthor {<name>}`. This assigns the name to the `<meta>` author element. It may be set empty, and it defaults to `\theauthor`.

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

	FormatEPUB
Bool	FormatEPUB
Default: false	FormatEPUB changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

To help convert lwarp HTML output to EPUB, add

```
\booltrue{FormatEPUB}
```

to the project's source preamble after `\usepackage{lwarp}`. The EPUB version of the document cannot co-exist with the regular HTML version, so

```
Enter ⇒ lwarpmk cleanall
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk limages
```

to recompile with the FormatEPUB boolean turned on. Several changes are then made to the HTML output:

- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.

The resulting files will be ready to be loaded into an EPUB conversion program, such as the open-source program *Calibre* (<https://calibre-ebook.com/>).

⚠ search order

The EPUB conversion program must know what order the files are included. For lwarp projects, set the EPUB conversion software to do a breadth-first search of the files. For *Calibre*, this option is found in

Preferences → Plugins → File type plugins → HTML to Zip

⚠ encoding

Check the box **Add linked files in breadth first order**. Set the document encoding as `utf-8`, which is what lwarp generates for HTML, even if the original printed document uses some other encoding.

⚠ section breaks

The EPUB-conversion program must also know where the section breaks are located. For a list of `lwarp`'s section headings, see table 12. For example, an `article` class document would break at `\section`, which is mapped to HTML heading level `<h4>`, whereas a `book` class document would break at `\chapter`, which is HTML heading level `<h3>`. For *Calibre*, this option is found in

Preferences → Conversion (Common Options) → Structure Detection → Detect chapters at (XPath expression)

Select the “magic wand” to the right of this entry box, and set the first entry

Match HTML tags with tag name:

to “h4”. (Or “h3” for document classes with `\chapters`.) The `Detect chapters at` field should then show

`//h:h4` — or — `//h:h3`

This option is also available on the main tool bar at the `Convert books` button.

Once these settings have been made, the `lwarp`-generated HTML files may be loaded by *Calibre*, and then converted to an EPUB.

MathJax support

MATHJAX may be used in EPUB documents. Some e-readers include MATHJAX, but any given reader may or may not have a recent version, and may or may not include extensions such as support for `siunitx`.

`lwarp` adds some modifications to MathML to support equations numbered by chapter. These modifications may not be compatible with the e-reader's version of MATHJAX, so `lwarp` requests that a known version be loaded instead. In some cases chapter numbering of equations still doesn't work.

Until math support in EPUB documents is improved, it is recommended to use SVG images instead of MATHJAX, especially for equations numbered by chapter, or where `siunitx` support is important.

11 Word-processor conversion

lwarp may be told to modify its HTML output to make it easier to import the HTML document into a word processor. At the time of this writing, it seems that LIBREOFFICE works best at preserving table layout, but it still has some limitations, such as an inability to automatically assign figure and table frames and captions according to user-selected HTML classes. lwarp provides some assistance in locating these frame boundaries, as shown below.

11.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

	FormatWP
Bool	FormatWP
Default: false	Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments. Additionally, honors the booleans WPMarkFloats, WPMarkMinipages, WPMarkTOC, and WPMarkLOFT.

To help modify lwarp HTML output for easier import to a word processor, add

```
\booltrue{FormatWP}
```

to the project's source preamble after lwarp is loaded. The following changes are then made to the HTML output:

[formatting adjustments](#)

- If using a class without chapters, \section and lower are shifted up in level for the HTML heading tags. The CSS has not been changed, so the section heading formats will not match the normal HTML output, but when imported to *LibreOffice Writer* the higher section headings will import as **Heading 1** for the title, **Heading 2** for \section, etc.
- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.
- Forces single-file output.
- Turns off HTML debugging comments. These are comments appearing inside the HTML code, marking the opening/closing of sections and <div>s, but they are no longer useful when the document has been imported into a word processor.
- An additional <div> with an id encapsulates each float and minipage, which on import into *LibreOffice Writer* causes a thin frame to appear around the text block for each.
- Float captions are given an explicit italic formatting.

- Tabular rule borders are made explicit for *LibreOffice Writer*. `LIBREOFFICE` displays a light border around each cell while editing, even those which have no border when printed, and `lwarp` also uses a light border for thin rules, so it will be best to judge the results using the print preview instead of while editing in `LIBREOFFICE`.
- `\includegraphics` and `svg` math width and height are made explicit for `LIBREOFFICE`.
- `\hspace` is approximated by a number of `\quads`, and rules are approximated by a number of underscores.
- Explicit `HTML` styles are given to:
 - `\textsc`, etc.
 - `\underline`, `soul` and `ulem` markup.
 - `center`, `flushleft`, `flushright`.
 - `\marginpar`, `keyfloat`, `sidenotes`, `floatflt`, and `wrapfig`.
 - `fancybox` `\shadowbox`, etc.
 - The `LATEX` and `TEX` logos.
- Honors several booleans:

WPMarkFloats: Marks the begin and end of floats.

WPMarkMinipages: Marks the begin and end of minipages.

WPMarkTOC: Marks the location of the Table of Contents.

WPMarkLOFT: Marks the locations of the List of Figures/Tables.

WPMarkMath: Prints `LATEX` math instead of using images.

WPTitleHeading: Adjusts title and section headings.

Several of these may be used to add markers to the `HTML` text which help determine where to adjust the word processor document after import.

11.2 Additional modifications

WPMarkFloats

Bool WPMarkFloats
Default: false

Adds

```
=== begin table ===
...
=== end ===
```

or

```
=== begin figure ===
...
=== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.

WPMarkMinipages

Bool WPMarkMinipages
 Default: false

Adds

```
=== begin minipage ===
...
=== end minipage ===
```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

WPMarkTOC

Bool WPMarkTOC
 Default: true

While formatting for word processors, adds

```
=== table of contents ===
```

where the Table of Contents would have been. This helps identify where to insert the actual TOC.

If set false, the actual toc is printed instead.

WPMarkLOFT

Bool WPMarkLOFT
 Default: false

While formatting for word processors, adds

```
=== list of figures === and/or
=== list of tables ===
```

where each of these lists would have been. This helps identify where to insert the actual lists.

If set false, the actual lists are printed instead.

WPMarkMath

[siunitx](#)
 Bool WPMarkMath
 Default: false
 Prog TeXMaths

While formatting for word processors, prints math as \LaTeX code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

When using the siunitx package, enter

```
\usepackage{siunitx}
```

in the *TeXMaths* preamble. Equation numbering is problematic for \mathcal{AMS} math environments.

Table 11: Section HTML headings for word-processor conversion

Section	HTML headings*			
	With \chapter		Without \chapter	
	WPTitleHeading true	WPTitleHeading false	WPTitleHeading true	WPTitleHeading false
Title	<h1>	plain	<h1>	plain
\book	<div>	<div>	<div>	<div>
\part	<h2>	<h1>	<h2>	<h1>
\chapter	<h3>	<h2>	—	—
\section	<h4>	<h3>	<h3>	<h2>
\subsection	<h5>	<h4>	<h4>	<h3>
\paragraph	<h6>	<h5>	<h5>	<h4>
\subparagraph		<h6>	<h6>	<h5>

* For default depths when not FormatWP, see table 12 on page 209.

WPTitleHeading

Bool WPTitleHeading
Default: false
section headings

While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

See table 11 on page 192.

11.3 Recommendations

TOC, LOE, LOT For use with *LibreOffice Writer*, it is recommended to:

1. Set `\booltrue{FormatWP}`
2. Set `\booltrue{WPMarkTOC}` and `\boolfalse{WPMarkLOFT}`
3. Use `lwarp` to generate the HTML document.
4. Copy/paste from the HTML document into an empty *LibreOffice Writer* document.
5. Manually insert a LIBREOFFICE TOC in the LIBREOFFICE document.
6. Manually add frames around each float, adding a caption which is cut/pasted from each float's simulated caption.
7. Manually create cross references.

This process yields a document with an actual `LIBREOFFICE` Table of Contents, but a simulated List of Figures and List of Tables.

`siunitx` For `siunitx`, remember to adjust the preamble as mentioned above.

`LO view border options` `LIBREOFFICE` has options in the **View** menu to turn on/off the display of thin borders around table cells and text objects.

11.4 Limitations

Floats and captions are not explicitly converted to `LIBREOFFICE` floats with their own captions. Floats are surrounded by a thin frame in the `LIBREOFFICE` editor, and may be marked with `WPMarkFloats`, but are not given a proper `LIBREOFFICE` object frame. Captions are given an explicit italic formatting, but not a proper `LIBREOFFICE` paragraph style.

Cross references are not actual `LIBREOFFICE` linked cross references.

The List of Figures and List of Tables are not linked. The pasted pseudo `LOF` and `LOT` match the numbering of the `LATEX` and `HTML` versions.

Equation numbering is not automatic, but the equation numbers in `SVG` math will match the `LATEX` and `HTML` output. `SVG` math is recommended when using the `AMS` environments, which may have multiple numbered equations per object.


As of when last checked, `LIBREOFFICE` ignores the following:

- Minipage alignment.
- Tabular cell vertical alignment.
- Image rotation and scaling.
- Rounded border corners, which are also used by:
 - `\textcircled`
 - `booktabs trim`
- `\hspace` and `rules`, also used by `algorithmic`.
- Coloring of text decorations, used by `soul` and `ulem`.
- Overline text decoration, used by `romanbar`.

`LIBREOFFICE` also has limitations with frames and backgrounds:

- Multiple lines in an object are framed individually instead of as a whole.
- Nested frames are not handled correctly.
- Images inside boxes are not framed correctly.
- Spans with background colors and frames are not displayed correctly.

12 Modifying lwarp

- locating something** To quickly find the source for a package in `lwarp.dtx`, search for `*packagename`, such as `*siunitx`.
- Likewise, to quickly find the source for a file in `lwarp.dtx`, search for `*filename`, such as `*lwarp.css`.
- Purely text-based packages probably will work as-is when generating HTML.
- Look to existing code for ideas on how to expand into new code.
- image of TeX output** An environment may be converted to a `lateximage` then displayed with an image of the resulting L^AT_EX output. See section 93 for an example of the `picture` environment.
- css classes** To create a custom HTML block or inline CSS class, see section 52.10.
- print/HTML macros** To create print and HTML versions of the same macro or environment, see section 36.
-  **TeX boxes** Any TeX boxes must be undone, as SVG math or `lateximages` require `\newpage`, which will not work in a TeX box.

12.1 Creating a development system

The following creates a local development system for `lwarp` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `lwarp` to use the development version instead of whichever version is installed in TeXLive.

Create a development directory:

Place into this directory `lwarp.dtx` and `lwarp.ins`.

To create `lwarp.sty`, execute

```
Enter ⇒ pdflatex lwarp.ins
```

which creates `lwarp.sty` and several hundred additional `lwarp-*.sty` files for the various packages which are supported.

To create the initial documentation `lwarp.pdf`, execute

```
Enter ⇒ pdflatex lwarp.dtx
```

To make the development files visible to other projects:

Create the directory

```
/usr/local/texlive/texmf-local/tex/latex/local/lwarp
```

Inside this directory, create the file `update`, containing:

```
rm lwarp-*.sty
ln -s /path_to_dev_directory/lwarp*.sty .
ln -s /path_to_dev_directory/lwarp_baseline_marker.png .
ln -s /path_to_dev_directory/lwarp_baseline_marker.eps .
mktexlsr
```

Run `./update` now, and whenever a new `lwarp-*` package is added.

To make the development version of *lwarpmk* visible to other projects:

```
cd /opt
ln -s /usr/local/texlive/texmf-local/bin/x86_64-linux texbin_local
cd texbin_local
ln -s ../../scripts/lwarp/lwarpmk.lua lwarpmk
cd /usr/local/texlive/texmf-local/scripts/
mkdir lwarp
cd lwarp
ln -s /path_to_dev_directory/lwarpmk.lua lwarpmk
```

Verify that the correct version is found with

Enter \Rightarrow **which lwarpmk**

To make the local versions visible to the shell:

Paths must be set by the shell startup, such as in `.bashrc` and `.cshrc`:

In `.bashrc`:

```
PATH=/opt/texbin_local:/opt/texbin:$PATH
```

In `.cshrc`:

```
setenv PATH ${HOME}/bin:/opt/texbin_local:/opt/texbin:${PATH}
```

To fully compile the lwarp documentation and indexes:

```
pdflatex lwarp.ins
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx - -s gind.ist
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx - -s gind.ist <again>
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
```

(The second round of index processing is required to fully resolve the final Index of Indexes.)

To make it easier to update the documentation after a minor change, it is useful to create a command script called `make_index`, containing:

```
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
splitindex lwarp.idx -- -s gind.ist
```

 **references**

Note that Index of Indexes and the cross-references to the indexes may not be correct until the above has been accomplished.

12.2 Modifying a package for lwarp

If a class loads additional packages, it will be required to modify the class for lwarp, since lwarp must be loaded before most other packages.

To work with lwarp, a class must first set up anything which replicates the functions of the basic L^AT_EX classes, load any required fonts, then load lwarp, then finally load and adjust any other required packages.

When creating HTML, lwarp redefines the `\usepackage` and `\RequirePackage` macros such that it first looks to see if a `lwarp-<packagename>.sty` version exists. If so, the lwarp version is used instead. This modular system allows users to create their own versions of packages for lwarp to use for HTML, simply by creating a new package with a `lwarp-` prefix. If placed in the local directory along with the source code, it will be seen by that project alone. If placed alongside the other `lwarp-` packages where T_EX can see it, then the user's new package will be seen by any documents using lwarp. (Remember `mktexlsr` or `texhash`.)

An `lwarp-<packagename>.sty` package is only used during HTML generation. Its purpose is to pretend to be the original package, while modify anything necessary to create a successful HTML conversion. For many packages it is sufficient to simply provide nullified macros, lengths, counters, etc. for anything which the original package does, while passing the raw text on to be typeset. See the pre-existing `lwarp-` packages for examples.

Anything the user might expect of the original package must be replaced or emulated by the new `lwarp-` package, including package options, user-adjustable counters, lengths, and booleans, and conditional behaviors. In many of these packages, most of the new definitions have a “local” prefix according to the package name, and `@` characters inside the name, which hides these names from the user. In most cases these macros will not need to be emulated for HTML output. Only the “user-facing” macros need to be nullified or emulated.

Each `lwarp-*` package should first call either of:

```
\LWR@ProvidesPackageDrop
```

— *or* —

```
\LWR@ProvidesPackagePass
```

If “Drop”ped, the original print-version package is ignored, and only the `lwarp-` version is used. Use this where the original print version is useless for HTML. If “Pass”ed, the original package is loaded first, with the user-supplied options, then the `lwarp-` version continues loading as well. See section 455 ([ntheorem](#)) for an example of selectively disabling user options for a package. Use this when HTML output only requires some modifications of the original package. For a case where the original package is usable without changes, there is no need to create a `lwarp-` version.

12.2.1 Adding a package to the lwarp.dtx file

When adding a package to `lwarp.dtx` for permanent including in `lwarp`, provide the `lwarp-<packagename>` code in `lwarp.dtx`, add its entry into `lwarp.ins`, and also remember to add

```
\LWR@loadafter{<packagename>}
```

to `lwarp.dtx` in section 20.1. This causes `lwarp` to stop with an error if `packagename` is loaded before `lwarp`. Finally, add an entry in table 2, **Supported packages and features**, and also the Updates section.

12.3 Modifying a class for lwarp

If a class loads additional packages, it will be required to modify the class for `lwarp`, since `lwarp` must be loaded before most other packages.

To work with `lwarp`, a class must first set up anything which replicates the functions of the basic \LaTeX classes, load any required fonts, then load `lwarp`, then finally load and adjust any other required packages.

12.4 Testing lwarp

When changes have been made, test the print output before testing the HTML. The print output compiles faster, and any errors in the printed version will be easier to figure out than the HTML version.

Remember that the configuration files are only rewritten when compiling the printed version of the document.

When changing the source to *lwarpmk* or a css file in `lwarp.dtx`:

1. Change the source in `lwarp.dtx`.
2. `pdflatex lwarp.ins`
3. `pdflatex lwarp.dtx`
4. If modifying *lwarpmk* the new version should now be active.
5. If modifying css files:
 - (a) For the document, `lwarpmk print` to update the css files in the project.
 - (b) Reload the HTML document to see the effect of the new css files.

Sometimes it is worth checking the `<project>_html.pdf` file, which is the PDF containing HTML tags. Also, `<project>_html.html` has the text conversion of these tags, before the file is split into individual HTML files.

It is also worth checking the browser's tools for verifying the correctness of HTML and css code.

12.5 Modifying *lwarpmk*

Prog `lwarpmk` In most installations, `lwarpmk.lua` is an executable file located somewhere the operating system knows about, and it is called by typing **lwarpmk** into a terminal.
File `lwarpmk.lua`

A project-local copy of `lwarpmk.lua` may be generated, modified, and then used to compile documents:

1. Add the `lwarpmk` option to the `lwarp` package.
2. Recompile the printed version of the document. The `lwarpmk` option causes `lwarp` to create a local copy of `lwarpmk.lua`
3. The `lwarpmk` option may now be removed from the `lwarp` package.
4. Copy and rename `lwarpmk.lua` to a new file such as `mymake.lua`.
5. Modify `mymake.lua` as desired.
6. If necessary, make `mymake.lua` executable.
7. Use `mymake.lua` instead of `lwarpmk.lua`.

13 Troubleshooting

13.1 lwarp package error conditions and warnings

lwarp tests for a number of error conditions and prints appropriate warnings. The following is a summary of these conditions.

13.1.1 Configuration file `lwarpmk.conf`

File does not exist: The configuration file must exist for `lwarpmk`.

Incorrect Unix /Windows selection: The operating system which was detected by `lwarp`. So far only Unix and Windows are supported.

Incorrect delimiter characters. Older versions of `lwarpmk` used a different delimiter.

Source name is set to lwarp: `lwarp` has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if `lwarpmk` is executed in `lwarp`'s source directory.

Incorrect operating system: The configuration file was set for a different operating system, perhaps due to sharing in a collaborative project.

Outdated configuration files: `lwarp` has been updated since this project was last compiled. If there appears to be a valid print command in the file, `lwarpmk` displays this to instruct the user how to recompile the print version, which then updates the configuration files.

The designated source file does not exist: For whatever reason...

Unknown engine: `lwarp` cannot determine which engine is being used. Supported are DVI \LaTeX , PDF \LaTeX , Xe \LaTeX , Lua \LaTeX , and up \LaTeX .

13.1.2 Image generation with `lwarpmk limages`

“Wait a moment for the images to complete before reloading page.”:

Images are generated by background tasks. If the document is reloaded before these tasks are complete, some images may not yet be generated. `lwarpmk` tries to wait for background tasks to complete before exiting.

HTML version does not exist: Images are extracted from the HTML version, which must be compiled before images are generated.

***-images.txt does not exist:** This file tells which images to extract from the HTML file. If the file does not exist, it may be that no `svg math` or `lateximages` were used. If so, `lwarpmk limages` is not necessary.

Cross references are not correct: The document must have up-to-date cross references to locate the images to extract. A number of conditions may cause incorrect cross references.

“WARNING: Images will be incorrect.”: An image reference was not found. Recompile.

lwarpmk epstopdf * or lwarpmk pdftosvg *: Errors if filenames are not found.

13.1.3 Default bitmapped font

lwarp requires the use of a vector font. If lwarp detects that the document uses the default COMPUTER MODERN font, and the cm-super package is not installed, it is assumed that the font is bitmapped. An error is generated, along with the recommendation to install cm-super or use lmodern.

13.1.4 Packages

Loaded before lwarp: Some packages and classes must be loaded before lwarp. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

Loaded after lwarp: Most packages which are modified by lwarp must be loaded after lwarp.

Loaded never: Some packages do not work with lwarp. An error is generated, along with a list of alternatives to consider.

Specific packages: Some packages enforce a specific load order vs. certain other packages.

Patching error: lwarp tries to patch some packages using xpatch. If the original package has been updated more recently than lwarp, a patch may not work. It may be necessary to use an older version of the package until lwarp is updated.

longtable: lwarp's longtable package issues detailed error messages regarding the use of the table headers and footers.


polyglossia: If used, an informative message is printed to instruct the user to be sure to set a language, without which an error will occur.

babel or polyglossia: An informative message is printed to note that not all languages are supported by cleveref.

13.1.5 Compiling

SideTOCDepth < FileDepth: A warning is displayed if these counters are set such that the sideroc will not be able to access all pages of the website.

Filenames: lwarp may generate file names from section names. While doing so, the filenames are simplified, and special characters and math are removed. If this process generates a duplicate filename, an error is generated, describing the filename and which section name generated it. A warning is issued if dollar-delimited math is used. Parenthesis-delimited math is recommended instead.

-  **HTML corrupted** **Multirow:** When `\multirow` or `\multicolrow` are used, `\mrowcell` or `\mcolrowcell` must be placed in the appropriate cells to avoid corrupted HTML output.
- (width,height) missing a comma:** `\makebox` and `\framebox` can accept a parenthesis-delimited width and height, which must be separated by a comma.
- “Load graphicx or graphics for improved svg math baselines.”:** svg math sizing and baselines are improved if either of these packages are used.
- “Load graphicx or graphics for improved XeTeX logo.”:** If these packages are loaded, the Xe_{La}TeX logo can use the reversed “E”.
- “It is recommended to use [width=xx\linewidth] instead of [scale=yy]”:** Browser support of `scale` does not have the same effect as in L^AT_EX.


13.2 Using the lwarp package


The following address problems which may occur, and possible solutions to each.

Also see:

Section 7.11: [Commands to be placed into the warpprint environment](#)

Section 8: [Special cases and limitations](#)

-  **HTML corrupted** **Text is not converting correctly / corrupted HTML tags:**
- Font-related UTF-8 information must be embedded in the PDF file. See section 7.4 regarding bitmapped vs. vector fonts.
 - See section 8.2.1 regarding HTML entities and the characters `&`, `<`, and `>`.

-  **dotlessj** **Dotless j (`\j`):** See section 7.4 regarding `cmap`, `mmap`.

Undefined HTML settings:

- See the warning regarding the placement of the HTML settings at section 7.6.

Tabular problems: See section 8.10.1.

Obscure error messages:

Print first: Be sure that a print version of the document compiles and that your document’s L^AT_EX code is correct, before attempting to generate an HTML version.

`\end{warpHTML}`, `\end{warpprint}`, `\end{warpall}`, `\end{warpMathJax}`:
Each of these must be without any other characters on the same line.

“Runaway argument? File ended while scanning use of `\next`:

Don’t use `warpHTML`, `warpprint`, `warpall`, or `warpMathJax` inside itself.

Options clash: If using `memoir`, see section 8.13.

“Missing `\begin{document}`.”: Some packages require that their options be specified before `lwarp` is loaded, or via the package’s setup macro, especially if these options include the use of braces. See section 8.1.

 `warpHTML`, `warpprint`,
`warpMathJax`, `warpall`

“No room for a new \write.”: Before `\usepackage{lwarp}`, add:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
```

“! TeX capacity exceeded, sorry [text input levels=15].”: Packages were nested too many levels deep. Locate the file `texmf.cnf` for your distribution, and add the line

```
max_in_open = 30
```

“Missing \$ inserted.”: If using a filename or URL in a footnote or `\item`, escape underscores with `_.`

“Label(s) may have changed. Rerun to get cross-references right.”:

This warning may repeat endlessly if a math expression is used in a caption. Simple math expressions such as $X=1$ may be replaced with

```
\textit{X}\,=\,1
```

“Temporary page! LaTeX was unable to guess the total number of pages ...”: Harmless. Recompile the document one more time.

“Leaders not followed by proper glue”:

This can be caused by a missing `l@<floatype>` or `l@<sectiontype>` definition. See `lwarp`’s definitions for examples.

“Improper \prevdepth”: `lateximages` and `svg` math require `\newpage`, which cannot work inside `TeX` boxes or `\ensuremath`. Anything using `\newsavebox`, `\newbox`, `lrbox`, `\savebox`, `\hbox`, `\vbox`, `\usebox`, `\sbox`, etc., must be modified to work without box commands.

If you find something using `\ensuremath`, have it temporarily set:

```
\LetLtxMacro\@ensuredmath\LWR@origensuredmath
```

inside a group first.

`LWR@texboxdepth`

As a stop-gap measure, you may wish to try incrementing the counter `LWR@texboxdepth` before the problematic macro, and then decrementing it after. Doing so tells `lwarp` to avoid using a `\newpage` inside the macro, which may avoid this error.

Also, custom macros which appear inside a section, figure, or table name should be made robust since they appear inside the `.toc`, `.lof`, or `.lot` files. Use `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

If using BibTeX, see section 8.6.9.

“! Undefined control sequence. . . . __hook begindocument”: See section 8.15.4 if using `polyglossia`.

“\begin{equation} ended by \end{document}”: Do not use custom macros such as `\beq` and `\eeq` to replace

```
\begin{equation}
. . .
\end{equation}
```

“Misplaced \omit”: If using `\LWR@formatted` to define new macros for print and HTML modes, see section 36 regarding `\LWR@expandableformatted`.

⚠ macros in section, table,
figure names

⚠ BibTeX

⚠ polyglossia

⚠ custom macros for
environments

⚠ `\LWR@formatted`

“Token not allowed in a PDF string”: This `hyperref` warning appears while creating the print-mode document, not HTML. A low-level macro is being used in a section name which appears in the PDF bookmarks. `hyperref` removes this macro from the bookmark, and warns of doing so. To avoid this warning, use `\pdfstringdefDisableCommands` in the preamble to define simplified replacement macros for each, or use `\texorpdfstring` in the `\section` or related macro to declare what to use for the T_EX text, v.s. the PDF bookmark. See the `hyperref` manual.

⚠ quote character

“Command `\textquoteright` invalid in math mode”: This can occur when the document source has math containing the slanted quote `'` character, instead of using the upright quote `'` character.

⚠ “impure” math objects

Complicated objects inside math: Some objects, such as `Tikz`, may not compile in `lwarp`’s normal math emulation. Insert

```
\displaymathother — or — \inlinemathother
```

before the math, and then

```
\displaymathnormal — or — \inlinemathnormal
```

when displaying “normal” math. See section 8.7.9.

Slow compilation of math objects: Complicated math objects can also cause problems with `alt` tags, resulting in very slow compilation, large `alt` tags, and possible crashes. Use `\inlinemathother ... \inlinemathnormal` or `\displaymathother ... \displaymathnormal` around the math expression.

⚠ MATHJAX

Incorrect MATHJAX: Some objects do not convert to MATHJAX. Use `\displaymathother` before these objects, then `\displaymathnormal` to return to “normal” display math. See section 8.7.9.

Missing sections: See section 7.6 regarding the `FileDepth` and `SideTOCDepth` counters, and the use of `\tableofcontents` in the home page.

Misnumbered footnotes from section headings: See section 8.5.4.

Missing HTML files:

- See the warning regarding changes to the HTML settings at section 7.6.
- Ensure that the filenames are unique after math and short words are removed. See `FileSectionNames` at section 7.6.

Missing / incorrect cross-references:

- Use `lwarpmk` again followed by `lwarpmk html` or `lwarpmk print` to compile the document one more time.
- Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French). `\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.
- `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

labels

⚠ label characters

`\nameref`

⚠ empty link

⚠ cleveref page numbers

Ex: `\cpageref{tab:first,tab:second}`
 in html becomes:
 “pages **for table 4.1** and **for table 4.2**”
 See `\cpagerefFor` at page 768 to redefine the message which is printed for page number references.

BibTeX errors with `\etalchar`: See section 8.6.9.

Malformed URLs: Do not use the % character between arguments of `\hyperref`, etc., as this character is among those which is neutralized for inclusion in HTML URLs.

Em-dashes or En-dashes in listing captions and titles:

Use \XeTeX or \LuaTeX .

Floats out of sequence:

Mixed “Here” and floating: Floats [H]ere and regular floats may become out of order. `\clearpage` if necessary.

Caption setup: With `\captionsetup` set the positions for the captions above or below to match their use in the source code.

Images are appearing in strange places:

- When images are added or removed, Enter **lwarpmk limages** to refresh the `lateximage` images.

svg images:

⚠ adding/removing

When a math expression, picture, or `Tikz` environment is added or removed, the svg images must be re-created by entering **lwarpmk limages** to maintain the proper image-file associations. Inline svg math may be hashed and thus not need to be recreated, but display math and objects such as `Tikz` may move to new image numbers when the document is changed.

recompile first

Before attempting to create the svg image files, *lwarpmk* verifies that the HTML version of the document exists and has correct internal image references.¹⁶ If it is necessary to recompile the document’s HTML version one more time, *lwarpmk* usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the \LaTeX recompile warnings.

⚠ HTML instead of images

If HTML appears where an svg image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

⚠ page counter

Incorrect svg images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

⚠ Lots of files!

Expressing math as svg images has the advantage of representing the math exactly as \LaTeX would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, *lwarp* uses an MD5 hash on its \LaTeX source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments

¹⁶This becomes important when dealing with a document containing thousands of images.

such as `picture` and `Tikz` require one image file each. For a document with a large amount of math, see section 5.5 to use `MATHJAX` instead.

Plain-looking document:

- The document's CSS stylesheet may not be available, or may be linked incorrectly. Verify any `\CSSFilename` statements point to a valid CSS file.



HTML corrupted

Broken fragments of HTML:

- Check the PDF file used to create HTML to see if the tags overflowed the margin. (This is why such large page size and margins are used.)

Changes do not seem to be taking effect:

- Be sure to `lwarpmk clean`, recompile, then start by reloading the home page. You may have been looking at an older version of the document. If you changed a section name, you may have been looking at the file for the old name.
- See the warning regarding changes to the HTML settings at section 7.6.
- Verify that the proper CSS is actually being used.
- The browser may compensate for some subtle changes, such as automatically generating ligatures, reflowing text, etc.

Un-matched conditional compiles:

- Verify the proper `begin/end` of `warpprint`, `warpHTML`, and `warpall` environments.

13.2.1 Debug tracing output

`\tracinglwarp` When `\tracinglwarp` is used, `lwarp` will add extra tracing messages to the `.log` file. The last several messages may help track down errors.

Place `\tracinglwarp` just after `\usepackage{lwarp}` to activate tracing.

13.3 Compiling the `lwarp.dtx` file

lwarp_tutorial.tex: Copy or link `lwarp_tutorial.txt` from the TDS doc directory to the source directory, or wherever you wish to compile the documentation. This file is included verbatim in the documentation, but is in the doc directory so that it may be found by `texdoc` and copied by the user.

Illogical error messages caused by an out-of-sync `lwarp.sty` file:

1. Delete the `lwarp.sty` file.
2. Enter `pdflatex lwarp.ins` to generate a new `lwarp.sty` file.
3. Enter `pdflatex lwarp.dtx` to recompile the `lwarp.pdf` documentation.

Un-nested environments:

Be sure to properly nest:

- `\begin{macrocode}` and `\end{macrocode}`
- `\begin{macro}` and `\end{macro}`
- `\begin{environment}` and `\end{environment}`

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File 1 **lwarp.sty**

15 Implementation

This package is perhaps best described as a large collection of smaller individual technical challenges, in many cases solved through a number of ~~erude-haeks~~ clever tricks. Reference sources are given for many of the solutions, and a quick internet search will provide additional possibilities.

Judgement calls were made, and are often commented. Improvements are possible. The author is open to ideas and suggestions.

Packages were patched for re-use where they provided significant functionality. Examples include `xcolor` with its color models and conversion to HTML color output, and `siunitx` which provides many number and unit-formatting options, almost all of which are available in pure-text form, and thus easily used by *pdftotext*.

Packages were emulated where their primary purpose was visual formatting which is not relevant to HTML output. For example, packages related to sectioning are already patched by numerous other packages, creating a difficult number of combinations to try to support, and yet in HTML output all of the formatting is thrown away, so these packages are merely emulated.

Packages with graphical output are allowed as-is, but must be nested inside a `lateximage` environment to preserve the graphics.

Testing has primarily been done with the Iceweasel/Firefox browser.

Table 12: Section depths and HTML headings

Section	\LaTeX depth	HTML headings *
Title of the entire website		<code><h1></code>
(none)	-5	new for this package
book	-2	<code><div class = "book"></code>
part	-1	<code><h2></code>
chapter	0	<code><h3></code>
section	1	<code><h4></code>
subsection	2	<code><h5></code>
subsubsection	3	<code><h6></code>
paragraph	4	<code></code>
subparagraph	5	<code></code>
listitem	7	new for this package, used for list items

* If FormatWP is true, section headings may be adjusted, depending on WPTitleHeading. See table 11 on page 192.

16 Section depths and HTML headings

Stacks are created to track depth inside the \LaTeX document structure. This depth is translated to HTML headings as shown in table 12. “Depth” here is not depth in the traditional computer-science stack-usage sense, but rather a representation of the nesting depth inside the \LaTeX document structure.

When starting a new section, the program first must close out any existing sections and lists of a deeper level to keep the HTML tags nested correctly.

Support for the memoir package will require the addition of a book level, which may push the HTML headings down a step, and also cause subsubsection to become a `<div>` due to a limit of six HTML headings.

It is possible to use HTML5 `<section>` and `<h1>` for all levels, but this may not be well-recognized by older browsers.

Fixed levels for parts and chapters allow the CSS to remain fixed as well.

17 Source code

This is where the documented source code for `lwarp` begins, continuing through the following sections all the way to the change log and index at the end of this document.


The following sections document the actual implementation of the `lwarp` package.

line numbers The small numbers at the left end of a line refer to line numbers in the `lwarp.sty` file.

subjects Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph.

objects Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are

index entries command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

for HTML output: Green-colored tags in the left margin show which sections of source code apply to the generation of HTML, print, or both forms of output.
for PRINT output:
for HTML & PRINT:

18 Detecting the T_EX engine — *pdf_latex*, *lua_latex*, *xel_latex*

See: <http://tex.stackexchange.com/a/47579>.

Detects X_lT_EX and Lua_LT_EX:

```

1 \RequirePackage{iftex}[2019/11/07]
2 \RequirePackage{ifpdf}
3 \RequirePackage{ifptex}
4
5 \newif\ifxetexorluatex
6
7 \ifXeTeX
8   \xetexorluatextrue
9 \else
10  \ifLuaTeX
11    \xetexorluatextrue
12  \else
13    \xetexorluatexfalse
14  \fi
15 \fi

```

19 Early package requirements

Pkg `etoolbox` Provides `\ifbool` and other functions.

Pkg `xpatch` Patches macros with optional arguments.

```

16 \RequirePackage{etoolbox}[2011/01/03]% v2.6 for \BeforeBeginEnvironment, etc.
17 \RequirePackage{xpatch}

```

Pkg `ifplatform` Provides `\ifwindows` to try to automatically detect WINDOWS OS.

```

18 \RequirePackage{ifplatform}% sense op-system platform

```

Pkg `letltxmacro`

```

19 \RequirePackage{letltxmacro}

```

20 Package load order

Several packages must never be used with `lwarp`, others should only be loaded before `lwarp`, and others should only be loaded after. The `lwarp` core checks most of these cases. In some `lwarp-*` packages, `\LWR@loadbefore` is used to trigger an error if they are loaded after `lwarp`, while additional code provides necessary patches for when they are loaded before.

Packages which must be loaded after `lwarp` are enforced by a large number of `\LWR@loadafter` statements, below. Some packages are emulated by `memoir`, and so these are tested by `\LWR@notmemoirloadafter`, which does not cause an error if `memoir` is used.

`\LWR@checkloadfilename` is used to check each filename to see if it must never be loaded, or must always be loaded before `lwarp`.

20.1 Tests of package load order

`\LWR@loadafter` $\langle\textit{packagename}\rangle$ Error if this package was loaded before `lwarp`.

```

20 \newcommand*\LWR@loadafter}[1]{%
21 \@ifpackageloaded{#1}
22 {
23   \PackageError{lwarp}
24     {%
25       Package #1,\MessageBreak
26       or one which uses #1,\MessageBreak
27       must be loaded after Lwarp.\MessageBreak
28       Enter 'H' for possible solutions%
29     }
30     {%
31       Move “\protect\usepackage{#1}” after
32       “\protect\usepackage{lwarp}”.\MessageBreak
33       Package #1 may also be loaded by something else,\MessageBreak
34       which must also be moved after Lwarp.%
35     }
36 }
37 {\relax}
38 }

```

`\LWR@notmemoirloadafter` $\langle\textit{packagename}\rangle$ Error if not `memoir` class and this package was loaded before `lwarp`.

`memoir` emulates many packages, and pretends that they have already been loaded.

```

39 \@ifclassloaded{memoir}
40 {\newcommand*\LWR@notmemoirloadafter}[1]{}
41 {\LetLtxMacro\LWR@notmemoirloadafter\LWR@loadafter}

```

`\LWR@notltjloadafter` $\langle\textit{packagename}\rangle$ Error if not a `ltjs*` class and this package was loaded before `lwarp`.

```

42 \LetLtxMacro\LWR@notltjloadafter\LWR@loadafter
43
44 \@ifclassloaded{ltjarticle}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}
45 \@ifclassloaded{ltjbook}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}
46 \@ifclassloaded{ltjreport}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}
47 \@ifclassloaded{ltjsarticle}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}
48 \@ifclassloaded{ltjsbook}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}
49 \@ifclassloaded{ltjsreport}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}

```

```

50 \@ifclassloaded{ltjspf}{\renewcommand*\LWR@notltjloadafter}[1]{}{ }
51 \@ifclassloaded{ltjskiyou}{\renewcommand*\LWR@notltjloadafter}[1]{}{ }
52 \@ifclassloaded{ltjtarticle}{\renewcommand*\LWR@notltjloadafter}[1]{}{ }
53 \@ifclassloaded{ltjtbook}{\renewcommand*\LWR@notltjloadafter}[1]{}{ }
54 \@ifclassloaded{ltjtreport}{\renewcommand*\LWR@notltjloadafter}[1]{}{ }

```

`\LWR@loadbefore` $\langle\textit{packagename}\rangle$ Error if this package is loaded after `lwarp`.

```

55 \newcommand*\LWR@loadbefore}[1]{%
56 \@ifpackageloaded{#1}
57 {\relax}
58 {
59   \PackageError{lwarp}
60   {%
61     Package #1 must be loaded before lwarp.\MessageBreak
62     Enter 'H' for possible solutions%
63   }
64   {Move “\protect\usepackage{#1}” before “\protect\usepackage{lwarp}”’.}
65 }
66 }

```

`\LWR@checkloadbefore` $\langle\textit{packagename}\rangle$

Given `\LWR@tempone` is the package name to compare to, if package names match, error if it is loaded after `lwarp`.

```

67 \newcommand*\LWR@checkloadbefore}[1]{%
68   \ifdefstring{\LWR@tempone}{#1}{%
69     \LWR@loadbefore{#1}%
70   }{}%
71 }

```

`\LWR@loadnever` $\langle\textit{badpackagename}\rangle$ $\langle\textit{replacementpkgnames}\rangle$

The first packages is not supported, so tell the user to use the second instead. Factored from `\LWR@checkloadnever` and `\LWR@earlyloadnever`.

```

72 \newcommand*\LWR@loadnever}[2]{%
73 \PackageError{lwarp}
74 {%
75   Package #1 is not yet supported\MessageBreak
76   by lwarp's HTML conversion%
77   \ifblank{#2}{}{
78     .\MessageBreak
79     Package(s)\MessageBreak
80     \space\space#2\MessageBreak
81     may be useful instead%
82   }%
83 }
84 {%
85   Package #1 might conflict with lwarp in some way,\MessageBreak
86   or is superceded by another package.%
87   \ifblank{#2}{}{

```

```

88     \MessageBreak
89     For possible alternatives, see package(s) #2.%
90   }%
91 }
92 }

```

`\LWR@afterloadnever` $\langle\textit{badpackagename}\rangle$ $\langle\textit{replacementpkgnames}\rangle$

Given: `\LWR@tempone` is set to the package name being tested against, if this package name is the bad packagename, suggest the replacements instead. This is used when loading packages after `lwarp`.

```

93 \newcommand*\LWR@afterloadnever[2]{%
94   \ifdefstring{\LWR@tempone}{#1}{%
95     \LWR@loadnever{#1}{#2}%
96   }{}%
97 }

```

`\LWR@earlyloadnever` $\langle\textit{badpackagename}\rangle$ $\langle\textit{replacementpkgname}\rangle$

The first package is not supported, so tell the user to use the second instead. This version checks immediately for packages which may have been loaded before `lwarp`.

```

98 \newcommand*\LWR@earlyloadnever[2]{%
99   \@ifpackageloaded{#1}{%
100     \LWR@loadnever{#1}{#2}%
101   }{}%
102 }

```

`\LWR@earlyclassloadnever` $\langle\textit{badclassname}\rangle$ $\langle\textit{replacementclassname}\rangle$

The first class is not supported, so tell the user to use the second instead. This version checks immediately for classes which may have been loaded before `lwarp`.

```

103 \newcommand*\LWR@earlyclassloadnever[2]{%
104 \@ifclassloaded{#1}{%
105 \PackageError{lwarp}
106 {%
107   Class #1 is not supported\MessageBreak
108   by lwarp's HTML conversion%
109   \ifblank{#2}{}%
110   .\MessageBreak
111   Class(es) #2 may be useful instead%
112 }%
113 }
114 {%
115   Class #1 might conflict with lwarp in some way,\MessageBreak
116   or is superceded by another class.%
117   \ifblank{#2}{}%
118   \MessageBreak
119   For a possible alternative, see class(es) #2.%
120 }%
121 }

```

```
122 }{\relax}%
123 }
```

20.2 Error for disallowed packages and classes loaded before lwarp

`\LWR@checkloadnevers` Checks against a list of incompatible packages.

```
124 \newcommand*{\LWR@checkloadnevers}{
125 \LWR@checkloadnever{ae}{cm-super, lmodern}
126 \LWR@checkloadnever{aecc}{cm-super, lmodern}
127 \LWR@checkloadnever{alg}{algorithm2e, algorithmic}
128 \LWR@checkloadnever{algor}{algorithmic}
129 \LWR@checkloadnever{algor}{algorithmic}
130 \LWR@checkloadnever{bitfield}{bytefield}
```

`bxckatype` is based on CJK:

```
131 \LWR@checkloadnever{bxckatype}{upLaTeX, bxjsarticle, uarticle, utarticle}

132 \LWR@checkloadnever{caption2}{caption}
133 % \LWR@checkloadnever{ccaption}{caption}% might be preloaded by memoir
134 \LWR@checkloadnever{colortab}{colortbl}
135 \LWR@checkloadnever{csvtools}{datatool}
136 \LWR@checkloadnever{doublespace}{setspace}
137 \LWR@checkloadnever{fancyheadings}{fancyhdr}
138 \LWR@checkloadnever{fncylab}{cleveref}
139 \LWR@checkloadnever{formula}{siunitx}
140 \LWR@checkloadnever{glossary}{glossaries}
```

`hangul` is not in TeXLive, and is not tested:

```
141 \LWR@checkloadnever{hangul}{kotex, xetexko, luatexko}

142 \LWR@checkloadnever{hyper}{hyperref}
143 \LWR@checkloadnever{libgreek}{libertinust1math, newtx}
144 \LWR@checkloadnever{newthm}{ntheorem}
145 \LWR@checkloadnever{pdfcpot}{microtype}
146 \LWR@checkloadnever{picins}{floatflt, wrapfig}
147 \LWR@checkloadnever{rplain}{fancyhdr}
148 \LWR@checkloadnever{si}{siunitx}
149 \LWR@checkloadnever{sistyle}{siunitx}
150 \LWR@checkloadnever{slashbox}{diagbox}
151 \LWR@checkloadnever{statex}{statex2}
152 \LWR@checkloadnever{t1enc}{fontenc, inputenc, inputenx}
153 \LWR@checkloadnever{ucs}{inputenc, inputencx}
154 \LWR@checkloadnever{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}
```

The following may one day be supported by lwarp:

```
155 % \LWR@checkloadnever{adjustbox}{}% req'd for menukeys
156 \LWR@checkloadnever{animate}{}%
```

```
157 \LWR@checkloadnever{auto-pst-pdf}{}
158 \LWR@checkloadnever{auto-pst-pdf-lua}{}
159 \LWR@checkloadnever{algorithms}{}
160 \LWR@checkloadnever{arraycols}{}
161 \LWR@checkloadnever{beamer}{}
162 \LWR@checkloadnever{bidi}{}
163 \LWR@checkloadnever{cals}{}
164 \LWR@checkloadnever{cellspace}{}
165 \LWR@checkloadnever{cgloss4e}{}
166 \LWR@checkloadnever{collcell}{}
167 \LWR@checkloadnever{colophon}{}
168 \LWR@checkloadnever{cooltooltips}{}
169 \LWR@checkloadnever{covington}{}
170 \LWR@checkloadnever{crbox}{}
171 \LWR@checkloadnever{decision-table}{}
172 \LWR@checkloadnever{dvgloss}{}
173 \LWR@checkloadnever{ednotes}{}
174 \LWR@checkloadnever{edfnotes}{}
175 \LWR@checkloadnever{eledform}{}
176 \LWR@checkloadnever{eledmac}{}
177 \LWR@checkloadnever{embedfile}{}
178 \LWR@checkloadnever{endnotes-hy}{endnotes}
179 \LWR@checkloadnever{expex}{}
180 \LWR@checkloadnever{fancytooltips}{}
181 \LWR@checkloadnever{fixocgx}{}
182 \LWR@checkloadnever{flowfram}{}
183 \LWR@checkloadnever{gb4e}{}
184 \LWR@checkloadnever{gmverse}{}
185 \LWR@checkloadnever{graphbox}{}
186 \LWR@checkloadnever{graphicxbox}{}
187 \LWR@checkloadnever{hvfloat}{}
188 \LWR@checkloadnever{inline-images}{}
189 \LWR@checkloadnever{isorot}{rotating}
190 \LWR@checkloadnever{ledmac}{}
191 \LWR@checkloadnever{linguex}{}
192 \LWR@checkloadnever{longdiv}{}
193 \LWR@checkloadnever{longfigure}{}
194 \LWR@checkloadnever{longtabu}{}
195 \LWR@checkloadnever{mdwenv}{}
196 \LWR@checkloadnever{mdwlist}{}
197 \LWR@checkloadnever{mdwtab}{}
198 \LWR@checkloadnever{navigator}{}
199 \LWR@checkloadnever{nccpic}{}
200 \LWR@checkloadnever{nccsect}{}
201 \LWR@checkloadnever{newvbtm}{}
202 \LWR@checkloadnever{ocg-p}{}
203 \LWR@checkloadnever{ocgtools}{}
204 \LWR@checkloadnever{ocgx}{}
205 \LWR@checkloadnever{ocgx2}{}
206 \LWR@checkloadnever{parrun}{}
207 \LWR@checkloadnever{poemscol}{}
208 \LWR@checkloadnever{poetry}{}
209 \LWR@checkloadnever{program}{}
210 \LWR@checkloadnever{proofread}{}
211 \LWR@checkloadnever{pst-pdf}{}

```



```

212 \LWR@checkloadnever{refstyle}{}
213 \LWR@checkloadnever{robustindex}{}
214 \LWR@checkloadnever{robustglossary}{}
215 \LWR@checkloadnever{semioneside}{}
216 \LWR@checkloadnever{slemph}{}
217 \LWR@checkloadnever{snotez}{sidenotes}
218 \LWR@checkloadnever{spacingtricks}{}
219 \LWR@checkloadnever{sverb}{verbatim, fancyvrb}
220 \LWR@checkloadnever{syntax}{}
221 \LWR@checkloadnever{tablists}{}
222 \LWR@checkloadnever{tabto}{}
223 \LWR@checkloadnever{tabu}{}
224 \LWR@checkloadnever{tabularht}{}
225 \LWR@checkloadnever{tabularkv}{}
226 \LWR@checkloadnever{thumby}{}
227 \LWR@checkloadnever{titles}{}
228 \LWR@checkloadnever{typehtml}{}
229 \LWR@checkloadnever{unicode-bidi}{}
230 \LWR@checkloadnever{vcell}{}
231 \LWR@checkloadnever{xhfill}{}
232 }

```

`\LWR@checkloadnever` {*⟨badpackagename⟩*} {*⟨replacementpkgname⟩*}

The first package is not supported, so tell the user to use the second instead.

When `lwarp` is first loaded, this is set to `\LWR@earlyloadnever` to check for incompatible packages which were loaded before `lwarp`. After `lwarp` is loaded, this is changed to `\LWR@afterloadnever` to check for incompatible packages during `\usepackage`.

```
233 \LetLtxMacro\LWR@checkloadnever\LWR@earlyloadnever
```

Now check for incompatible packages which have been loaded before `lwarp`:

```
234 \LWR@checkloadnevers
```

The older `CJK` and `CJKutf8` only work with `xeCJK`:

```

235 \@ifpackageloaded{xeCJK}{}{
236   \LWR@checkloadnever{CJK}{ctex, xeCJK}
237   \LWR@checkloadnever{CJKutf8}{ctex, xeCJK}
238 }

```

Some classes do not work with `lwarp`:

```

239 \LWR@earlyclassloadnever{jarticle}{ujarticle}
240 \LWR@earlyclassloadnever{jbook}{ujbook}
241 \LWR@earlyclassloadnever{jreport}{ujreport}
242 \LWR@earlyclassloadnever{tarticle}{utarticle}
243 \LWR@earlyclassloadnever{tbook}{utbook}
244 \LWR@earlyclassloadnever{treport}{utreport}
245 \LWR@earlyclassloadnever{novel}{}
246 \LWR@earlyclassloadnever{powerdot}{}

```

20.3 Enforcing package loading after lwarp

Packages which should only be loaded after lwarp are tested here to trip an error of they have already been loaded.

The following packages must be loaded after lwarp:

```
247 \LWR@loadafter{2in1}
248 \LWR@loadafter{2up}
249 \LWR@loadafter{a4}
250 \LWR@loadafter{a4wide}
251 \LWR@loadafter{a5comb}
252 \LWR@notmemoirloadafter{abstract}
253 \LWR@loadafter{academicons}
254 \LWR@loadafter{accents}
255 \LWR@loadafter{accessibility}
256 \LWR@loadafter{accsupp}
257 \LWR@loadafter{acro}
258 \LWR@loadafter{acronym}
259 \LWR@loadafter{adjmulticol}
260 \LWR@loadafter{addlines}
261 \LWR@loadafter{afterpage}
262 \LWR@loadafter{algorithm2e}
263 \LWR@loadafter{algorithmicx}
264 \LWR@loadafter{alltt}
265 \LWR@loadafter{amscdx}
266 % \LWR@loadafter{amsmath}% may be preloaded
267 % \LWR@loadafter{amsthm}% may be preloaded
268 \LWR@loadafter{anonchp}
269 \LWR@loadafter{anysize}
270 \LWR@notmemoirloadafter{appendix}
271 \LWR@loadafter{ar}
272 \LWR@loadafter{arabicfront}
273 \LWR@notmemoirloadafter{array}
274 \LWR@loadafter{arydshln}
275 \LWR@loadafter{asymptote}
276 % \LWR@loadafter{atbegshi}% now in LaTeX core, also used by morewrites
277 \LWR@loadafter{attachfile}
278 \LWR@loadafter{attachfile2}
279 \LWR@loadafter{authblk}
280 \LWR@loadafter{authaftertitle}% Supported as-is, but must be loaded after.
281 \LWR@loadafter{autobreak}
282 \LWR@loadafter{autonum}
283 \LWR@loadafter{awesomebox}
284 \LWR@loadafter{axessibility}
285 \LWR@loadafter{axodraw2}
286 \LWR@loadafter{backnaur}
287 \LWR@loadafter{backref}
288 \LWR@loadafter{balance}
289 \LWR@loadafter{bbding}
290 \LWR@loadafter{bigdelim}
291 \LWR@loadafter{bigfoot}
292 \LWR@loadafter{bigstrut}
293 \LWR@loadafter{bitpattern}
294 \LWR@loadafter{blowup}
```

```
295 \LWR@loadafter{bm}
296 \LWR@loadafter{booklet}
297 \LWR@loadafter{bookmark}
298 \LWR@notmemoirloadafter{booktabs}
299 \LWR@loadafter{bophook}
300 \LWR@loadafter{bounddvi}
301 \LWR@loadafter{boxedminipage}
302 \LWR@loadafter{boxedminipage2e}
303 \LWR@loadafter{braket}
304 \LWR@loadafter{breakurl}
305 \LWR@loadafter{breqn}
306 \LWR@loadafter{bsheaders}
307 \LWR@loadafter{bussproofs}
308 \LWR@loadafter{bypapersize}
309 \LWR@loadafter{bytefield}
310 \LWR@loadafter{ccicons}
311 \LWR@loadafter{cancel}
312 \LWR@loadafter{canoniclayout}
313 \LWR@loadafter{caption}
314 \LWR@loadafter{caption2}
315 \LWR@loadafter{caption3}
316 \LWR@loadafter{cases}
317 % catoptions is supported by the lwarp core
318 % \LWR@loadafter{ccaption}% may be preloaded by memoir
319 \LWR@loadafter{centerlastline}
320 % \LWR@loadafter{centernot}% may be preloaded by newtx
321 \LWR@loadafter{changebar}
322 \LWR@loadafter{changelayout}
323 \LWR@notmemoirloadafter{changepage}
324 \LWR@loadafter{changes}
325 \LWR@loadafter{chappg}
326 \LWR@loadafter{chapterbib}
327 \LWR@loadafter{chemfig}
328 \LWR@loadafter{chemformula}
329 \LWR@loadafter{chemgreek}
330 \LWR@loadafter{chemmacros}
331 \LWR@loadafter{chemnum}
332 \LWR@loadafter{chkfloat}
333 \LWR@notmemoirloadafter{chnpage}
334 \LWR@loadafter{cite}
335 \LWR@loadafter{citeref}
336 \LWR@loadafter{classicthesis}
337 \LWR@loadafter{cleveref}
338 % cmbright may be preloaded
339 \LWR@loadafter{cmdtrack}
340 \LWR@loadafter{colonequals}
341 \LWR@loadafter{color}
342 \LWR@loadafter{colortbl}
343 \LWR@loadafter{continue}
344 \LWR@loadafter{copyrightbox}
345 \LWR@notmemoirloadafter{crop}
346 % ctex must be loaded before lwarp
347 \LWR@loadafter{ctable}
348 \LWR@loadafter{cuted}
349 \LWR@loadafter{cutwin}
```

```
350 \LWR@loadafter{dblfloatfix}
351 \LWR@loadafter{dblfnote}
352 \LWR@notmemoirloadafter{dcolumn}
353 \LWR@loadafter{decimal}
354 \LWR@loadafter{decorule}
355 \LWR@loadafter{diagbox}
356 \LWR@loadafter{dingbat}
357 \LWR@loadafter{DotArrow}
358 \LWR@loadafter{dotlessi}
359 \LWR@loadafter{dprogress}
360 \LWR@loadafter{draftcopy}
361 \LWR@loadafter{draftfigure}
362 \LWR@loadafter{draftwatermark}
363 \LWR@loadafter{drftcite}
364 \LWR@loadafter{easy-todo}
365 \LWR@loadafter{ebook}
366 \LWR@loadafter{econometrics}
367 \LWR@loadafter{ed}
368 \LWR@loadafter{ellipsis}
369 \LWR@loadafter{embrac}
370 \LWR@loadafter{emptypage}
371 \LWR@loadafter{endfloat}
372 \LWR@loadafter{endheads}
373 \LWR@loadafter{endnotes}
374 \LWR@loadafter{engtlc}
375 \LWR@loadafter{enotez}
376 \LWR@notmemoirloadafter{enumerate}
377 \LWR@loadafter{enumitem}
378 \LWR@notmemoirloadafter{epigraph}
379 \LWR@loadafter{epsf}
380 \LWR@loadafter{epsfig}
381 \LWR@loadafter{epstopdf}
382 \LWR@loadafter{epstopdf-base}
383 \LWR@loadafter{eqlist}
384 \LWR@loadafter{eqparbox}
385 \LWR@loadafter{errata}
386 \LWR@loadafter{eso-pic}
387 \LWR@loadafter{esvect}
388 \LWR@loadafter{etoc}
389 \LWR@loadafter{eurosym}
390 \LWR@loadafter{everypage}
391 % \LWR@loadafter{everyshi}% now in LaTeX core
392 \LWR@loadafter{extrarrows}
393 \LWR@loadafter{extramarks}
394 \LWR@loadafter{fancybox}
395 \LWR@loadafter{fancyhdr}
396 \LWR@loadafter{fancypar}
397 \LWR@loadafter{fancyref}
398 \LWR@loadafter{fancytabs}
399 \LWR@loadafter{fancyvrb}
400 \LWR@loadafter{fbox}
401 \LWR@loadafter{fewerfloatpages}
402 \LWR@loadafter{figcaps}
403 \LWR@loadafter{figsize}
404 \LWR@loadafter{fitbox}
```

```
405 \LWR@loadafter{fix2col}
406 \LWR@loadafter{fixmath}
407 \LWR@loadafter{fixme}
408 \LWR@loadafter{fixmetodonotes}
409 \LWR@loadafter{flafter}
410 \LWR@loadafter{flippdf}
411 \LWR@loadafter{float}
412 \LWR@loadafter{floatflt}
413 \LWR@loadafter{floatpag}
414 \LWR@loadafter{floatrow}
415 \LWR@loadafter{fltrace}
416 \LWR@loadafter{flushend}
417 \LWR@loadafter{fnbreak}
418 \LWR@loadafter{fnchcap}
419 \LWR@loadafter{fnlineno}
420 \LWR@loadafter{fnpara}
421 \LWR@loadafter{fnpos}
422 \LWR@loadafter{fontawesome}
423 \LWR@loadafter{fontawesome5}
424 % fontenc must be loaded before lwarp
425 % fontspec must be loaded before lwarp
426 \LWR@loadafter{footmisc}
427 \LWR@loadafter{footnote}
428 \LWR@loadafter{footnotebackref}
429 \LWR@loadafter{footnotehyper}
430 \LWR@loadafter{footnoterange}
431 \LWR@loadafter{footnpag}
432 \LWR@loadafter{foreign}
433 \LWR@loadafter{forest}
434 \LWR@loadafter{fouridx}
435 % fourier may be loaded before lwarp
436 \LWR@loadafter{framed}
437 \LWR@loadafter{froufrou}
438 \LWR@loadafter{ftcap}
439 \LWR@loadafter{ftnright}
440 \LWR@loadafter{fullminipage}
441 \LWR@loadafter{fullpage}
442 \LWR@loadafter{fullwidth}
443 \LWR@loadafter{fvextra}
444 \LWR@loadafter{fwLw}
445 \LWR@loadafter{gensymb}
446 \LWR@loadafter{gentombow}
447 % geometry is always loaded by lwarp, and lwarp-geometry is AtBeginDocument
448 \LWR@loadafter{ghsystem}
449 \LWR@loadafter{gindex}
450 \LWR@loadafter{glossaries}
451 \LWR@loadafter{gmeometric}
452 % \LWR@loadafter{graphics}% pre-loaded by xunicode
453 % \LWR@loadafter{graphicx}% pre-loaded by xunicode
454 \LWR@loadafter{gloss}
455 \LWR@loadafter{glossary}
456 \LWR@loadafter{grffile}
457 \LWR@loadafter{grid}
458 \LWR@loadafter{grid-system}
459 \LWR@loadafter{gridset}
```

```
460 \LWR@loadafter{hang}
461 \LWR@loadafter{hanging}
462 \LWR@loadafter{hepunits}
463 \LWR@loadafter{hhline}
464 \LWR@loadafter{hhtensor}
465 \LWR@loadafter{hypbmsec}
466 \LWR@loadafter{hypcap}
467 \LWR@loadafter{hypdestopt}
468 \LWR@loadafter{hypernat}
469 \LWR@loadafter{hyperref}
470 \LWR@loadafter{hyperxmp}
471 \LWR@loadafter{hyphenat}
472 \LWR@loadafter{idxlayout}
473 \LWR@loadafter{ifoddpages}
474 \LWR@loadafter{imakeidx}
475 \LWR@loadafter{impnatypo}
476 \LWR@notmemoirloadafter{index}
477 % inputenc must be loaded before lwarp
478 % inputenx must be loaded before lwarp
479 % inputtrc may be loaded before lwarp
480 \LWR@loadafter{intopdf}
481 \LWR@loadafter{isomath}
482 \LWR@loadafter{isotope}
483 \LWR@loadafter{jurabib}
484 \LWR@loadafter{karnaugh-map}
485 \LWR@loadafter{keyfloat}
486 \LWR@loadafter{keystroke}
487 % kpfonts may be loaded before lwarp
488 % kpfonts-otf may be loaded before lwarp
489 \LWR@loadafter{layaureo}
490 \LWR@loadafter{layout}
491 \LWR@loadafter{layouts}
492 \LWR@loadafter{leading}
493 \LWR@loadafter{leftidx}
494 \LWR@loadafter{letterspace}
495 \LWR@loadafter{letrine}
496 % libertinustlmath may be loaded before lwarp
497 \LWR@loadafter{lineno}
498 \LWR@loadafter{lips}
499 \LWR@loadafter{listings}
500 \LWR@loadafter{listliketab}
501 \LWR@loadafter{lлтjp-tascmac}
502 \LWR@loadafter{longtable}
503 \LWR@loadafter{lpic}
504 \LWR@loadafter{lscope}
505 \LWR@loadafter{ltablex}
506 \LWR@loadafter{ltcaption}
507 \LWR@loadafter{ltxgrid}
508 \LWR@loadafter{ltxtable}
509 \LWR@loadafter{lua-check-hyphen}
510 \LWR@loadafter{lua-visual-debug}
511 \LWR@loadafter{luacolor}
512 \LWR@loadafter{luamplib}
513 \LWR@loadafter{luatodonotes}
514 \LWR@loadafter{luavlna}
```

```
515 \LWR@loadafter{lyluatex}
516 \LWR@loadafter{magaz}
517 \LWR@notmemoirloadafter{makeidx}
518 \LWR@loadafter{manyfoot}
519 \LWR@loadafter{marginfit}
520 \LWR@loadafter{marginfix}
521 \LWR@loadafter{marginnote}
522 \LWR@loadafter{marvosym}
523 % mathalpha may be loaded before lwarp
524 \LWR@loadafter{mathastext}
525 \LWR@loadafter{mathcomp}
526 \LWR@loadafter{mathdesign}
527 \LWR@loadafter{mathdots}
528 \LWR@loadafter{mathfixs}
529 \LWR@loadafter{mathpazo}
530 \LWR@loadafter{mathptmx}
531 \LWR@loadafter{mathspec}
532 \LWR@loadafter{mathtools}
533 \LWR@loadafter{mattens}
534 \LWR@loadafter{maybemath}
535 \LWR@loadafter{mcaption}
536 \LWR@loadafter{mdframed}
537 \LWR@loadafter{mdwmath}
538 \LWR@loadafter{media9}
539 \LWR@loadafter{memhfixc}
540 \LWR@loadafter{menukeys}
541 \LWR@loadafter{metalogo}
542 \LWR@loadafter{metalogoX}
543 \LWR@loadafter{mhchem}
544 \LWR@loadafter{microtype}
545 \LWR@loadafter{midfloat}
546 \LWR@loadafter{midpage}
547 \LWR@loadafter{minibox}
548 \LWR@loadafter{minitoc}
549 \LWR@loadafter{minted}
550 \LWR@loadafter{mismath}
551 \LWR@loadafter{mletright}
552 % morefloats must be allowed early for print mode
553 \LWR@notmemoirloadafter{moreverb}
554 % morewrites must be loaded before lwarp
555 \LWR@notmemoirloadafter{movie15}
556 \LWR@notmemoirloadafter{mparhack}
557 \LWR@loadafter{multibib}
558 \LWR@loadafter{multicap}
559 %\LWR@loadafter{multicol}% loaded by ltxdoc
560 \LWR@loadafter{multicolrule}
561 \LWR@loadafter{multimedia}
562 \LWR@loadafter{multiobjective}
563 \LWR@loadafter{multirow}
564 \LWR@loadafter{multitoc}
565 \LWR@loadafter{musicography}
566 \LWR@loadafter{mwe}
567 \LWR@loadafter{nameauth}
568 \LWR@loadafter{nameref}
569 \LWR@loadafter{natbib}
```

```
570 \LWR@notmemoirloadafter{nccfancyhdr}
571 \LWR@loadafter{nccfoots}
572 \LWR@loadafter{nccmath}
573 \LWR@notmemoirloadafter{needspace}
574 % newclude must be loaded before lwarp
575 % newpxmath may be preloaded
576 % newtxmath may be loaded before lwarp
577 % newtxsf may be loaded before lwarp
578 % newunicodechar must be loaded before lwarp
579 \LWR@notmemoirloadafter{nextpage}
580 \LWR@loadafter{nicefrac}
581 \LWR@loadafter{niceframe}
582 \LWR@loadafter{nicematrix}
583 \LWR@loadafter{noitcrul}
584 \LWR@loadafter{nolbreaks}
585 \LWR@loadafter{nomencl}
586 \LWR@loadafter{nonfloat}
587 \LWR@loadafter{nonumonpart}
588 \LWR@loadafter{nopageno}
589 \LWR@loadafter{notes}
590 \LWR@loadafter{notespaces}
591 \LWR@loadafter{nowidow}
592 \LWR@loadafter{ntheorem}
593 \LWR@loadafter{octave}
594 \LWR@loadafter{orcidlink}
595 \LWR@loadafter{overpic}
596 \LWR@loadafter{pagegrid}
597 \LWR@notmemoirloadafter{pagenote}
598 \LWR@loadafter{pagesel}
599 \LWR@loadafter{paralist}
600 \LWR@loadafter{parallel}
601 \LWR@loadafter{parcolumns}
602 \LWR@loadafter{parnotes}
603 \LWR@notmemoirloadafter{parskip}
604 \LWR@loadafter{pbalance}
605 \LWR@loadafter{pbox}
606 \LWR@loadafter{pdfcol}
607 \LWR@loadafter{pdfcolfoot}
608 \LWR@loadafter{pdfcolmk}
609 \LWR@loadafter{pdfcolparallel}
610 \LWR@loadafter{pdfcolparcolumns}
611 \LWR@loadafter{pdfcomment}
612 \LWR@loadafter{pdfcrypt}
613 \LWR@loadafter{pdfscape}
614 \LWR@loadafter{pdfmarginpar}
615 \LWR@loadafter{pdfpages}
616 \LWR@loadafter{pdfprivacy}
617 \LWR@loadafter{pdfrender}
618 \LWR@loadafter{pdfsync}
619 \LWR@loadafter{pdftricks}
620 \LWR@loadafter{pdfx}
621 \LWR@loadafter{perpage}
622 \LWR@loadafter{pfnote}
623 \LWR@loadafter{phfqit}
624 \LWR@loadafter{physics}
```



```
625 \LWR@loadafter{physunits}
626 \LWR@loadafter{picinpar}
627 \LWR@loadafter{pifont}
628 \LWR@loadafter{pinlabel}
629 \LWR@loadafter{placeins}
630 \LWR@loadafter{plarray}
631 \LWR@loadafter{plarydshln}
632 \LWR@loadafter{plextarray}
633 \LWR@loadafter{plextarydshln}
634 \LWR@loadafter{plcolortbl}
635 \LWR@loadafter{plextdelarray}
636 \LWR@loadafter{plimsoll}
637 \LWR@loadafter{prelim2e}
638 \LWR@loadafter{prettyref}
639 \LWR@loadafter{preview}
640 \LWR@loadafter{psfrag}
641 \LWR@loadafter{psfragx}
642 \LWR@loadafter{pst-eps}
643 \LWR@loadafter{pstool}
644 \LWR@loadafter{pstricks}
645 % \LWR@loadafter{pxatbegshi}% may be used by morewrites
646 \LWR@loadafter{pxeveryshi}
647 % \LWR@loadafter{pxfonts}% may be loaded before lwarp
648 \LWR@loadafter{pxftnright}
649 \LWR@loadafter{pxjahyper}
650 \LWR@loadafter{quotchap}
651 \LWR@loadafter{quoting}
652 \LWR@loadafter{ragged2e}
653 \LWR@loadafter{realscripts}
654 \LWR@loadafter{refcheck}
655 \LWR@loadafter{register}
656 \LWR@loadafter{resize}
657 \LWR@loadafter{repeatindex}
658 \LWR@loadafter{resizegather}
659 \LWR@loadafter{returntogrid}
660 \LWR@loadafter{rlepsz}
661 \LWR@loadafter{rmathbr}
662 \LWR@loadafter{rmpage}
663 \LWR@loadafter{romanbar}
664 \LWR@loadafter{romanbarpagenumber}
665 \LWR@loadafter{rotating}
666 \LWR@loadafter{rotfloat}
667 \LWR@loadafter{rviewport}
668 \LWR@loadafter{savetrees}
669 % scalefnt is loaded by babel-french
670 \LWR@loadafter{scalereel}
671 \LWR@loadafter{schemata}
672 \LWR@loadafter{scrextend}
673 \LWR@loadafter{scrhack}
674 \LWR@loadafter{scrlayer}
675 \LWR@loadafter{scrlayer-notecolumn}
676 \LWR@loadafter{scrlayer-scrpage}
677 \LWR@loadafter{scrpage2}
678 \LWR@loadafter{section}
679 \LWR@loadafter{sectionbreak}
```

680 \LWR@loadafter{sectsty}
681 \LWR@loadafter{selectp}
682 \LWR@loadafter{semantic-markup}
683 \LWR@notmemoirloadafter{setspace}
684 \LWR@loadafter{shadow}
685 \LWR@loadafter{shapepar}
686 \LWR@notmemoirloadafter{showidx}
687 \LWR@loadafter{showkeys}
688 \LWR@loadafter{showtags}
689 \LWR@loadafter{shuffle}
690 \LWR@loadafter{sidecap}
691 \LWR@loadafter{sidenotes}
692 \LWR@loadafter{simplebnf}
693 \LWR@loadafter{SIunits}
694 \LWR@loadafter{siunitx}
695 \LWR@loadafter{siunitx-v2}
696 \LWR@loadafter{skmath}
697 \LWR@loadafter{slantsc}
698 \LWR@loadafter{slashed}
699 \LWR@loadafter{soul}
700 \LWR@loadafter{soulpos}
701 \LWR@loadafter{soulutf8}
702 \LWR@loadafter{splitbib}
703 \LWR@loadafter{splitidx}
704 \LWR@loadafter{srcltx}
705 \LWR@loadafter{srctex}
706 \LWR@loadafter{stabular}
707 \LWR@loadafter{stackengine}
708 \LWR@loadafter{stackrel}
709 \LWR@loadafter{stax2}
710 \LWR@loadafter{statistics}
711 \LWR@loadafter{statmath}
712 \LWR@loadafter{steinmetz}
713 \LWR@notltjloadafter{stfloats}
714 \LWR@loadafter{struktex}
715 \LWR@loadafter{subcaption}
716 \LWR@loadafter{subfig}
717 \LWR@loadafter{subfigure}
718 \LWR@loadafter{subsupscripts}
719 \LWR@loadafter{supertabular}
720 \LWR@loadafter{svg}
721 \LWR@loadafter{swfigure}
722 \LWR@loadafter{syntonly}
723 \LWR@loadafter{t1inc}
724 \LWR@loadafter{tabfigures}
725 \LWR@loadafter{tbls}
726 \LWR@loadafter{tablefootnote}
727 \LWR@notmemoirloadafter{tabularx}
728 \LWR@loadafter{tabulary}
729 \LWR@loadafter{tagpdf}
730 \LWR@loadafter{tascmac}
731 \LWR@loadafter{tcolorbox}
732 \LWR@loadafter{tensor}
733 \LWR@loadafter{termcal}
734 \LWR@loadafter{textarea}

```
735 % \LWR@loadafter{textcomp}% maybe before lwarp with font packages
736 \LWR@loadafter{textfit}
737 \LWR@loadafter{textpos}
738 \LWR@loadafter{theorem}
739 \LWR@loadafter{thinsp}
740 \LWR@loadafter{thm-listof}
741 \LWR@loadafter{thm-restate}
742 \LWR@loadafter{thmbox}
743 \LWR@loadafter{thmtools}
744 \LWR@loadafter{threadcol}
745 \LWR@loadafter{threparttable}
746 \LWR@loadafter{threparttablex}
747 \LWR@loadafter{thumb}
748 \LWR@loadafter{thumbs}
749 \LWR@loadafter{tikz}
750 \LWR@loadafter{tikz-imageLabels}
751 \LWR@loadafter{titlesp}
752 \LWR@loadafter{titlesec}
753 \LWR@loadafter{titletoc}
754 \LWR@notmemoirloadafter{titling}
755 % \LWR@loadafter{tocbasic}% preloaded by koma-script classes
756 \LWR@notmemoirloadafter{tocbibind}
757 \LWR@loadafter{tocdata}
758 \LWR@loadafter{tocenter}
759 \LWR@notmemoirloadafter{tocloft}
760 \LWR@loadafter{tocstyle}
761 \LWR@loadafter{todo}
762 \LWR@loadafter{todonotes}
763 \LWR@loadafter{topcapt}
764 \LWR@loadafter{tram}
765 \LWR@loadafter{transparent}
766 \LWR@loadafter{trimclip}
767 \LWR@loadafter{trivfloat}
768 \LWR@loadafter{truncate}
769 \LWR@loadafter{turnthepage}
770 \LWR@loadafter{twoup}
771 % \LWR@loadafter{txfonts}% may be loaded before lwarp
772 % txgreek may be loaded before lwarp

773 % \LWR@loadafter{typearea}% preloaded by koma-script classes
774 \LWR@loadafter{typicons}
775 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
776 \LWR@loadafter{umoline}
777 \LWR@loadafter{underscore}
778 % unicode-math may be loaded before lwarp
779 \LWR@loadafter{units}
780 \LWR@loadafter{unitsdef}
781 \LWR@loadafter{upgreek}
782 \LWR@loadafter{upref}
783 \LWR@loadafter{url}
784 \LWR@loadafter{ushort}
785 \LWR@loadafter{uspace}
786 \LWR@loadafter{varioref}
787 \LWR@notmemoirloadafter{verse}
788 \LWR@loadafter{versonotes}
```

```

789 \LWR@loadafter{vertbars}
790 \LWR@loadafter{vmargin}
791 \LWR@loadafter{vowel}
792 \LWR@loadafter{vpe}
793 \LWR@loadafter{vwcol}
794 \LWR@loadafter{wallpaper}
795 \LWR@loadafter{watermark}
796 \LWR@loadafter{widetable}
797 \LWR@loadafter{widows-and-orphans}
798 \LWR@loadafter{witharrows}
799 \LWR@loadafter{wrapfig}
800 \LWR@loadafter{xbmks}
801 \LWR@loadafter{xcolor}
802 \LWR@loadafter{xexchangebar}
803 \LWR@loadafter{xellipsis}
804 % xetexko must be loaded before lwarp
805 \LWR@loadafter{xevlna}
806 \LWR@loadafter{xfakebold}
807 \LWR@loadafter{xfrac}
808 \LWR@loadafter{xltabular}
809 \LWR@loadafter{xltextra}
810 \LWR@loadafter{xmpinl}
811 \LWR@loadafter{xpiano}
812 \LWR@loadafter{xpinyin}
813 \LWR@loadafter{xr}
814 \LWR@loadafter{xr-hyper}
815 \LWR@loadafter{xtab}
816 % xunicode must be loaded before lwarp
817 \LWR@loadafter{xurl}
818 \LWR@loadafter{xy}
819 \LWR@loadafter{zwpageLayout}

```

21 MD5 hashing

The MD5 hash is used for lateximage filenames for svg math.

```

820 \newcommand{\LWR@mdfive}[1]{%
821   \PackageError{lwarp}
822     {No MD5 macro was found}
823     {%
824       Lwarp must find the macros \protect\pdfmdfivesum\space
825       or \protect\mdfivesum.%
826     }
827 }

```

The default for pdf \LaTeX , dvi \LaTeX , up \LaTeX , etc:

```
828 \let\LWR@mdfive\pdfmdfivesum
```

For Lua \LaTeX :

```
829 \ifLuaTeX
```

```

830 \RequirePackage{pdftexcmds}
831 \let\LWR@mdfive\pdf@mdfivesum
832 \fi

```

For X_YL^AT_EX:

```

833 \ifXeTeX
834 \@ifundefined{pdfmfivesum}{}
835   {\let\LWR@mdfive\pdfmdfivesum}
836 \@ifundefined{mdfivesum}{}
837   {\let\LWR@mdfive\mdfivesum}
838 \fi

```

22 pdf_LA_TE_X T1 and UTF-8 encoding

When using pdf_LA_TE_X, lwarp requires T1 font encoding, and recommends UTF-8 input encoding.

If some other input encoding is already defined, lwarp will try to use it instead, and hope for the best.

X_YL^AT_EX and Lua_LA_TE_X are both UTF-8 by nature.

`\LWR@pdfencoding` Sets T1, and also utf8 if not already set.

```

839 \newcommand*\LWR@pdfencoding{%
840   \RequirePackage[T1]{fontenc}
841
842   \@ifpackageloaded{inputenc}{
843     \@ifpackageloaded{inputenx}{
844       \RequirePackage[utf8]{inputenc}
845     }
846   }
847 }

848 \ifPDFTeX% pdflatex or dvi latex
849   \LWR@pdfencoding
850 \fi
851
852 \ifpTeX
853   \LWR@pdfencoding
854 \fi

```

23 Unicode input characters

for HTML & PRINT: If using *pdflatex*, convert a minimal set of Unicode characters. Additional characters may be defined by the user, as needed.

A commonly-used multiply symbol is declared to be `\texttimes`.

The first arguments of `\newunicodechar` below are text ligatures in the source code, even though they are not printed in the following listing.

```

855 \ifpTeX
856 \else
857 \RequirePackage{newunicodechar}
858
859 \newunicodechar{×}{\texttimes}
860
861 \ifPDFTeX% pdflatex or dvi latex
862 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
863 \newunicodechar{fi}{fi}
864 \newunicodechar{fl}{fl}
865 \newunicodechar{ffi}{ffi}
866 \newunicodechar{ffl}{ffl}
867 \newunicodechar{-}{---}
868 \newunicodechar{-}{--}
869 \fi
870
871 \fi

```

24 Avoid a bitmapped font

If DVI or PDF L^AT_EX, and if the default Computer Modern is the selected font family, ensure that `cm-super` or `lmodern` is used to provide a vector font.

```

872 \ifxetexorluatex
873 \else
874   \ifdefstring{\f@family}{cmr}{
875     \IfFileExists{type1ec.sty}% found in cm-super
876     {}
877     {% cm-super not installed
878       \IfFileExists{lmodern.sty}{
879         \PackageInfo{lwarp}{cm-super not installed, loading lmodern}
880         \RequirePackage{lmodern}
881       }{
882         \PackageError{lwarp}
883         {%
884           Lwarp requires a vector font.\MessageBreak
885           Install and load cm-super, lmodern, or another\MessageBreak
886           Type-1 vector font before loading lwarp.\MessageBreak
887           Enter 'H' for possible solutions%
888         }
889         {%
890           Install cm-super or lmodern.\MessageBreak
891           If lmodern, load it before lwarp:\MessageBreak
892           \space\space\protect\usepackage{lmodern}\MessageBreak
893           \space\space\protect\usepackage{lwarp}%
894         }
895       }
896     }% cm-super not installed
897   }{}% f@family
898 \fi

```

25 Upright quotes

In pdfTeX, preserve upright quotes in verbatim text. `upquote` also loads `textcomp`.

```
899 \ifPDFTeX
900 \RequirePackage{upquote}
901 \fi
902
903 \ifpTeX
904   \RequirePackage{upquote}
905 \fi
```

26 Avoid bad font combinations

For Xe^LA^TE^X and Lua^LA^TE^X, certain font combinations cause problems with `lwarp`.

`libertinus-otf` has special handling for `\textquotedbl`. Search for `\LWR@orig@textquotedbl`.

```
906 \ifxetexorluatex
907   \AtBeginDocument{
908     \@ifpackageloaded{kpfonts}{
909       \PackageError{lwarp}
910         {%
911           When using XeLaTeX or LuaLaTeX, \MessageBreak
912           use kpfonts-otf instead of kpfonts%
913         }
914       {%
915         Replace: \protect\usepackage{kpfonts}\MessageBreak
916         with: \protect\usepackage{kpfonts-otf}
917       }
918     }{}
919   }
920 \fi
```

27 Miscellaneous tools

27.1 Variables

```
921 \newlength{\LWR@templengthone}
922 \newlength{\LWR@templengthtwo}
923 \newlength{\LWR@templengththree}
924 \newcounter{LWR@tempcountone}
```

27.2 Lengths and units

`\LWR@providelength` `{\lengthname}` Provides the length if it isn't defined yet.

Used to provide source compatibility for lengths which will be ignored, but might or might not be already provided by other packages.

```
925 \newcommand*\LWR@providelength[1]{%
926   \ifdeflength{#1}{ }\newlength{#1}}%
927 }
```

`\LWR@convertto` $\{\langle dest\ unit\rangle\} \{\langle length\rangle\}$

Prints a length in the given units, without printing the unit itself.

```
928 \newcommand*\LWR@convertto[2]{\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1}
```

`\LWR@printpercentlength` $\{\langle smaller\rangle\} \{\langle larger\rangle\}$

Prints a percent ratio of the two lengths.

```
929 \newcommand*\LWR@printpercentlength[2]{%
930   \setcounter{LWR@tempcountone}{100*\ratio{#1}{#2}}%
931   \arabic{LWR@tempcountone}%
932 }
```

27.3 Counters

`\defaddtcounter` $\{\langle name\rangle\} \{\langle value\rangle\}$

Locally add to a counter.

```
933 \providecommand*\defaddtcounter[2]{%
934   \defcounter{#1}{\value{#1}+#2}%
935 }
```

27.4 Patching

`\LWR@patcherror` $\{\langle packagename\rangle\} \{\langle macroname\rangle\}$

Prints an error if could not patch a macro.

```
936 \newcommand*\LWR@patcherror[2]{%
937   \PackageError{lwarp}%
938     {%
939       Unable to patch package #1,\MessageBreak
940       macro \LWRbackslash #2.\MessageBreak
941       Lwarp or #1 may need to be updated%
942     }%
943   {Please contact the maintainer of the Lwarp package.}%
944 }
```


27.5 Chinese text isolation

`\LWR@isolate` $\langle text \rangle$ Isolates Chinese characters from the surrounding text. This is required to avoid extra spaces on either side of the Chinese characters, especially when written to a file.

```
945 \newcommand{\LWR@isolate}[1]{#1}%
946
947 \ifpackageloaded{ctexpatch}{
948   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
949 }{}
950
951 \ifpackageloaded{xeCJK}{
952   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
953 }
```

`\LWR@disablepinyin` Disable xpinyin during file, sideroc, and footnote generation. Set by xpinyin.

```
954 \newcommand*\LWR@disablepinyin{}
```

27.6 Inserting vertical space

`\LWR@forceemptyline` Extra vertical space in the HTML output. Use after `\LWR@stoppars`.

```
955 \newcommand*\LWR@forceemptyline{%
956   \LWR@origrule{0pt}{1\baselineskip}%
957   \LWR@orignewline%
958 }
```

27.7 Argument selection

`\LWR@firstoffive` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$ $\langle fourth \rangle$ $\langle fifth \rangle$

`\LWR@secondoffive` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$ $\langle fourth \rangle$ $\langle fifth \rangle$

`\LWR@thirdoffive` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$ $\langle fourth \rangle$ $\langle fifth \rangle$

`\LWR@fourthoffive` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$ $\langle fourth \rangle$ $\langle fifth \rangle$

`\LWR@fifthoffive` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$ $\langle fourth \rangle$ $\langle fifth \rangle$

Expands to the *n*th of the five arguments. Used for extra cross referencing.

```
959 \long\def\LWR@firstoffive#1#2#3#4#5{#1}
960 \long\def\LWR@secondoffive#1#2#3#4#5{#2}
961 \long\def\LWR@thirdoffive#1#2#3#4#5{#3}
962 \long\def\LWR@fourthoffive#1#2#3#4#5{#4}
963 \long\def\LWR@fifthoffive#1#2#3#4#5{#5}
```

27.8 Inside boxes

Greater than zero if currently inside a T_EX box, thus should not use `\LWR@orignewpage`. See section 13.2.

```
964 \newcounter{LWR@texboxdepth}
965 \setcounter{LWR@texboxdepth}{0}
```

`\LWR@maybe@orignewpage` Only do `\LWR@orignewpage` if not inside a T_EX box.

```
966 \newcommand*{\LWR@maybe@orignewpage}{%
967   \LWR@traceinfo{LWR@maybe@orignewpage}%
968   \ifnumgreater{\value{LWR@texboxdepth}}{0}
969     {}%
970     {\LWR@orignewpage}%
971   \LWR@traceinfo{LWR@maybe@orignewpage done}%
972 }
```

27.9 Global boxes

`\LWR@gsavebox` `{\langle macroname \rangle}{\langle contents \rangle}`

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```
973 \DeclareRobustCommand\LWR@gsavebox[1]{%
974   \ifnextchar(%
975     {\LWR@@gsavepicbox#1}{\ifnextchar[{\LWR@@gsavebox#1}{\LWR@gsbox#1}}}%
976   \long\def\LWR@gsbox#1#2{\global\setbox#1\hbox{%
977     \color@setgroup#2\color@endgroup}}
978   \def\LWR@@gsavebox#1[#2]{%
979     \ifnextchar [ {\LWR@@igsavebox#1[#2]}{\LWR@@igsavebox#1[#2][c]}}
980   \long\def\LWR@@igsavebox#1[#2][#3]#4{%
981     \LWR@gsbox#1{\@imakebox[#2][#3]{#4}}}%
982   \def\LWR@@gsavepicbox#1(#2,#3){%
983     \ifnextchar[%
984       {\LWR@@igsavepicbox#1(#2,#3)}{\LWR@@igsavepicbox#1(#2,#3)[ ]}}
985   \long\def\LWR@@igsavepicbox#1(#2,#3)[#4]#5{%
986     \LWR@gsbox#1{\@imakepicbox(#2,#3)[#4]{#5}}}
```

Env `LWR@glrbox` `{\langle macroname \rangle}`

```
987 \def\LWR@glrbox#1{%
988   \edef\reserved@a{%
989     \endgroup
990     \global\setbox#1\hbox{%
991       \begingroup\aftergroup}%
992     \def\noexpand\@currentenv{\@currentenv}%
993     \def\noexpand\@currentline{\on@line}}%
994   \reserved@a
995   \@endpfalse
```

```

996   \color@setgroup
997   \ignorespaces}
998 \let\LWR@endg\lrbbox\LWR@end\lrbbox

```

27.10 Converting a macro name to a cs name

`\macroto csname` $\{\langle macro\ name\ with\ backslash \rangle\}$

Results in the macro name without the leading backslash.

Ref: <https://tex.stackexchange.com/questions/42318/removing-a-backslash-from-a-character-sequence>

```

999 \newcommand*{\macroto csname}[1]{%
1000   \ifcat\relax\noexpand#1%
1001   \expandafter\expandafter\expandafter\@gobble\expandafter\string
1002   \fi
1003   #1%
1004 }

```

27.11 Title case

`\LWRtexttitlecase`

```

1005 \ExplSyntaxOn
1006 \newcommand*{\LWRtexttitlecase}[1]{%
1007   \text_titlecase:n{#1}%
1008 }
1009 \ExplSyntaxOff

```

27.12 LetLtxMacros

`\LWR@LetLtxMacros` $\{\langle new\ cs\ name \rangle\} \{\langle old\ cs\ name \rangle\}$

`\LetLtxMacro` with cs names.

```

1010 \newcommand*{\LWR@LetLtxMacros}[2]{%
1011   \expandafter\LetLtxMacro\csname #1\expandafter\endcsname%
1012   \csname#2\endcsname%
1013 }

```

27.13 Absorbing a star

`\LWR@absorbstar` $\{\langle cs\ name \rangle\}$

Modifies a macro to absorb a star. Used for `cleveref`, since `hyperref` is emulated, so the starred macros are not created by `cleveref`.

```
1014 \newcommand*\LWR@absorbstar}[1]{%
1015   \LWR@LetLtxMacros{\LWR@origins@#1}{#1}%
1016   \csdef{#1}{\@ifstar{\csuse{\LWR@origins@#1}}{\csuse{\LWR@origins@#1}}}
1017   \expandafter\robustify\csname #1\endcsname
1018 }
```

28 Operating-System portability

Prog	Unix	<code>lwarp</code> tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well.
Prog	Mac OS	
Prog	Linux	
Prog	MS-Windows	If MS-WINDOWS is not correctly detected, use the <code>lwarp</code> option <code>OSWindows</code> .
Prog	Windows	
Opt	<code>OSWindows</code>	When detected or specified, the operating-system path separator used by <code>lwarp</code> is modified, and the boolean <code>usingOSWindows</code> is set true. This boolean may be tested by the user for later use.

28.1 Literal characters

Literal characters to be used in `PrintLatexCmd` and `HTMLLatexCmd`. These are defined without `@` to easily allow their inclusion in the user’s document.

The literal `%` character:

```
1019 \let\LWRpercent\@percentchar
```

The literal `$` character:

```
1020 \catcode'\$=12
1021 \def\LWRdollar{\$}
1022 \catcode'\$=3
```

The literal `&` character:

```
1023 \catcode'\&=12
1024 \def\LWRamp{&}
1025 \catcode'\&=4
```

The literal `\` character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```
1026 \catcode'\&=0
1027 &\catcode'\&=12
1028 &\def&\LWRbackslash{\}
1029 &\catcode'\&=0
1030 \catcode'\&=4
```

The literal { character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```
1031 \catcode'\&=1
1032 \catcode'\{=12
1033 \def\LWRleftbrace&{ }
1034 \catcode'\{=1
1035 \catcode'\&=4
```

The literal } character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```
1036 \catcode'\&=2
1037 \catcode'\}=12
1038 \def\LWRrightbrace{ }&
1039 \catcode'\}=2
1040 \catcode'\&=4
```

The literal # character:

```
1041 \catcode'\#=12
1042 \def\LWRhash{#}
1043 \catcode'\#=6
```

`\LWRopquote` The operating system's quote mark, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
1044 \def\LWRopquote{ ' }
```

`\LWRopseq` The operating system's sequential execution command, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
1045 \def\LWRopseq{ \space\LWRamp\LWRamp\space\space }
```

28.2 Common portability code

`Bool usingOSWindows` Set if the OSWindows option is used, or if WINDOWS is automatically detected.

```
1046 \newbool{usingOSWindows}
1047 \boolfalse{usingOSWindows}
```

28.3 UNIX, LINUX, and MAC OS

`\OSPathSymbol` Symbol used to separate directories in a path.

```
1048 \newcommand*\OSPathSymbol{/}
```

28.4 MS-WINDOWS

For MS-WINDOWS:

`\LWR@setOSWindows` Set defaults for the MS-WINDOWS operating system. `lwarp` attempts to auto-detect the operating system, and the `OSWindows` option may also be used to force MS-WINDOWS compatibility.

```
1049 \newcommand*{\LWR@setOSWindows}
1050 {
1051 \booltrue{usingOSWindows}
1052 \renewcommand*{\OSPathSymbol}{\@backslashchar}
1053 \def\LWRopquote{"}
1054 \def\LWRopseq{\space\LWRamp\space\space}
1055 }
```

Test for windows during compile. The user may also specify `OSWindows` package option in case this test fails.

```
1056 \ifwindows
1057 \LWR@setOSWindows
1058 \fi
```

29 Package options

`Pkg kvoptions` Allows key/value package options.

```
1059 \RequirePackage{kvoptions}
1060 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

`\lwarpssetup` A user interface to set the keys:

```
1061 \newcommand{\lwarpssetup}[1]{\setkeys{LWR}{#1}}
```

`Bool warpingprint`

`Bool warpingHTML`

`Bool mathjax`

`Bool LWR@origmathjax`

Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsvg/mathjax.

`LWR@origmathjax` remembers the original setting to be restored by `\displaymathnormal`.

```
1062 \newbool{warpingprint}
1063 \newbool{warpingHTML}
1064 \newbool{mathjax}
1065 \newbool{LWR@origmathjax}
```

defaults The default is print output, and svg math if the user chose HTML output.

```

1066 \booltrue{warpingprint}%
1067 \boolfalse{warpingHTML}%
1068 \boolfalse{mathjax}%

```

Opt warpprint If the warpprint option is given, boolean warpingprint is true and boolean warpingHTML is false, and may be used for \ifbool tests.

```

1069 \DeclareVoidOption{warpprint}{%
1070   \PackageInfo{lwarp}{Using option 'warpprint'}
1071   \booltrue{warpingprint}%
1072   \boolfalse{warpingHTML}%
1073 }

```

Opt warpHTML Anything in the warpHTML environment will be generated for HTML output only.

Opt warpHTML If the warpHTML option is given, boolean warpingHTML is true and boolean warpingprint is false, and may be used for \ifbool tests.

```

1074 \DeclareVoidOption{warpHTML}{%
1075   \PackageInfo{lwarp}{Using option 'warpHTML'}
1076   \booltrue{warpingHTML}%
1077   \boolfalse{warpingprint}%
1078 }

```

Opt mathsvg Option mathsvg selects SVG math display: If the mathsvg option is given, boolean mathjax is false, and may be used for \ifbool tests.

```

1079 \DeclareVoidOption{mathsvg}{%
1080   \PackageInfo{lwarp}{Using option 'mathsvg'}
1081   \boolfalse{mathjax}%
1082   \boolfalse{LWR@origmathjax}%
1083 }

```

Opt mathjax Option mathjax selects MATHJAX math display: If the mathjax option is given, boolean mathjax is true, may be used for \ifbool tests.

```

1084 \DeclareVoidOption{mathjax}{%
1085   \PackageInfo{lwarp}{Using option 'mathjax'}
1086   \booltrue{mathjax}%
1087   \booltrue{LWR@origmathjax}%
1088 }

```

Opt BaseJobname Option BaseJobname sets the \BaseJobname for this document.

Default: \jobname

This is the \jobname of the printed version, even if currently compiling the HTML version. I.e. this is the \jobname without _html appended. This is used to set \HomeHTMLFilename if the user did not provide one.

```

1089 \DeclareStringOption[\jobname]{BaseJobname}

```

- Opt `ImagesDirectory` Option `ImagesDirectory` sets the name of the directory to use for the `lateximage` images.
 Default: `\jobname-images`
- ```
1090 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}
```
- Opt `ImagesName` Option `ImagesName` sets the prefix to use for the `lateximage` images.  
 Default: `image-`
- ```
1091 \DeclareStringOption[image-]{ImagesName}
```
- Opt `makeindexStyle` Selects a custom `.ist` file. A customized file should be based on `lwarp.ist`. See section 8.6.20.
 Default: `lwarp.ist`
- ```
1092 \DeclareStringOption[lwarp.ist]{makeindexStyle}
```
- Opt `xindyStyle` Selects a custom `.xdy` file. A customized file should be based on `lwarp.xdy`. See section 8.6.21.  
 Default: `lwarp.xdy`
- ```
1093 \DeclareStringOption[lwarp.xdy]{xindyStyle}
```
- Opt `xindyLanguage` Sets the *xindy* language to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index and glossary.
 Default: `english`
- ```
1094 \DeclareStringOption[english]{xindyLanguage}
```
- Opt `xindyCodepage` Sets the *xindy* codepage to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index.  
 Default: `utf8`
- ```
1095 \DeclareStringOption[utf8]{xindyCodepage}
```
- Opt `xindexConfig` Selects a custom `xindex-*.lua` file. A customized file should be based on `xindex-cfg.lua`. See section 8.6.22.
 Default: `<empty>`
- ```
1096 \DeclareStringOption[]{xindexConfig}
```
- Opt `pdftotextEnc` The option `pdftotextEnc` sets the encoding used by *pdftotext*. This is passed to *pdftotext* using its `-enc` option, and is used when converting L<sup>A</sup>T<sub>E</sub>X PDF output with HTML tags into a plain-text file with HTML tags.  
 Default: `UTF-8`
- ```
1097 \DeclareStringOption[UTF-8]{pdftotextEnc}
```
- Opt `lwarpmk` Tells `lwarp` to generate a local copy of *lwarpmk* called `lwarpmk.lua`. Useful for archiving for future use. This file may be made executable and acts just like *lwarpmk*.
- If `lwarpmk` option, creates a local copy of `lwarpmk.lua`:
- ```
1098 \newbool{LWR@creatinglwarpmk}
1099 \boolfalse{LWR@creatinglwarpmk}
1100
1101 \DeclareVoidOption{lwarpmk}{
1102 \PackageInfo{lwarp}{Using option 'lwarpmk'}
1103 \booltrue{LWR@creatinglwarpmk}
1104 }
```



Opt OSWindows Tells `lwarp` to use MS-WINDOWS compatibility. Auto-detection of the operating system is attempted, and this option is only necessary if the auto-detection fails. See the automatically-generated `lwarpmk.conf` file to find out whether the operating system was detected correctly.

```
1105 \DeclareVoidOption{OSWindows}{
1106 \PackageInfo{l warp}{Using option 'OSWindows'}
1107 \LWR@setOSWindows
1108 }
```

Opt HomeHTMLFilename The filename of the homepage. The default is the jobname. This option is stored into `\LWR@HomeHTMLFilename`, and later transferred into `\HomeHTMLFilename` for internal use.

Default: `\BaseJobname`

```
1109 \DeclareStringOption[]{HomeHTMLFilename}
```

Opt HTMLFilename The filename prefix of web pages after the homepage. The default is empty, no prefix. This option is stored into `\LWR@HTMLFilename`, and later transferred into `\HTMLFilename` for internal use.

Default: `<empty>`

```
1110 \DeclareStringOption[]{HTMLFilename}
```

Opt PrintLatexCmd The shell commands to use to compile the print document.

Default: `<automatic>`

```
1111 \DeclareStringOption[]{PrintLatexCmd}
```

Opt HTMLLatexCmd The shell commands to use to compile the HTML document.

Default: `<automatic>`

```
1112 \DeclareStringOption[]{HTMLLatexCmd}
```

Opt PrintIndexCmd The shell commands to use to compile the print indexes.

Default: `<empty>`

```
1113 \DeclareStringOption[]{PrintIndexCmd}
```

Opt HTMLIndexCmd The shell commands to use to compile the HTML indexes.

Default: `<empty>`

```
1114 \DeclareStringOption[]{HTMLIndexCmd}
```

Opt LatexmkIndexCmd The shell commands to be used by `latexmk` to compile the print indexes. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include the filename, which will be provided by `latexmk`.

Default: `<empty>`

```
1115 \DeclareStringOption[]{LatexmkIndexCmd}
```

Opt makeindex Tells `lwarp` to use `makeindex` for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for `makeindex` with a single index file.

```
1116 \DeclareBoolOption[false]{makeindex}
```

Opt `xindy` Tells `lwarp` to use *xindy* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *xindy* with a single index file.

```
1117 \DeclareBoolOption[false]{xindy}
```

Opt `xindex` Tells `lwarp` to use *xindex* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *xindex* with a single index file.

```
1118 \DeclareBoolOption[false]{xindex}
```

Opt `IndexRef` Tells `lwarp` how to display the index entries in HTML output. See section 7.5.

Default: `cref`

```
1119 \DeclareStringOption[cref]{IndexRef}
```

Opt `GlossaryCmd` The shell command to use to compile the glossary. The print or HTML version of the glossary filename will be appended to this command.

Default: `makeglossaries`

```
1120 \DeclareStringOption[makeglossaries]{GlossaryCmd}
```

Opt `latexmk` Option `latexmk` tells *lwarpmk* to use *latexmk* when compiling documents.

```
1121 \DeclareBoolOption[false]{latexmk}
```

Opt `dvips` Option `dvips` tells *lwarpmk* to use *dvips* when compiling DVI *latex* documents.

```
1122 \DeclareBoolOption[false]{dvips}
```

Opt `dvipdfm` Option `dvipdfm` tells *lwarpmk* to use *dvipdfm* when compiling DVI *latex* documents.

```
1123 \DeclareBoolOption[false]{dvipdfm}
```

Opt `dvipdfmx` Option `dvipdfmx` tells *lwarpmk* to use *dvipdfmx* when compiling DVI *latex* documents.

```
1124 \DeclareBoolOption[false]{dvipdfmx}
```

[Execute options](#) Execute the package options, with the defaults which have been set just above:

```
1125 \ProcessKeyvalOptions*\relax
```

## 29.1 Additional options support

Assign the `\BaseJobname` if the user hasn't provided one:

```
1126 \providecommand*\BaseJobname{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```

1127 \ifcsemtyp{LWR@HomeHTMLFilename}{
1128 \newcommand*{\HomeHTMLFilename}{\BaseJobname}
1129 }{
1130 \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}
1131 }
1132
1133 \csedef{HTMLFilename}{\LWR@HTMLFilename}

```

Special handling for underscores in labels and filenames.

`\LWR@sanitized` The sanitized version of what was given to `\LWR@sanitize`. Characters are set to their detokenized versions. Required for underscores in labels and filenames.

```
1134 \newcommand*{\LWR@sanitized}{}

```

`\LWR@sanitize` `{<text>}`

Sanitizes the text and returns the result in `\LWR@sanitized`.

```

1135 \newcommand*{\LWR@sanitize}[1]{%
1136 \edef\LWR@sanitized{#1}%
1137 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
1138 }

```

Sanitize some string options to neutralize underscores.

```

1139 \LWR@sanitize{\LWR@BaseJobname}
1140 \edef\LWR@BaseJobname{\LWR@sanitized}
1141
1142 \LWR@sanitize{\LWR@ImagesDirectory}
1143 \edef\LWR@ImagesDirectory{\LWR@sanitized}
1144
1145 \LWR@sanitize{\LWR@ImagesName}
1146 \edef\LWR@ImagesName{\LWR@sanitized}

```

`\LWR@PrintIndexCmd` and `\LWR@HTMLIndexCmd` are tested to see if they are empty. If so, they are set to a reasonable defaults for a single index using *makeindex*, then possibly set to defaults for *xindy* if the `lwarp xindy` option was selected, then likewise for *xindex* if the `xindex` option was selected.

```

1147 \ifdefempty{\LWR@PrintIndexCmd}{
1148 \renewcommand{\LWR@PrintIndexCmd}{%
1149 makeindex -s \LWR@makeindexStyle \space \jobname.idx%
1150 }
1151 \ifbool{LWR@xindy}{
1152 \renewcommand{\LWR@PrintIndexCmd}{%
1153 xindy
1154 -M \LWR@xindyStyle \space
1155 -L \LWR@xindyLanguage \space
1156 -C \LWR@xindyCodepage \space
1157 \jobname.idx%
1158 }

```

```
1159 }{}
1160 \ifbool{LWR@index}{
1161 \ifdefvoid{\LWR@indexConfig}{
1162 \renewcommand{\LWR@PrintIndexCmd}{%
1163 xindex
1164 \jobname.idx%
1165 }
1166 }{
1167 \renewcommand{\LWR@PrintIndexCmd}{%
1168 xindex
1169 -c \LWR@indexConfig \space
1170 \jobname.idx%
1171 }
1172 }
1173 }{}
1174 }{}
1175
1176 \ifdefempty{\LWR@HTMLIndexCmd}{
1177 \renewcommand{\LWR@HTMLIndexCmd}{%
1178 makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
1179 }
1180 \ifbool{LWR@xindy}{
1181 \renewcommand{\LWR@HTMLIndexCmd}{%
1182 xindy
1183 -M \LWR@xindyStyle \space
1184 -L \LWR@xindyLanguage \space
1185 -C \LWR@xindyCodepage \space
1186 \jobname_html.idx%
1187 }
1188 }{}
1189 \ifbool{LWR@index}{
1190 \ifdefvoid{\LWR@indexConfig}{
1191 \renewcommand{\LWR@HTMLIndexCmd}{%
1192 xindex
1193 \jobname_html.idx%
1194 }
1195 }{
1196 \renewcommand{\LWR@HTMLIndexCmd}{%
1197 xindex
1198 -c \LWR@indexConfig \space
1199 \jobname_html.idx%
1200 }
1201 }
1202 }{}
1203 }{}
1204
1205 \ifdefempty{\LWR@LatexmkIndexCmd}{
1206 \renewcommand{\LWR@LatexmkIndexCmd}{%
1207 makeindex -s \LWR@makeindexStyle%
1208 }
1209 \ifbool{LWR@xindy}{
1210 \renewcommand{\LWR@LatexmkIndexCmd}{%
1211 xindy
1212 -M \LWR@xindyStyle \space
1213 -L \LWR@xindyLanguage \space
```

```

1214 -C \LWR@xindyCodepage%
1215 }
1216 }{}
1217 \ifbool{LWR@xindex}{
1218 \ifdefvoid{LWR@indexConfig}{
1219 \renewcommand{LWR@LatexmkIndexCmd}{%
1220 xindex
1221 }
1222 }{
1223 \renewcommand{LWR@LatexmkIndexCmd}{%
1224 xindex
1225 -c \LWR@indexConfig
1226 }
1227 }
1228 }{}
1229 }{}

```

## 29.2 Conditional compilation

`\warpprintonly` {<contents>}

Only process the contents if producing printed output.

```
1230 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}}
```

`\warpHTMLonly` {<contents>}

Only process the contents if producing HTML output.

```
1231 \newcommand{\warpHTMLonly}[1]{\ifbool{warpingHTML}{#1}{}}
```

`Pkg comment` Provides conditional code blocks.

Attempts to use `versions` or `verbatim` fail in some cases, and do not provide much of a speed benefit even when they do work.

```
1232 \RequirePackage{comment}
```

`\LWR@includecomment` {<env name>} {<partial filename>}

`\LWR@excludecomment` {<env name>} {<partial filename>}

Use many comment cut files to avoid collision in case the user uses the comment package. Each filename is “comment\_#2.cut”. Based on the comment package.

```

1233 \def\LWR@includecomment
1234 #1#2{\message{Lwarp: Including comment '#1'}%
1235 \csarg\def{After#1Comment}{%
1236 \CloseAndInputCutFile%
1237 \csundef{LWR@#1commentused}%

```

```

1238 }
1239 \csarg\def{#1}{%
1240 \endgroup
1241 \ifcsdef{LWR@#1commentused}{
1242 \PackageError{lwarp}%
1243 {Nested #1 environment}%
1244 {%
1245 Environment #1 cannot be nested.\MessageBreak
1246 This can happen when a package is loaded
1247 from inside a\MessageBreak
1248 #1 environment.%
1249 }%
1250 }{\relax}
1251 \csdef{LWR@#1commentused}{}
1252 \message{Including '#1' comment.}%
1253 \def\CommentCutFile{comment_#2.cut}
1254 \SetUpCutFile
1255 \ProcessComment{#1}
1256 }%
1257 \CommentEndDef{#1}
1258 }
1259
1260 \def\LWR@excludecomment
1261 #1#2{\message{Lwarp: Excluding comment '#1'}%
1262 \csarg\def{#1}{
1263 \endgroup
1264 \message{Excluding '#1' comment.}%
1265 \begingroup
1266 \def\CommentCutFile{comment_#2.cut}
1267 \def\ProcessCutFile{}%
1268 \def\ThisComment####1{}%
1269 \ProcessComment{#1}
1270 }%
1271 \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}
1272 \CommentEndDef{#1}}

```

Env `warpall` Anything in the `warpall` environment will be generated for print or HTML outputs.

```
1273 \LWR@includecomment{warpall}{all}
```

Env `warpHTML` For HTML output:

```

1274 \ifbool{warpingHTML}
1275 {\LWR@includecomment{warpHTML}{html}}
1276 {\LWR@excludecomment{warpHTML}{html}}

```

Env `warpprint` Anything in the `warpprint` environment will be generated for print output only.

```

1277 \ifbool{warpingprint}
1278 {\LWR@includecomment{warpprint}{print}}
1279 {\LWR@excludecomment{warpprint}{print}}

```

Env `warpMathJax` Only if MATHJAX is being used along with HTML.

```
1280 \begin{warpprint}
1281 \LWR@excludecomment{warpMathJax}{mathjax}
1282 \end{warpprint}
1283
1284 \begin{warpHTML}
1285 \ifbool{mathjax}
1286 {\LWR@includecomment{warpMathJax}{mathjax}}
1287 {\LWR@excludecomment{warpMathJax}{mathjax}}
1288 \end{warpHTML}
```

Env `warpsvg` Only if SVG math is being used along with HTML, or in print mode.

```
1289 \begin{warpprint}
1290 \LWR@includecomment{warpsvg}{mathsvg}
1291 \end{warpprint}
1292
1293 \begin{warpHTML}
1294 \ifbool{mathjax}
1295 {\LWR@excludecomment{warpsvg}{mathsvg}}
1296 {\LWR@includecomment{warpsvg}{mathsvg}}
1297 \end{warpHTML}
```

Env `LWRcreatelwarpmk` Optionally generate a local copy of *lwarpmk*. Default to no.

```
1298 \ifbool{LWR@creatinglwarpmk}
1299 {\LWR@includecomment{LWRcreatelwarpmk}{lwarpmk}}
1300 {\LWR@excludecomment{LWRcreatelwarpmk}{lwarpmk}}
```

## 30 Required packages

These packages are automatically loaded by `lwarp` when generating HTML output. Some of them are also automatically loaded when generating print output, but some are not.

**for HTML output:** 1301 `\begin{warpHTML}`

Pkg `fontspec` Load `fontspec` if necessary:

```
1302 \ifxetexorluatex
1303 \@ifpackageloaded{fontspec}{}{
1304 \usepackage[no-math]{fontspec}
1305 }
```

The monospaced font is used for HTML tags, so turn off its TeX ligatures and common ligatures:

```
1306 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1307 \defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
```

```
1308 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1309 \else
```

*pdf<sub>l</sub>atex* only: Only pre-loaded if *pdf<sub>l</sub>atex* is being used.

Pkg microtype

**ligatures** Older browsers don't display ligatures. Turn off letter ligatures, keeping L<sup>A</sup>T<sub>E</sub>X dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```
1310 \RequirePackage {microtype}
1311
1312 \microtypesetup{
1313 protrusion=false,
1314 expansion=false,
1315 tracking=false,
1316 kerning=false,
1317 spacing=false}
1318 % \begin{macrocode}
1319 %
1320 % Disable ligatures for typewriter fonts.
1321 % The comma was causing issues with \brand{MathJax} and \cs{,} followed by a comma.
1322 % Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but
1323 % are now allowed.
1324 % \changes{v0.89}{2020/08/01}{Disable typewriter ligatures.}
1325 % ^^A \DisableLigatures[,{,}f,q,t,T,Q]{encoding = *,family = *}% previous
1326 % \begin{macrocode}
1327 \DisableLigatures{encoding = *,family = tt*}

1328 \fi

1329 \end{warpHTML}
```

Pkg geometry Tactics to avoid unwanted page breaks and margin overflow:

- Uses a very long and wide page to minimize page breaks and margin overflow.
- Uses a scriptsize font.
- Uses extra space at the margin to avoid HTML tag overflow off the page.
- Forces a new PDF page before some environments.
- Forces line break between major pieces of long tags.

**for HTML output:** 1330 \begin{warpHTML}

If **geometry** has not yet been loaded, use the preexisting page and text sizes to be preserved for later reuse. These will be replaced by `lwarp \AtBeginDocument` with a very large page size to reduce HTML tag overflow off the page.

```
1331 \@ifpackageloaded{geometry}
1332 {}{
```



```

1333 \RequirePackage[
1334 reset,
1335 paperwidth=\paperwidth,
1336 paperheight=\paperheight,
1337 textwidth=\textwidth,
1338 textheight=\textheight,
1339 left=\oddsidemargin,
1340 top=\topmargin,
1341 marginparsep=\marginparsep,
1342 marginparwidth=\marginparwidth,
1343]{geometry}
1344 }

```

Remember the original definitions for later reuse. If the `geometry` package is loaded by the user, `lwarp-geometry` will nullify the user-level originals.

```

1345 \LetLtxMacro\LWR@origgeometry\geometry
1346 \LetLtxMacro\LWR@originewgeometry\newgeometry
1347 \LetLtxMacro\LWR@origrestoregeometry\restoregeometry
1348 \LetLtxMacro\LWR@origsavegeometry\savegeometry
1349 \LetLtxMacro\LWR@origloadgeometry\loadgeometry

```

`Bool LWR@allowanothergeometry` `geometry` may be loaded by the user before `lwarp`, after `lwarp`, or not at all. If before `lwarp`, it will have already been loaded by now and its page layout has already been saved. If `geometry` is loaded after `lwarp`, its layout will be set at that time and the user macros nullified. `\AtEndPreamble` this layout will be saved. If the user never loads `geometry`, `lwarp-geometry` will be loaded `\AtBeginDocument`, but it should not change the page layout set here. This is controlled by the boolean `LWR@allowanothergeometry`. Geometry may be adjusted throughout the preamble until `\AtEndPreamble`, when this boolean is set false.

```

1350 \newbool{LWR@allowanothergeometry}
1351 \booltrue{LWR@allowanothergeometry}

```

Use `\AtEndPreamble` to avoid class and option conflict by changing settings after other packages load, instead of using `geometry` package options:

```

1352 \AtEndPreamble{

```

Whatever `geometry` choices the user has made in the preamble, either before or after `lwarp` was loaded, are now saved for possible temporary reuse, such as by `lylualatex`.

See the `lwarp-geometry` section for what happens if `geometry` is loaded after `lwarp`.

```

1353 \LWR@origsavegeometry{LWR@usergeometry}

```

The user's paper size is saved for later reuse, such as by the `pdfpages` or `parallel` packages.

```

1354 \newlength{\LWR@userspaperwidth}
1355 \setlength{\LWR@userspaperwidth}{\paperwidth}
1356
1357 \newlength{\LWR@userspaperheight}

```

```

1358 \setlength{\LWR@userspaperheight}{\paperheight}
1359
1360 \newlength{\LWR@usersmarginparwidth}
1361 \setlength{\LWR@usersmarginparwidth}{\marginparwidth}
1362
1363 \newlength{\LWR@userstextwidth}
1364 \setlength{\LWR@userstextwidth}{\textwidth}
1365
1366 \newlength{\LWR@userstextheight}
1367 \setlength{\LWR@userstextwidth}{\textheight}

```

For `lwarp`, use a very large page and margins to help avoid letting HTML tags run off the edge:

```

1368 \LWR@origgeometry{
1369 reset,
1370 paperheight=190in,
1371 paperwidth=20in,
1372 left=2in,
1373 right=6in,
1374 top=1in,
1375 bottom=1in,
1376 heightrounded,%
1377 }

```

The `lwarp` page geometry is saved for future restore:

```
1378 \LWR@origsavegeometry{\LWR@lwarpgeometry}
```

No longer adjust the page layout when `lwarp-geometry` is loaded `\AtBeginDocument`:

```
1379 \boolfalse{\LWR@allowanothergeometry}%
```

`ltjsbook` and other classes can print vertically, and require these to be reset by `lwarp`:

```

1380 \setlength{\textheight}{0.8\paperheight}
1381 \setlength{\textwidth}{0.7\paperwidth}
1382
1383 \@twosidefalse
1384 \@mparswitchfalse
1385 }% \AtEndPreamble
1386
1387 \end{warpHTML}

```

**for HTML & PRINT:** 1388 \begin{warpall}

Pkg xparse

L<sup>A</sup>T<sub>E</sub>X3 command argument parsing

```
1389 \RequirePackage{xparse}
```

Pkg calc

```
1390 \RequirePackage{calc}
```

```
1391 \end{warpall}
```

**for HTML output:** 1392 \begin{warpHTML}

Pkg expl3

L<sup>A</sup>T<sub>E</sub>X3 programming

```
1393 \RequirePackage{expl3}
```

Pkg gettitlestring

Used to emulate \nameref.

```
1394 \RequirePackage{gettitlestring}
```

Pkg everyhook

everyhook is used to patch paragraph handling.

```
1395 \@ifundefined{bxjs@everypar}{}{\let\everypar\bxjs@everypar}
```

```
1396
```

```
1397 \RequirePackage{everyhook}
```

```
1398 \end{warpHTML}
```

**for HTML & PRINT:** 1399 \begin{warpall}

Pkg filecontents

Used to write helper files while creating the print version.

Recent versions of L<sup>A</sup>T<sub>E</sub>X (as of Fall 2019) now include the functionality of the filecontents package, but with a new optional argument used to specify whether to force the overwriting of an existing file. If an older L<sup>A</sup>T<sub>E</sub>X kernel is used, the original filecontents package is used, but it is patched to throw away the new optional argument.

```
1400 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args
```

```
1401
```

```
1402 \RequirePackage{filecontents}
```

```
1403
```

```
1404 \LetLtxMacro\LWR@orig@filec@ntents\filec@ntents
```

```
1405
```

```
1406 \@ifpackagelater{filecontents}{2011/10/08}
```

```
1407 {
```

For a newer version of the filecontents package, simply discard the optional argument.

```
1408 \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]
```

```
1409 }
```

```
1410 {% patch older package for morewrites
```

For an older version of filecontents, discard the optional argument, and also patch to work with morewrites, per <https://tex.stackexchange.com/questions/312830/does-morewrites-not-support-filecontents-and-can-i-write-body-of-environment-us/312910>

```

1411 \newwrite\fcwrite
1412 \renewcommand*\filec@ntents}[1][]{%
1413 \def\chardef##1\write{\let\reserved@c\fcwrite}%
1414 \LWR@orig@filec@ntents%
1415 }
1416 }
1417
1418]% older kernel
1419 {% newer kernel

```

For a newer kernel with a filecontents environment which accepts the optional overwrite argument, use the environment as-is.

```

1420]% newer kernel, filecontents env accepts optional args, do not load package
1421 \end{warpall}

```

**for HTML output:** 1422 \begin{warpHTML}

Pkg xifthen

```
1423 \RequirePackage{xifthen}
```

Pkg verbatim

```
1424 \RequirePackage{verbatim}
```

Pkg refcount

Provides \setcounterref, \setcounterpageref, etc.

```
1425 \RequirePackage{refcount}
```

Pkg newfloat

```
1426 \RequirePackage{newfloat}
```

```
1427 \end{warpHTML}
```

**for HTML & PRINT:** 1428 \begin{warpall}

Pkg xstring There was a short-term bug in xstring regarding \IfInteger which affected lwarp's index generation. The updated version is requested here.

 **index**

```
1429 \RequirePackage{xstring}[2019/02/01]
```

Pkg environ Used to encapsulate math environments for re-use in HTML <alt> text.

```
1430 \RequirePackage{environ}
```

```
1431 \end{warpall}
```

**for HTML output:** 1432 \begin{warpHTML}

Pkg printlen Used to convert lengths for image width/height options.

```
1433 \RequirePackage{printlen}
```

\LWR@printlength {*<length>*}

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.

```
1434 \newrobustcmd*\LWR@printlength}[1]{%
1435 \begingroup%
1436 \uselengthunit{PT}%
1437 \renewcommand*\unitspace{}%
1438 \ifdimless{#1}{10pt}{%
1439 \printlength{#1}%
1440 }{%
1441 \rndprintlength{#1}%
1442 }%
1443 \endgroup%
1444 }
```

```
1445 \end{warpHTML}
```

**for PRINT output:** 1446 \begin{warpprint}

Pkg varwidth Used for print-mode lateximage.

```
1447 \RequirePackage{varwidth}
```

```
1448 \end{warpprint}
```

## 31 Loading packages

\RequirePackage and \usepackage are modified to error-check for certain packages, and for HTML they load the lwarp- version if it exists.

**for HTML & PRINT:** 1449 \begin{warpall}

Remember the original \RequirePackage:

```
1450 \LetLtxMacro\LWR@origRequirePackage\RequirePackage
1451 \LetLtxMacro\LWR@origRequirePackageWithOptions\RequirePackageWithOptions
```

`\LWR@requirepackagenames` Stores the list of required package names.

```
1452 \newcommand*\LWR@requirepackagenames{}
```

`\LWR@parsedrequirepackagenames` Stores the parsed list of required package names after spaces are removed and `lwarp-` is prepended.

```
1453 \newcommand*\LWR@parsedrequirepackagenames{}
```

`\LWR@nullifycomment` Remove the preexisting comment environment. Certain packages define it for their own use.

```
1454 \newcommand*\LWR@nullifycomment{%
1455 \PackageInfo{lwarp}%
1456 {Nullifying the comment environment before loading \LWR@strresulttwo,}%
1457 \let\comment\relax%
1458 \let\endcomment\relax%
1459 }
```

`\LWR@findword` [*1: separator*] [*2: list*] [*3: index*] [*4: destination*]

Note that argument 4 is passed directly to `\StrBetween`.

```
1460 \newcommand*\LWR@findword[3][,]{%
1461 \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1462 }
```

`\LWR@checkloadnever` {*bad package name*} {*replacement package names*}

From now on, check for incompatible packages loaded via `\usepackage`, instead of packages loaded before `lwarp`:

```
1463 \LetLtxMacro\LWR@checkloadnever\LWR@afterloadnever
```

`\LWR@checkloadfilename` {*filename*} Checks if this filename should be loaded after `lwarp`, or never at all.

```
1464 \newcommand*\LWR@checkloadfilename[1]{%
```

Remember the package name to compare with, to be used by `\LWR@checkloadnever` and `\LWR@checkloadbefore`.

```
1465 \edef\LWR@tempone{#1}%
```

Check against the list of packages which should never be loaded:

```
1466 \LWR@checkloadnevers
```

The following should only be loaded before `lwarp`:

```

1467 \LWR@checkloadbefore{ctex}
1468 \LWR@checkloadbefore{fontspec}
1469 \LWR@checkloadbefore{inputenc}
1470 \LWR@checkloadbefore{inputenx}
1471 \LWR@checkloadbefore{nfssexp-cfr}
1472 \LWR@checkloadbefore{fontaxes}
1473 \LWR@checkloadbefore{kotex}
1474 \LWR@checkloadbefore{kpfonts}% textcomp option clash
1475 \LWR@checkloadbefore{luatexja}
1476 \LWR@checkloadbefore{luatexja-fontspec}
1477 \LWR@checkloadbefore{luatexko}
1478 \LWR@checkloadbefore{morewrites}
1479 \LWR@checkloadbefore{newclude}
1480 \LWR@checkloadbefore{newunicodechar}
1481 \LWR@checkloadbefore{plex}
1482 \LWR@checkloadbefore{xCJK}
1483 \LWR@checkloadbefore{xetexko}
1484 \LWR@checkloadbefore{zxjatype}
1485 }

```

`\LWR@lookforpackagename`  $\{ \langle index \rangle \}$

If HTML, and if this is an lwarp-supported package name, re-direct it to the lwarp version by renaming it `lwarp-` followed by the original name.

Looks index deep into the list of package names, `\LWR@requirepackagename`s, and builds `\LWR@parsedrequirepackagename`s which is the modified list of names.

```
1486 \newcommand*{\LWR@lookforpackagename}[1]{%
```

Find the index'th package name from the list:

```
1487 \LWR@findword{\LWR@requirepackagename}{#1}[\LWR@strresult]%
```

Remove blanks. The original name with blanks is in `LWR@strresult` and the final name with no blanks goes into `LWR@strresulttwo`.

```
1488 \StrSubstitute[100]{\LWR@strresult}{ }{\LWR@strresulttwo}%
```

See if the package name was found:

```
1489 \IfStrEq{\LWR@strresulttwo}{}%
```

```
1490 {}% no filename
```

```
1491 {% yes filename was found
```

Possible adjustments before loading the package. Maybe nullify the comment environment if the new package will be redefining it for a new purpose.

```
1492 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
```

```
1493 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%
```

If HTML, check if the package should be loaded before lwarp, or never at all:

```
1494 \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{%
```

If HTML, and if found, and if an lwarp-equivalent name exists, use lwarp-\* instead.

```

1495 \ifboolexpr{
1496 bool{warpingHTML} and
1497 test{\IfFileExists{lwarp-\LWR@strresulttwo.sty}}
1498 }%
1499 {% lwarp-* file found
1500 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1501 \edef\LWR@parsedrequirepackagenames{lwarp-\LWR@strresulttwo}%
1502 }{%
1503 \edef\LWR@parsedrequirepackagenames{%
1504 \LWR@parsedrequirepackagenames,lwarp-\LWR@strresulttwo%
1505 }%
1506 }%
1507 }%
1508 {%

```

Otherwise, use the current package name.

```

1509 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1510 \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1511 }{%
1512 \edef\LWR@parsedrequirepackagenames{%
1513 \LWR@parsedrequirepackagenames,\LWR@strresulttwo%
1514 }%
1515 }%
1516 }% no lwarp-* file
1517 }% yes filename
1518 }

```

`\RequirePackage` [*<1: options>*] [*<2: package names>*] [*<3: version>*]

For each of many package names in a comma-separated list, if an lwarp version of a package exists, select it instead of the L<sup>A</sup>T<sub>E</sub>X version.

```

1519 \RenewDocumentCommand{\RequirePackage}{o m o}{%

```

Redirect up to twenty names:<sup>17</sup>

```

1520 \renewcommand*{\LWR@requirepackagenames}{#2}%
1521 \renewcommand*{\LWR@parsedrequirepackagenames}{}%
1522 \LWR@lookforpackagename{1}%
1523 \LWR@lookforpackagename{2}%
1524 \LWR@lookforpackagename{3}%
1525 \LWR@lookforpackagename{4}%
1526 \LWR@lookforpackagename{5}%
1527 \LWR@lookforpackagename{6}%
1528 \LWR@lookforpackagename{7}%
1529 \LWR@lookforpackagename{8}%
1530 \LWR@lookforpackagename{9}%
1531 \LWR@lookforpackagename{10}%
1532 \LWR@lookforpackagename{11}%

```

<sup>17</sup>This was originally nine names, but then I came across a package which used twelve...



```

1533 \LWR@Lookforpackagename{12}%
1534 \LWR@Lookforpackagename{13}%
1535 \LWR@Lookforpackagename{14}%
1536 \LWR@Lookforpackagename{15}%
1537 \LWR@Lookforpackagename{16}%
1538 \LWR@Lookforpackagename{17}%
1539 \LWR@Lookforpackagename{18}%
1540 \LWR@Lookforpackagename{19}%
1541 \LWR@Lookforpackagename{20}%

```

Error if braces are used in optional argument. This can cause an error, so tell how to avoid.

```

1542 \IfSubStr{\detokenize\expandafter{#1}}{\LWRleftbrace}%
1543 {%
1544 \PackageError{lwarp}{%
1545 You used:\MessageBreak
1546 \protect\usepackage[#1]{#2}\MessageBreak
1547 Braces in the package options will fail with Lwarp.\MessageBreak
1548 Instead, use:\MessageBreak
1549 \protect\PassOptionsToPackage{#1}{#2}\MessageBreak
1550 \protect\usepackage{#2}\MessageBreak
1551 near the line number given below.\MessageBreak
1552 Enter 'h' for more info%
1553 }%
1554 {%
1555 See the Lwarp manual troubleshooting index entry for\MessageBreak
1556 ‘‘package, options with braces’’%
1557 }%
1558 }%
1559 {}% no brace

```

\RequirePackage depending on the options and version:

```

1560 \IfValueTF{#1}%
1561 {% options given
1562 \IfValueTF{#3}% version given?
1563 {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}[#3]}%
1564 {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}}%
1565 }%
1566 {% no options given
1567 \IfValueTF{#3}% version given?
1568 {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}[#3]}%
1569 {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}}%
1570 }%
1571 }
1572 \LetLtxMacro\usepackage\RequirePackage
1573 \@onlypreamble\RequirePackage
1574 \@onlypreamble\usepackage

1575 \end{warpall}

```

for HTML output: 1576 \begin{warpHTML}

`\LWR@ProvidesPackagePass` {<pkgname>} [<version>]

Uses the original package, including options.

```

1577 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{
1578 \PackageInfo{lwarp}{%
1579 Using package ‘#1’,\MessageBreak
1580 and adding lwarp modifications, including options,\MessageBreak%
1581 }%
1582 \IfValueTF{#2}%
1583 {\ProvidesPackage{lwarp-#1}[#2]}%
1584 {\ProvidesPackage{lwarp-#1}}%
1585 \DeclareOption*{%
1586 \PassOptionsToPackage{\CurrentOption}{#1}%
1587 }%
1588 \ProcessOptions\relax%

```

If using `catoptions`, an error occurs if a package is loaded with an option then loaded again with no options. `lwarp` does this if a package is preloaded then later patched. To avoid an error while using `catoptions`, if a package has already been loaded, it is loaded again with its original options.

```

1589 \@ifpackageloaded{#1}{%
1590 \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1591 \IfValueTF{#2}%
1592 {%
1593 \expandafter\LWR@origRequirePackage%
1594 \expandafter[\LWR@tempone]{#1}[#2]%
1595 }%
1596 {%
1597 \expandafter\LWR@origRequirePackage%
1598 \expandafter[\LWR@tempone]{#1}%
1599 }%
1600 }{%
1601 \IfValueTF{#2}%
1602 {\LWR@origRequirePackage{#1}[#2]}%
1603 {\LWR@origRequirePackage{#1}}%
1604 }%

```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading `xcolor` with options.

```

1605 \DeclareOption*{%
1606 \ProcessOptions\relax%
1607 }

```

`\LWR@ProvidesPackageDropA` {<name>} {<date or -NoValue->}

Declares the package. Factored for reuse.

```

1608 \newcommand*\LWR@ProvidesPackageDropA}[2]{%
1609 \PackageInfo{lwarp}{%
1610 Replacing package ‘#1’ with the lwarp version,\MessageBreak
1611 and discarding options,%

```

```

1612 }%
1613 \IfValueTF{#2}
1614 {\ProvidesPackage{lwarp-#1}[#2]}
1615 {\ProvidesPackage{lwarp-#1}}
1616 }

```

`\LWR@ProvidesPackageDropB` Nullifies then processes the options.

Seems to be required when options contain curly braces, which were causing “Missing `\begin{document}`”.

```

1617 \newcommand*\LWR@ProvidesPackageDropB{%
1618 % \ProcessOptions\relax% original LaTeX code
1619 \let\ds@\empty% from the original \ProcessOptions
1620 \edef\@curroptions{% lwarp modification to \ProcessOptions
1621 \@processoptions\relax% from the original \ProcessOptions
1622 }

```

`\LWR@ProvidesPackageDrop` `{\langle pkgname \rangle} [\langle version \rangle]`

Ignores the original package and uses lwarp’s version instead. Drops/discards all options.

```

1623 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{

```

Declare the package:

```

1624 \LWR@ProvidesPackageDropA{#1}{#2}

```

Ignore all options:

```

1625 \DeclareOption*{}

```

Process the options:

```

1626 \LWR@ProvidesPackageDropB
1627 }

```

```

1628 \end{warpHTML}

```

## 32 File handles

Defines file handles for writes.

**for HTML & PRINT:** `1629 \begin{warppall}`

`\LWR@quickfile` For quick temporary use only. This is reused in several places.

```

1630 \newwrite\LWR@quickfile%

```

```
1631 \end{warpall}
```

**for HTML output:** 1632 \begin{warpHTML}

\LWR@lateximagesfile For <project>-images.txt:

```
1633 \newwrite\LWR@lateximagesfile
```

```
1634 \end{warpHTML}
```

### 33 Include a file

During HTML output, `\include{<filename>}` causes the following to occur:

1. `lwarp` creates `<filename>_html_inc.tex` whose contents are:
 

```
\input <filename>.tex
```
2. `<filename>_html_inc.tex` is then `\included` instead of `<filename>.tex`.
3. `<filename>_html_inc.aux` is automatically generated and used by L<sup>A</sup>T<sub>E</sub>X.

**for HTML output:** 1635 \begin{warpHTML}

`\@include {<filename>}` Modified to load `_html_inc` files.

(Below, `\clearpage` caused missing text, and was changed to `\newpage`.)

```
1636 \def\@include#1 {%
1637 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1638 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1639 \immediate\closeout\LWR@quickfile% lwarp
1640 \LWR@maybe@orignewpage% changed from clearpage
1641 \if@filesw
1642 \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1643 \fi
1644 \@tempswatruel
1645 \if@partsw
1646 \@tempswafalse
1647 \edef\reserved@a{#1}%
1648 \@for\reserved@a:=\@partlist\do
1649 {\ifx\reserved@a\reserved@b\@tempswatruel\fi}%
1650 \fi
1651 \if@tempswa
1652 \let\@auxout\@partaux
1653 \if@filesw
1654 \immediate\openout\@partaux #1_html_inc.aux % changed
1655 \immediate\write\@partaux{\relax}%
1656 \fi
1657 \@input@{#1_html_inc.tex}% changed
```

```

1658 \LWR@maybe@orignewpage% changed from clearpage
1659 \@writeckpt{#1}%
1660 \if@filesw
1661 \immediate\closeout\@partaux
1662 \fi
1663 \else
1664 \deadcycles\z@
1665 \@nameuse{cp@#1}%
1666 \fi
1667 \let\@auxout\@mainaux%
1668 }

1669 \end{warpHTML}

```

## 34 Copying a file

for HTML output: 1670 \begin{warpHTML}

\LWR@copyfile {<source filename>} {<destination filename>}

Used to copy the .toc file to .sidetoc to re-print the toc in the sideroc navigation pane.

```

1671 \newwrite\LWR@copyoutfile % open the file to write to
1672 \newread\LWR@copyinfile % open the file to read from
1673
1674 \newcommand*{\LWR@copyfile}[2]{%
1675 \LWR@traceinfo{LWR@copyfile: copying #1 to #2}
1676
1677 \immediate\openout\LWR@copyoutfile=#2
1678 \openin\LWR@copyinfile=#1
1679 \begingroup\endlinechar=-1
1680 \makeatletter
1681
1682 \LWR@traceinfo{LWR@copyfile: about to loop}
1683
1684 \loop\unless\ifeof\LWR@copyinfile
1685 \LWR@traceinfo{LWR@copyfile: one line}
1686 \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1687 % \LWR@fileline\par % print the content into the pdf
1688 % print the content:
1689 \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1690 \repeat
1691 \immediate\closeout\LWR@copyoutfile
1692 \LWR@traceinfo{LWR@copyfile: done}
1693 \endgroup
1694 }

1695 \end{warpHTML}

```

## 35 Debugging messages

**HTML comments** To have the HTML output include additional HTML comments, such as which `<div>` is closing, use

```
\booltrue{HTMLDebugComments}
```

**debugging information** To have debug information written to the log, use

```
\tracinglwarp
```

**for HTML & PRINT:** 1696 \begin{warpall}

Bool LWR@tracinglwarp True if tracing is turned on.

```
1697 \newbool{LWR@tracinglwarp}
```

`\tracinglwarp` Turns on the debug tracing messages.

```
1698 \newcommand{\tracinglwarp}{\booltrue{LWR@tracinglwarp}}
```

`\LWR@traceinfo` `{<text>}` If tracing is turned on, writes the text to the `.log` file.

```
1699 \newcommand{\LWR@traceinfo}[1]{%
1700 \ifbool{LWR@tracinglwarp}%
1701 {%
1702 \typeout{*** lwarp: #1}%
1703 }%
1704 {}%
1705 }
```

Bool HTMLDebugComments Add comments in HTML about closing `<div>`s, sections, etc.

Default: false

```
1706 \newbool{HTMLDebugComments}
1707 \boolfalse{HTMLDebugComments}
```

If `\tracinglwarp`, show where preamble hooks occur:

```
1708 \AfterEndPreamble{
1709 \LWR@traceinfo{AfterEndPreamble}
1710 }
1711
1712 \AtBeginDocument{
1713 \LWR@traceinfo{AtBeginDocument}
1714 }

1715 \end{warpall}
```

## 36 Defining print and HTML versions of macros and environments

The following refers to defining objects inside `lwarp`, and is not for the user's document.

Many macros and environments must be provided as both print and HTML versions.

While generating the print version of a document, the original macros as defined by  $\LaTeX$  and its packages are used as-is.

While generating the HTML version of a document, the original macro or environment is redefined to call a new HTML version or a copy of the original print version. The new HTML versions of macros and environments are used most of the time. Copies of the print versions are used inside a `lateximage` environment, which draws and remembers an image of the printed output, and also several other places.

The general structure for providing print and HTML versions of a macro or environment is as follows:

**For a preexisting macro, not defined with `xparse`:** An HTML version is provided with a special name, inside a `warpHTML` environment, then `\LWR@formatted` is used to redefine and patch various macros:

```
\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}% may also use xparse

\LWR@formatted{name}
\end{warpHTML}
```

`\LWR@formatted{name}` copies the original print version, then redefines `\name` to use either the print or HTML version depending on which mode `lwarp` is using. `xparse` may be used to define the new HTML version, even if the original did not use `xparse`. `expl3` syntax may be used as well.

**For a preexisting environment, not defined with `xparse`:** The process is similar. Note the use of `\LWR@formattedenv` instead of `\LWR@formatted`.

```
\begin{warpHTML}
\newenvironment{\LWR@HTML@name}{...}% may also use xparse

\LWR@formattedenv{name}
\end{warpHTML}
```

**If the original used `xparse`:** A copy must be made using a new name:

```

\begin{warpHTML}
\NewDocumentCommand{\LWR@print@name}{..}{..}% copy the original

\NewDocumentCommand{\LWR@HTML@name}{..}{..}% or use \newcommand

\LWR@formatted{name}
\end{warpHTML}

```

Similar for an environment, using `\LWR@formattedenv`. (`\LWR@formatted` and `\LWR@formattedenv` use `\LetLtxMacro` to copy the original print definition, which may not work with macros and environments created by `xparse`, so the print version must be manually recreated in the `lwarp` source.)

**For a new macro or environment, not using `xparse` for the print version:**

```

\begin{warpall}
\newcommand{\name}{...}% NOT xparse!
\end{warpall}

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}% may use xparse for HTML

\LWR@formatted{name}
\end{warpHTML}

```

Similar for an environment. The plain `\name` or environment name is used for the printed version, and is placed inside `warpall`. `xparse` may be used for the `\LWR@HTML@<name>` version. `expl3` syntax may be used for the print and HTML versions.

**For a new macro or environment, using `xparse`:** It is possible to use `xparse` for an entirely new macro or environment by defining the `\LWR@print@<name>` version with `xparse`, along with `\name` defined without `xparse` to refer directly to the `\LWR@print` version:

```

\begin{warpall}
\NewDocumentCommand{\LWR@print@name}{...} {...}% -or-
\NewDocumentEnvironment{\LWR@print@name}{...} {...} {...}

% Simply a call to \LWR@print@name:
\newcommand{\name}{\LWR@print@name}% -or-
\newenvironment{name}{\LWR@print@name}{\endLWR@print@name}
\end{warpall}

\begin{warpHTML}
\NewDocumentCommand{\LWR@HTML@name}{...} {...}% -or-
\NewDocumentEnvironment{\LWR@HTML@name}{...} {...} {...}

\LWR@formatted{name}% -or-
\LWR@formattedenv{name}
\end{warpHTML}

```



In general, `\LWR@formatted` or `\LWR@formattedenv` are placed inside a `warpHTML` environment, and while producing an HTML document they do the following:

- Macros are modified:
  1. The pre-existing `print` version `\name` is saved as `\LWR@print@<name>`, unless `\LWR@print@<name>` is already defined.
  2. The original `\name` is redefined to call either the `print` or `HTML` version depending on which format is in use at the moment, as set by `\LWR@formatting`, which is defined as either “`print`” or “`HTML`”.
- When `lwarp` is producing a print document, the original definitions are used, as well as any new definitions defined in `warpall` above.
- When `lwarp` is generating HTML output, `\LWR@formatting` is set to “`HTML`”, and `\name` is directed to `\LWR@HTML@<name>`.
- When `lwarp` is generating HTML output but enters a `lateximage` environment, or for some other reason needs to draw images using the original print definitions, `\LWR@formatting` is changed to “`print`” and `\name` is then redirected to `\LWR@print@<name>`, which was the original `\name`.

Since arguments are not handled by the new `\name`, any star and other arguments are processed by the `print` or `HTML` version.

Expandable versions are also provided as well. These usually are necessary for anything which could appear inside a `tabular`, without which a “Misplaced `\omit`” error may occur.

⚠ Misplaced `\omit` error

```
\LWR@expandableformatted
\LWR@expandableformattedenv
```

(Older versions of `lwarp` used `\LetLtxMacro` for everything, but this could fail when using macros defined by `xparse`. This older system is still in use for many definitions.)

**for HTML output:** 1716 `\begin{warpHTML}`

`\LWR@formatting` Remembers if selected `print/HTML` formatting.

Used while `\LWR@restoreorigformatting`, such as in an `lateximage`. May be set to either “`print`” or “`HTML`”.

```
1717 \newcommand*{\LWR@formatting}{HTML}
```

`\LWR@formatted@checkname` `{<name>}`

```
1718 \newcommand*{\LWR@formatted@checkname}[1]{%
1719 \ifcsundef{#1}{%
1720 \ifcsundef{\LWR@print@#1}{%
1721 \PackageError{lwarp}
1722 {%
1723 \LWRbackslash#1 or \protect\LWR@print@#1\MessageBreak
1724 must be defined before using \protect\LWR@formatted, etc%
```

```

1725 }
1726 {Perhaps #1 is misspelled.}
1727 }{\relax}%
1728 }{\relax}%
1729 \ifcsundef{LWR@HTML@#1}{%
1730 \PackageError{lwarp}
1731 {%
1732 \protect\LWR@HTML@#1 must be defined
1733 before using \protect\LWR@formatted, etc%
1734 }
1735 {Perhaps #1 is misspelled.}
1736 }{\relax}%
1737 }

```

`\LWR@formatted@checkendname`  $\{\langle name \rangle\}$

```

1738 \newcommand*{\LWR@formatted@checkendname}[1]{%
1739 \ifcsundef{end#1}{%
1740 \ifcsundef{endLWR@print@#1}{%
1741 \PackageError{lwarp}
1742 {%
1743 \protect\end#1 or \protect\endLWR@print@#1\MessageBreak
1744 must be defined before using \protect\LWR@formatted, etc%
1745 }
1746 {Perhaps #1 is misspelled.}
1747 }{\relax}%
1748 }{\relax}%
1749 \ifcsundef{endLWR@HTML@#1}{%
1750 \PackageError{lwarp}
1751 {%
1752 \protect\endLWR@HTML@#1 must be defined
1753 before using \protect\LWR@formatted, etc%
1754 }
1755 {Perhaps #1 is misspelled.}
1756 }{\relax}%
1757 }

```

`\LWR@formatted`  $\{\langle macroname \rangle\}$  No backslash in the macro name.

If not yet defined, defines `\LWR@print@<name>` as the original print-mode `\<name>`. Also redefines `\<name>` to use `\LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is `print` or `HTML`.

```

1758 \newcommand*{\LWR@formatted}[1]{%
1759 \LWR@formatted@checkname{#1}%
1760 \ifcsundef{LWR@print@#1}{%
1761 \expandafter\let\csname\LWR@print@#1\expandafter\endcsname%
1762 \csname#1\endcsname%
1763 }{\relax}%
1764 \ifcsundef{#1}{%
1765 \expandafter\newrobustcmd\csname #1\endcsname{%
1766 \@nameuse{LWR@\LWR@formatting @#1}%
1767 }%
1768 }{\relax}%

```

```

1769 \expandafter\renewrobustcmd\csname #1\endcsname{%
1770 \@nameuse{LWR@LWR@formatting @#1}%
1771 }%
1772 }%
1773 }

```

`\LWR@expandableformatted` {*<macroname>*} No backslash in the macro name.

An expandable version of `\LWR@formatted`.

```

1774 \newcommand*{\LWR@expandableformatted}[1]{%
1775 \LWR@formatted@checkname{#1}%
1776 \ifcsundef{LWR@print@#1}{%
1777 \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1778 \csname#1\endcsname%
1779 }{}%
1780 \ifcsundef{#1}{%
1781 \expandafter\newcommand\csname #1\endcsname{%
1782 \@nameuse{LWR@LWR@formatting @#1}%
1783 }%
1784 }{}%
1785 \expandafter\renewcommand\csname #1\endcsname{%
1786 \@nameuse{LWR@LWR@formatting @#1}%
1787 }%
1788 }%
1789 }

```

`\LWR@formattedenv` {*<environmentname>*}

If not yet defined, defines the environment `LWR@print@<name>` as the original print-mode `<name>`. Also redefines the environment `<name>` to use environment `LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is `print` or `HTML`.

```

1790 \newcommand*{\LWR@formattedenv}[1]{%
1791 \LWR@formatted@checkname{#1}%
1792 \LWR@formatted@checkendname{#1}%
1793 \ifcsundef{LWR@print@#1}{%
1794 \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1795 \csname#1\endcsname%
1796 \csletcs{endLWR@print@#1}{end#1}%
1797 }{}%
1798 \DeclareDocumentEnvironment{#1}{%
1799 {%
1800 \@nameuse{LWR@LWR@formatting @#1}%
1801 }%
1802 {%
1803 \@nameuse{endLWR@LWR@formatting @#1}%
1804 }%
1805 }

```

`\LWR@expandableformattedenv` {*<environmentname>*}

An expandable version of `LWR@formattedenv`.

```

1806 \newcommand*{\LWR@expandableformattedenv}[1]{%
1807 \LWR@formatted@checkname{#1}%
1808 \LWR@formatted@checkendname{#1}%
1809 \ifcsundef\LWR@print@#1}{%
1810 \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1811 \csname#1\endcsname%
1812 \csletcs{endLWR@print@#1}{end#1}%
1813 }{%
1814 \DeclareExpandableDocumentEnvironment{#1}{}%
1815 {%
1816 \@nameuse{LWR@\LWR@formatting @#1}%
1817 }%
1818 {%
1819 \@nameuse{endLWR@\LWR@formatting @#1}%
1820 }%
1821 }

1822 \end{warpHTML}

```

Print versions.

```

for PRINT output: 1823 \begin{warpprint}

1824 \newcommand*{\LWR@formatted}[1]{}
1825 \newcommand*{\LWR@expandableformatted}[1]{}
1826 \newcommand*{\LWR@formattedenv}[1]{}
1827 \newcommand*{\LWR@expandableformattedenv}[1]{}

1828 \end{warpprint}

```

## 37 HTML-conversion output modifications

These booleans modify the HTML output in various ways to improve conversion to EPUB or word processor imports.

```

for HTML & PRINT: 1829 \begin{warppall}

```

### 37.1 User-level controls

**Bool** `FormatEPUB` Changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.  
**Default:** `false`

```

1830 \newbool{FormatEPUB}
1831 \boolfalse{FormatEPUB}

```

**Bool** `FormatWP` Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments.  
**Default:** `false`

```
1832 \newbool{FormatWP}
1833 \boolfalse{FormatWP}
```

Bool WPMarkFloats Adds

Default: false

```
=== begin table ===
. . .
=== end ===
```

or

```
=== begin figure ===
. . .
=== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.<sup>18</sup>

```
1834 \newbool{WPMarkFloats}
1835 \boolfalse{WPMarkFloats}
```

Bool WPMarkMinipages Adds

Default: false

```
=== begin minipage ===
. . .
=== end minipage ===
```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

```
1836 \newbool{WPMarkMinipages}
1837 \boolfalse{WPMarkMinipages}
```

Bool WPMarkTOC While formatting for word processors, adds

Default: true

```
=== table of contents ===
```

where the Table of Contents would have been. This helps identify where to insert the actual toc.

*If set false, the actual toc is printed instead.*

```
1838 \newbool{WPMarkTOC}
1839 \booltrue{WPMarkTOC}
```

Bool WPMarkLOFT While formatting for word processors, adds

Default: false

```
=== list of figures === and/or
=== list of tables ===
```

where each of these lists would have been. This helps identify where to insert the actual lists.

<sup>18</sup>Perhaps some day word processors will have HTML import options for identifying <figure> and caption tags for figures and tables.

If set false, the actual lists are printed instead.

```
1840 \newbool{WPMarkLOFT}
1841 \boolfalse{WPMarkLOFT}
```

Bool WPMarkMath While formatting for word processors, prints math as L<sup>A</sup>T<sub>E</sub>X code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.  
Default: false

```
1842 \newbool{WPMarkMath}
1843 \boolfalse{WPMarkMath}
```

Bool WPTitleHeading While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.  
Default: false

See table 11 on page 192.

```
1844 \newbool{WPTitleHeading}
1845 \boolfalse{WPTitleHeading}
```

```
1846 \end{warpall}
```

## 37.2 Heading adjustments

If formatting the HTML for a word processor, adjust heading levels.

If WPTitleHeading is true, adjust so that part is **Heading 1**.

If WPTitleHeading is false, use <h1> for the title, and set part to **Heading 2**.

for HTML output: 1847 \begin{warpHTML}

```
1848 \AtBeginDocument{
1849 \ifbool{FormatWP}{
1850 \@ifundefined{chapter}{
1851 \ifbool{WPTitleHeading}{% part and section starting at h2
1852 \renewcommand*{\LWR@tagtitle}{h1}
1853 \renewcommand*{\LWR@tagtitleend}{/h1}
1854 \renewcommand*{\LWR@tagpart}{h2}
1855 \renewcommand*{\LWR@tagpartend}{/h2}
1856 \renewcommand*{\LWR@tagsection}{h3}
1857 \renewcommand*{\LWR@tagsectionend}{/h3}
1858 \renewcommand*{\LWR@tagsubsection}{h4}
1859 \renewcommand*{\LWR@tagsubsectionend}{/h4}
1860 \renewcommand*{\LWR@tagsubsubsection}{h5}
1861 \renewcommand*{\LWR@tagsubsubsectionend}{/h5}
1862 \renewcommand*{\LWR@tagparagraph}{h6}
1863 \renewcommand*{\LWR@tagparagraphend}{/h6}
1864 \renewcommand*{\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
1865 \renewcommand*{\LWR@tagsubparagraphend}{/span}
```

```

1866 }% WPTitleHeading
1867 {% not WPTitleHeading, part and section starting at h1
1868 \renewcommand*{\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1869 \renewcommand*{\LWR@tagtitleend}{/div}
1870 \renewcommand*{\LWR@tagpart}{h1}
1871 \renewcommand*{\LWR@tagpartend}{/h1}
1872 \renewcommand*{\LWR@tagsection}{h2}
1873 \renewcommand*{\LWR@tagsectionend}{/h2}
1874 \renewcommand*{\LWR@tagsubsection}{h3}
1875 \renewcommand*{\LWR@tagsubsectionend}{/h3}
1876 \renewcommand*{\LWR@tagsubsubsection}{h4}
1877 \renewcommand*{\LWR@tagsubsubsectionend}{/h4}
1878 \renewcommand*{\LWR@tagparagraph}{h5}
1879 \renewcommand*{\LWR@tagparagraphend}{/h5}
1880 \renewcommand*{\LWR@tagsubparagraph}{h6}
1881 \renewcommand*{\LWR@tagsubparagraphend}{/h6}
1882 }% not WPTitleHeading
1883 }% chapter undefined
1884 {% chapter defined
1885 \ifbool{WPTitleHeading}{}
1886 {% not WPTitleHeading, part and chapter starting at h1
1887 \renewcommand*{\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1888 \renewcommand*{\LWR@tagtitleend}{/div}
1889 \renewcommand*{\LWR@tagpart}{h1}
1890 \renewcommand*{\LWR@tagpartend}{/h1}
1891 \renewcommand*{\LWR@tagchapter}{h2}
1892 \renewcommand*{\LWR@tagchapterend}{/h2}
1893 \renewcommand*{\LWR@tagsection}{h3}
1894 \renewcommand*{\LWR@tagsectionend}{/h3}
1895 \renewcommand*{\LWR@tagsubsection}{h4}
1896 \renewcommand*{\LWR@tagsubsectionend}{/h4}
1897 \renewcommand*{\LWR@tagsubsubsection}{h5}
1898 \renewcommand*{\LWR@tagsubsubsectionend}{/h5}
1899 \renewcommand*{\LWR@tagparagraph}{h6}
1900 \renewcommand*{\LWR@tagparagraphend}{/h6}
1901 \renewcommand*{\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
1902 \renewcommand*{\LWR@tagsubparagraphend}{/span}
1903 }% not WPTitleHeading
1904 }% chapter defined
1905 }{}% FormatWP
1906 }% AtBeginDocument

1907 \end{warpHTML}

```

## 38 Remembering original formatting macros

**for HTML output:** 1908 \begin{warpHTML}

Remember original definitions of formatting commands. Will be changed to HTML commands for most uses. Will be temporarily restored to original meaning inside any lateximage environment. Also nullify unused commands.

Some packages redefine \#, which is used to generate HTML, so the original must be remembered here.

```

1909 \chardef\LWR@origpound='\#

1910 \let\LWR@origcomma\,
1911 \let\LWR@origthinspace\thinspace
1912 \let\LWR@orignegthinspace\negthinspace
1913 \let\LWR@origtilde~
1914 \let\LWR@origenskip\enskip
1915 \let\LWR@origquad\quad
1916 \let\LWR@origqqquad\qqquad
1917 \let\LWR@origfil\hfil
1918 \let\LWR@orighss\hss
1919 \let\LWR@origllap\llap
1920 \let\LWR@origrlap\rlap
1921 \let\LWR@origfilneg\hfilneg
1922 \let\LWR@origspace\hspace
1923
1924 \let\LWR@origrule\rule
1925
1926 \let\LWR@origmedskip\medskip
1927 \let\LWR@origbigskip\bigskip
1928
1929 \let\LWR@origtextellipsis\textellipsis

1930 \let\LWR@origvdots\vdots

```

**libertinus-otf** has too much kerning for \textquotedbl, causing an extra space.

```

1931 \LetLtxMacro\LWR@orig@@textquotedbl\textquotedbl
1932 \LetLtxMacro\LWR@orig@textquotedbl\LWR@orig@textquotedbl
1933
1934 \AtEndPreamble{
1935 \ifpackageloaded{libertinus-otf}{
1936 \renewcommand{\LWR@orig@textquotedbl}{\LWR@orig@textquotedbl\kern-.15em}
1937 \LetLtxMacro\textquotedbl\LWR@orig@textquotedbl
1938 }{ }
1939 }

1940 \LetLtxMacro\LWR@origttfamily\ttfamily
1941
1942 \LetLtxMacro\LWR@origem\em
1943
1944 \LetLtxMacro\LWR@orignormalfont\normalfont
1945
1946 \let\LWR@origonecolumn\onecolumn
1947
1948 \let\LWR@origsp\sp
1949 \let\LWR@origsb\sb
1950
1951 \LetLtxMacro\LWR@origunderline\underline

1952 \let\LWR@orignewpage\newpage

```



```

1953
1954 \let\LWR@origpagestyle\pagestyle
1955 \let\LWR@origthispagestyle\thispagestyle
1956 \LetLtxMacro\LWR@origpagenumbering\pagenumbering
1957
1958 \let\LWR@orignewline\newline
1959
1960 \AtBeginDocument{% in case packages change definition
1961 \let\LWR@orig@trivlist\@trivlist
1962 \let\LWR@origtrivlist\trivlist
1963 \let\LWR@origendtrivlist\endtrivlist
1964 \LetLtxMacro\LWR@origitem\item
1965 \LetLtxMacro\LWR@origitemize\itemize
1966 \LetLtxMacro\LWR@endorigitemize\enditemize
1967 \LetLtxMacro\LWR@origenumerate\enumerate
1968 \LetLtxMacro\LWR@endorigenumerate\endenumerate
1969 \LetLtxMacro\LWR@origdescription\description
1970 \LetLtxMacro\LWR@endorigdescription\enddescription
1971 \let\LWR@orig@mklab@mklab
1972 \let\LWR@origmakelabel\makelabel
1973 \let\LWR@orig@donoparitem\donoparitem
1974 \LetLtxMacro\LWR@orig@item\@item
1975 \let\LWR@orig@nbitem\@nbitem
1976 }
1977
1978 \let\LWR@origpar\par
1979
1980 \LetLtxMacro\LWR@origfootnote\footnote
1981 \let\LWR@orig@mpfootnotetext\@mpfootnotetext
1982
1983
1984 \AtBeginDocument{% in case packages change definition
1985 \LetLtxMacro\LWR@orighline\hline%
1986 \LetLtxMacro\LWR@origcline\cline%
1987 }

1988 \end{warpHTML}

```

## 39 Accents

Native  $\LaTeX$  accents such as `\`` will work, but many more kinds of accents are available when using Unicode-aware  $\XeLaTeX$  and  $\LuaLaTeX$ . If using accents in section names which will become file names, it is recommended to use the  $\LaTeX$  accents such as `\`` and `\v` instead of Unicode accents. The  $\LaTeX$  accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

**for HTML output:** 1989 \begin{warpHTML}

Without `\AtBeginDocument`, `\t` was being re-defined somewhere.

```
1990 \AtBeginDocument{
```

The following are restored for print when inside a lateximage.

For Unicode engines, only \t needs to be redefined:

```
1991 \LetLtxMacro\LWR@origtie\t
```

For pdf<sup>L</sup>AT<sub>E</sub>X, additional work is required:

```
1992 \ifPDFTeX% pdflatex or dvi latex
1993 \LetLtxMacro\LWR@origgraveaccent\'
1994 \LetLtxMacro\LWR@origacuteaccent\'
1995 \LetLtxMacro\LWR@origcircumflexaccent\^
1996 \LetLtxMacro\LWR@origtildeaccent\~
1997 \LetLtxMacro\LWR@origmacronaccent\=
1998 \LetLtxMacro\LWR@origbreve\u
1999 \LetLtxMacro\LWR@origdotaccent\.
2000 \LetLtxMacro\LWR@origdiaeresisaccent\"
2001 \LetLtxMacro\LWR@origdoubleacuteaccent\H
2002 \LetLtxMacro\LWR@origcaronaccent\v
2003 \LetLtxMacro\LWR@origdotbelowaccent\d
2004 \LetLtxMacro\LWR@origcedillaaccent\c
2005 \LetLtxMacro\LWR@origmacronbelowaccent\b
```

The HTML redefinitions follow.

For pdf<sup>L</sup>AT<sub>E</sub>X, Unicode diacritical marks are used:

```
2006 \renewcommand*{\'}[1]{#1\HTMLUnicode{0300}}
2007 \renewcommand*{\'}[1]{#1\HTMLUnicode{0301}}
2008 \renewcommand*{\^}[1]{#1\HTMLUnicode{0302}}
2009 \renewcommand*{\~}[1]{#1\HTMLUnicode{0303}}
2010 \renewcommand*{\=}[1]{#1\HTMLUnicode{0304}}
2011 \renewcommand*{\u}[1]{#1\HTMLUnicode{0306}}
2012 \renewcommand*{\.}[1]{#1\HTMLUnicode{0307}}
2013 \renewcommand*{\"}[1]{#1\HTMLUnicode{0308}}
2014 \renewcommand*{\H}[1]{#1\HTMLUnicode{030B}}
2015 \renewcommand*{\v}[1]{#1\HTMLUnicode{030C}}
2016 \renewcommand*{\d}[1]{#1\HTMLUnicode{0323}}
2017 \renewcommand*{\c}[1]{#1\HTMLUnicode{0327}}
2018 \renewcommand*{\b}[1]{#1\HTMLUnicode{0331}}
2019 \fi
```

For all engines, a Unicode diacritical tie is used:

```
2020 \def\LWR@t#1#2{#1\HTMLUnicode{0361}#2}
2021 \renewcommand*{\t}[1]{\LWR@t#1}
```

`\LWR@restoreorigaccents` Called from `\restoreoriginalformatting` when a lateximage is begun.

```
2022 \ifPDFTeX% pdflatex or dvi latex
2023 \newcommand*{\LWR@restoreorigaccents}{%
2024 \LetLtxMacro\'\LWR@origgraveaccent%
2025 \LetLtxMacro\^\LWR@origacuteaccent%
2026 \LetLtxMacro\^\LWR@origcircumflexaccent%
```

```

2027 \LetLtxMacro\~\LWR@origtildeaccent%
2028 \LetLtxMacro\=\LWR@origmacronaccent%
2029 \LetLtxMacro\u\LWR@origbreve%
2030 \LetLtxMacro\.\LWR@origdotaccent%
2031 \LetLtxMacro\" \LWR@origdiaeresisaccent%
2032 \LetLtxMacro\H\LWR@origdoubleacuteaccent%
2033 \LetLtxMacro\v\LWR@origcaronaccent%
2034 \LetLtxMacro\t\LWR@origtie%
2035 \LetLtxMacro\d\LWR@origdotbelowaccent%
2036 \LetLtxMacro\c\LWR@origcedillaaccent%
2037 \LetLtxMacro\b\LWR@origmacronbelowaccent%
2038 }%
2039 \else% XeLaTeX, LuaLaTeX:
2040 \newcommand*{\LWR@restoreorigaccents}{%
2041 \LetLtxMacro\t\LWR@origtie%
2042 }%
2043 \fi%
2044 }% AtBeginDocument

2045 \end{warpHTML}

```

## 40 Configuration files

### 40.1 Decide whether to generate configuration files

Configuration files are only written if processing the print version of the document, and not processing a pstool image. pstool uses an additional compile for each image using the original document's preamble, which includes lwarp, so the lwarp configuration files are turned off if -pstool is part of the \jobname.

Default to no configuration files:

```
2046 \LWR@excludecomment{LWRwriteconf}{writeconf}
```

Generate configuration files if print mode and not -pstool:

```

for PRINT output: 2047 \begin{warpprint}
2048 \fullexpandarg%
2049 \IfSubStr*{\jobname}{-pstool}
2050 {
2051 \PackageInfo{lwarp}{%
2052 Jobname with -pstool is found.\MessageBreak
2053 Not generating lwarp configuration files,%
2054 }
2055 }
2056 {
2057 \PackageInfo{lwarp}{Generating lwarp configuration files,%
2058 \LWR@includecomment{LWRwriteconf}{writeconf}
2059 }
2060 \end{warpprint}

```

## 40.2 <project>\_html.tex

File \*\_html.tex Used to allow an HTML version of the document to exist alongside the print version.

**Config file:**

```

2061 \begin{LWRwriteconf}
2062 \immediate\openout\LWR@quickfile=\jobname_html.tex
2063 \immediate\write\LWR@quickfile{%
2064 \detokenize{\PassOptionsToPackage}%
2065 {warpHTML,BaseJobname=\jobname}{Lwarp}%
2066 }
2067 \immediate\write\LWR@quickfile{%
2068 \detokenize{\input}\string{\jobname.tex}\string }%
2069 }
2070 \immediate\closeout\LWR@quickfile
2071 \end{LWRwriteconf}

```

## 40.3 *lwarpmk* configuration files

**Config file:** 2072 \begin{LWRwriteconf}

\LWR@lwarpcnfversion The version number of the configuration file, allowing *lwarpmk* to detect an obsolete configuration file format. Incremented by one each time the configuration file format changes. (This is NOT the same as the *lwarp* version number.)

```
2073 \newcommand*\LWR@lwarpcnfversion{2}% also in lwarpmk.lua
```

### 40.3.1 Helper macros

\LWR@shellescapecmd The LaTeX compile option for shell escape, if used.

```

2074 \ifshellescape
2075 \def\LWR@shellescapecmd{--shell-escape }
2076 \else
2077 \def\LWR@shellescapecmd{}
2078 \fi

```

\LWR@compilecmd {<engine>} {<suffix>}

Used to form the basic compilation command for a document, adding the optional shell escape.

Engine is *pdf<sub>l</sub>atex*, etc. Suffix is empty or *\_html*

```

2079 \newcommand*\LWR@compilecmd[2]{%
2080 #1 \LWR@shellescapecmd \jobname#2%
2081 }

```

\LWR@addcompilecmd {<cmd>} {<suffix>}

Adds to the compilation command.

Cmd is *dvipdfm*, etc. Suffix is empty or *\_html*

```
2082 \newcommand*{\LWR@addcompilecmd}[2]{%
2083 \LWRopseq
2084 #1 \jobname#2%
2085 }
```

`\LWR@unknownengine` Error message if not sure which L<sup>A</sup>T<sub>E</sub>X engine is being used.

```
2086 \newcommand*{\LWR@unknownengine}{%
2087 \PackageError{lwarp}%
2088 {Unknown LaTeX engine}%
2089 {%
2090 Lwarp only knows about pdflatex, DVI latex,
2091 xelatex, lualatex, and upLatex.%
2092 }%
2093 }
```

`\LWR@latexmkvar` `{\langle varname \rangle}{\langle value \rangle}`

Adds a *latexmk* variable assignment.

```
2094 \newcommand*{\LWR@latexmkvar}[2]{%
2095 -e
2096 \LWRopquote%
2097 \LWRdollar #1=q/#2/%
2098 \LWRopquote
2099 }
```

`\LWR@latexmkcmd` `{\langle latexmk options \rangle}`

Sets a call to *latexmk* with the given options, possibly adding `--shell-escape`, and also adding the indexing program.

```
2100 \newcommand*{\LWR@latexmkcmd}[1]{%
2101 latexmk \space \LWR@shellescapecmd \space #1 \space
2102 -recorder \space
2103 \LWR@latexmkvar{makeindex}{\LWR@LatexmkIndexCmd}%
2104 }
```

`\LWR@latexmkdvipdfm` `{\langle dvipdfm or dvipdfmx \rangle}`

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```
2105 \newcommand*{\LWR@latexmkdvipdfm}[1]{%
2106 -pdfdvi \space
2107 \LWR@latexmkvar{dvipdf}{%
2108 #1
2109 \@percentchar 0
2110 -o \@percentchar D
2111 \@percentchar S%
```

```
2112 }
2113 }
```

`\LWR@compileuplatex` Sets compile options for upL<sup>A</sup>T<sub>E</sub>X with `ujarticle` or related classes.

```
2114 \newcommand*\LWR@compileuplatex{
2115 \def\LWR@tempprintlatexcmd{%
2116 \LWR@compilecmd{uplatex}{}
2117 \LWR@addcompilecmd{dvipdfmx}{}
2118 }
2119 \def\LWR@tempHTMLlatexcmd{%
2120 \LWR@compilecmd{uplatex}{_html}
2121 \LWR@addcompilecmd{dvipdfmx}{_html}
2122 }
2123 }
```

`\LWR@PrintLatexCmd` If not set by the user, the following sets the command to use to compile the source to PDF form.  
`\LWR@HTMLLatexCmd`

If using *latexmk*, a complicated string is created, eventually resulting in something such as:

For *xelatex* with `--shell-escape`:

---

```
[[latexmk -xelatex --shell-escape -recorder
 -e '$makeindex = q/makeindex -s lwarp.ist/' <jobname>_html]]
```

---

For *dvipdfmx*:

---

```
[[latexmk -pdfdvi -e '$dvi=pdf/dvipdfmx %0 -o %D %S/'
 -recorder
 -e '$makeindex=q/makeindex -s lwarp.ist/' <jobname>_html]]
```

---

For the following, temporary values are computed, but the permanent values are only set if the originals were not assigned by the user.

```
2124 \ifbool{LWR@latexmk}{
```

For *latexmk* with *pdflatex* or *lualatex*:

```
2125 \ifpdf
```

For *latexmk* with *pdflatex*:

```
2126 \ifPDFTeX
2127 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
2128 \else
```

For *latexmk* with *lualatex*:

```

2129 \ifLuaTeX
2130 \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
2131 \else
2132 \LWR@unknownengine
2133 \fi
2134 \fi
2135 \else% \ifpdf

```

For *latexmk* with *xelatex* or DVI *latex*:

```

2136 \ifXeTeX

```

For *latexmk* with *xelatex*:

```

2137 \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
2138 \else% \ifXeTeX

```

For *latexmk* with DVI *latex*:

```

2139 \ifbool{LWR@dvipdfm}{
2140 \def\LWR@latexcmd{%
2141 \LWR@latexmkcmd{%
2142 \LWR@latexmkdvipdfm{dvipdfm}%
2143 }
2144 }
2145 }{
2146 \ifbool{LWR@dvipdfmx}{
2147 \def\LWR@latexcmd{%
2148 \LWR@latexmkcmd{%
2149 \LWR@latexmkdvipdfm{dvipdfmx}%
2150 }
2151 }
2152 }{
2153 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}
2154 }
2155 }
2156 \fi
2157 \fi% \ifpdf

```

The final assignment if *latexmk*:

```

2158 \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
2159 \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
2160 }% latexmk

```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```

2161 {% not latexmk
2162 \ifpdf

```

For *pdf<sub>l</sub>atex* or *lua<sub>l</sub>atex*:

```
2163 \ifPDFTeX
```

For *pdf<sub>l</sub>atex*:

```
2164 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
2165 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
2166 \else
2167 \ifLuaTeX
```

For *lua<sub>l</sub>atex*:

```
2168 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
2169 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
2170 \else
2171 \LWR@unknownengine
2172 \fi
2173 \fi
2174 \else% \ifpdf
```

For DVI *l<sub>at</sub>ex* or *x<sub>e</sub>l<sub>at</sub>ex*:

```
2175 \ifXeTeX
```

For *x<sub>e</sub>l<sub>at</sub>ex*:

```
2176 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
2177 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
2178 \else
```

For DVI *l<sub>at</sub>ex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```
2179 \ifbool{LWR@dvipdfm}{
```

For DVI *l<sub>at</sub>ex* with *dvipdfm*:

```
2180 \def\LWR@tempprintlatexcmd{%
2181 \LWR@compilecmd{latex}{}}
2182 \LWR@addcompilecmd{dvipdfm}{}}
2183 }
2184 \def\LWR@tempHTMLlatexcmd{%
2185 \LWR@compilecmd{latex}{_html}}
2186 \LWR@addcompilecmd{dvipdfm}{_html}}
2187 }
2188 }{
2189 \ifbool{LWR@dvipdfmx}{
```

For DVI *l<sub>at</sub>ex* with *dvipdfmx*:

```
2190 \def\LWR@tempprintlatexcmd{%
2191 \LWR@compilecmd{latex}{}}
2192 \LWR@addcompilecmd{dvipdfmx}{}}
2193 }
```



```

2194 \def\LWR@tempHTMLlatexcmd{%
2195 \LWR@compilecmd{latex}{_html}
2196 \LWR@addcompilecmd{dvipdfmx}{_html}
2197 }
2198 }{% dvips

```

For DVI *latex* with *dvips* and *ps2pdf*:

```

2199 \def\LWR@tempprintlatexcmd{%
2200 \LWR@compilecmd{latex}{}
2201 \LWR@addcompilecmd{dvips}{}
2202 \LWR@addcompilecmd{ps2pdf}{}.ps
2203 }
2204 \def\LWR@tempHTMLlatexcmd{%
2205 \LWR@compilecmd{latex}{_html}
2206 \LWR@addcompilecmd{dvips}{_html}
2207 \LWR@addcompilecmd{ps2pdf}{_html}.ps
2208 }
2209 }
2210 }
2211 \fi% \ifXeTeX
2212 \fi% \ifpdf
2213 }% latexmk

```

For *ujarticle*, *utarticle*, and related, using up<sup>L</sup>A<sup>T</sup>E<sup>X</sup> and *dvipdfmx*:

```

2214 \@ifclassloaded{ujarticle}{\LWR@compileuplatex}{}
2215 \@ifclassloaded{ujbook}{\LWR@compileuplatex}{}
2216 \@ifclassloaded{ujreport}{\LWR@compileuplatex}{}
2217 \@ifclassloaded{utarticle}{\LWR@compileuplatex}{}
2218 \@ifclassloaded{utbook}{\LWR@compileuplatex}{}
2219 \@ifclassloaded{utreport}{\LWR@compileuplatex}{}

```

Only make the setting permanent if the original was empty:

```

2220 \ifdefempty{\LWR@PrintLatexCmd}{
2221 \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
2222 }{}
2223 \ifdefempty{\LWR@HTMLLatexCmd}{
2224 \def\LWR@HTMLLatexCmd{\LWR@tempHTMLlatexcmd}
2225 }{}

```

`\LWR@writeconf {filename}`

Common code for each of `lwarpmk.conf` and `<project>.lwarpmkconf`. Each entry is a variable name, the equal sign, and a quoted string inside `[[` and `]]`, which are *lua*'s long quote characters, allowing the use of single and double quotes inside.

```

2226 \newcommand{\LWR@writeconf}[1]{
2227 \ifcsdef{LWR@quickfile}{}{\newwrite{\LWR@quickfile}}
2228 \immediate\openout\LWR@quickfile=#1
2229 \immediate\write\LWR@quickfile{confversion = [[\LWR@lwarpconfversion]]}
2230 \ifbool{usingOSWindows}{
2231 \immediate\write\LWR@quickfile{opsystem = [[Windows]]}

```

```

2232 }{
2233 \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
2234 }
2235 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
2236 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
2237 \immediate\write\LWR@quickfile{htmlfilename = [[HTMLFilename]]}
2238 \immediate\write\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}
2239 \immediate\write\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}
2240 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{LWR@latexmk}{true}{false}]]}
2241 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
2242 \immediate\write\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}
2243 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
2244 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
2245 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
2246 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
2247 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
2248 \immediate\closeout\LWR@quickfile
2249 }
2250
2251 \end{LWRwriteconf}

```

### 40.3.2 lwarpmk.conf

File `lwarpmk.conf` `lwarpmk.conf` is automatically (re-)created by the `lwarp` package when executing `pdflatex <project.tex>`, or similar for *xelatex* or *lualatex*, in print-document generation mode, which is the default unless the `warpHTML` option is given. `lwarpmk.conf` is then used by the utility *lwarpmk*.

**Config file:**

```

2252 \begin{LWRwriteconf}
2253
2254 \AtBeginDocument{\LWR@writeconf{lwarpmk.conf}}
2255
2256 \end{LWRwriteconf}

```

### 40.3.3 <project>.lwarpmkconf

File `project.lwarpmkconf` A project-specific configuration file for *lwarpmk*.

The `makeindex` and `xindy` options have already been handled for `lwarp.conf`.

**Config file:**

```

2257 \begin{LWRwriteconf}
2258
2259 \AtBeginDocument{\LWR@writeconf{\jobname.lwarpmkconf}}
2260
2261 \end{LWRwriteconf}

```

## 40.4 lwarp.css

File `lwarp.css` This is the base CSS layer used by `lwarp`.

This must be present both when compiling the project and also when distributing the HTML files.

```
Config file: 2262 \begin{LWRwriteconf}
2263 \begin{filecontents*}[overwrite]{lwarp.css}
2264 /*
2265 CSS stylesheet for the LaTeX Lwarp package
2266 Copyright 2016-2021 Brian Dunn – BD Tech Concepts LLC
2267 */
2268
2269
2270 /* a fix for older browsers: */
2271 header, section, footer, aside, nav, main,
2272 article, figure { display: block; }
2273
2274
2275 A:link {color:#000080 ; text-decoration: none ; }
2276 A:visited {color:#800000 ; }
2277 A:hover {color:#000080 ; text-decoration: underline ;}
2278 A:active {color:#800000 ; }
2279
2280 a.tocbook {display: inline-block ; margin-left: 0em ;
2281 font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
2282 a.tocpart {display: inline-block ; margin-left: 0em ;
2283 font-weight: bold ;}
2284 a.tocchapter {display: inline-block ; margin-left: 0em ;
2285 font-weight: bold ;}
2286 a.tocsection {display: inline-block ; margin-left: 1em ;
2287 text-indent: -.5em ; font-weight: bold ; }
2288 a.tocsubsection {display: inline-block ; margin-left: 2em ;
2289 text-indent: -.5em ; }
2290 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
2291 text-indent: -.5em ; }
2292 a.tocparagraph {display: inline-block ; margin-left: 4em ;
2293 text-indent: -.5em ; }
2294 a.tocsubparagraph {display: inline-block ; margin-left: 5em ;
2295 text-indent: -.5em ; }
2296 a.tocfigure {margin-left: 0em}
2297 a.tocsubfigure {margin-left: 2em}
2298 a.tocable {margin-left: 0em}
2299 a.tocsubtable {margin-left: 2em}
2300 a.toctheorem {margin-left: 0em}
2301 a.toclstlisting {margin-left: 0em}
2302
2303 body {
2304 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2305 "Lucida Bright", Georgia, serif;
2306 background: #FAF7F4 ;
2307 color: black ;
2308 margin:0em ;
2309 padding:0em ;
2310 font-size: 100% ;
2311 line-height: 1.2 ;
2312 }
2313
2314 p {margin: 1.5ex 0em 1.5ex 0em ;}
```

```
2315 table p {margin: .5ex 0em .5ex 0em ;}
2316
2317 /* Holds a section number */
2318 span.sectionnumber { margin-right: 0em }
2319
2320 /* Inserted in front of index lines */
2321 span.indexitem {margin-left: 0em}
2322 span.indexsubitem {margin-left: 2em}
2323 span.indexsubsubitem {margin-left: 4em}
2324 div.indexheading {margin-top: 2ex ; font-weight: bold}
2325
2326 div.hidden, span.hidden { display: none ; }
2327
2328 kbd, span.texttt, p span.texttt {
2329 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2330 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2331 "Courier New", monospace;
2332 font-size: 100% ;
2333 }
2334
2335 pre { padding: 3pt ; }
2336
2337 span.strong, span.textbf, div.strong, div.textbf, table td.tdbfseries { font-weight: bold; }
2338
2339 span.textit, div.textit, table td.tditshape { font-style: italic; }
2340
2341 table td.tdbfit { font-weight: bold ; font-style:italic }
2342
2343 span.textmd, div.textmd { font-weight: normal; }
2344
2345 span.textup, div.textup {
2346 font-style: normal;
2347 font-variant: normal;
2348 font-variant-numeric: normal ;
2349 }
2350
2351 span.textsc, div.textsc {
2352 font-variant: small-caps;
2353 font-variant-numeric: oldstyle-nums ;
2354 }
2355
2356 span.textulc, div.textulc {
2357 font-variant: normal ;
2358 font-variant-numeric: normal ;
2359 }
2360
2361 span.textsl, div.textsl { font-style: oblique; }
2362
2363 span.textrm, div.textrm {
2364 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2365 "Lucida Bright", Georgia, serif;
2366 }
2367
2368 span.textsf, div.textsf {
2369 font-family: "DejaVu Sans", "Bitstream Vera Sans",
```

```
2370 Geneva, Verdana, sans-serif ;
2371 }
2372
2373 /* nfssect-cfr lining figures */
2374 span.textln, div.textln {
2375 font-variant-numeric: lining-nums ;
2376 }
2377
2378 /* nfssect-cfr proportional figures */
2379 span.textp, div.textp {
2380 font-variant-numeric: proportional-nums ;
2381 }
2382
2383 /* nfssect-cfr tabular figures */
2384 span.textt, div.textt {
2385 font-variant-numeric: tabular-nums ;
2386 }
2387
2388 /* nfssect-cfr font weights */
2389 span.textdb, div.textdb {
2390 font-weight: 500 ;
2391 }
2392
2393 span.textsb, div.textsb {
2394 font-weight: 600 ;
2395 }
2396
2397 span.texteb, div.texteb {
2398 font-weight: 800 ;
2399 }
2400
2401 span.textub, div.textub {
2402 font-weight: 900 ;
2403 }
2404
2405 span.textlg, div.textlg {
2406 font-weight: 300 ;
2407 }
2408
2409 span.textel, div.textel {
2410 font-weight: 200 ;
2411 }
2412
2413 span.textul, div.textul {
2414 font-weight: 100 ;
2415 }
2416
2417
2418
2419 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2420
2421 span.underline {
2422 text-decoration: underline ;
2423 text-decoration-skip: auto ;
2424 }
```

```
2425
2426 span.overline {
2427 text-decoration: overline ;
2428 text-decoration-skip: auto ;
2429 }
2430
2431 div.hrule { border-top: 1px solid silver }
2432
2433
2434 /* for vertical text: */
2435 div.verticalrl { writing-mode: vertical-rl }
2436 div.horizontal-tb { writing-mode: horizontal-tb }
2437
2438
2439 /* for diagbox */
2440 div.diagboxtitleN { border-bottom: 1px solid gray }
2441 div.diagboxtitleS { border-top: 1px solid gray }
2442
2443 div.diagboxE {
2444 padding-left: 2em ;
2445 text-align: right ;
2446 }
2447
2448 div.diagboxW {
2449 padding-right: 2em ;
2450 text-align: left ;
2451 }
2452
2453
2454
2455 /* For realscripts */
2456 .supsubscript {
2457 display: inline-block;
2458 text-align:left ;
2459 }
2460
2461 .supsubscript sup,
2462 .supsubscript sub {
2463 position: relative;
2464 display: block;
2465 font-size: .7em;
2466 line-height: 1;
2467 }
2468
2469 .supsubscript sup {
2470 top: .3em;
2471 }
2472
2473 .supsubscript sub {
2474 top: .3em;
2475 }
2476
2477 div.attribution p {
2478 text-align: right ;
2479 font-size: 80%
```

```
2480 }
2481
2482 span.poemtitle {
2483 font-size: 120% ; font-weight: bold;
2484 }
2485
2486 pre.tabbing {
2487 font-family: "Linux Libertine Mono O", "Lucida Console",
2488 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2489 "Liberation Mono", "FreeMono", "Andale Mono",
2490 "Nimbus Mono L", "Courier New", monospace;
2491 }
2492
2493 blockquote {
2494 display: block ;
2495 margin-left: 2em ;
2496 margin-right: 2em ;
2497 }
2498
2499 /* quotchap is for the quotchap package */
2500 div.quotchap {
2501 display: block ;
2502 font-style: oblique ;
2503 overflow-x: auto ;
2504 margin-left: 2em ;
2505 margin-right: 2em ;
2506 }
2507
2508 blockquote p, div.quotchap p {
2509 line-height: 1.5;
2510 text-align: left ;
2511 font-size: .85em ;
2512 }
2513
2514 /* qauthor is for the quotchap package */
2515 div.qauthor {
2516 display: block ;
2517 text-align: right ;
2518 margin-left: auto ;
2519 margin-right: 2em ;
2520 font-size: 80% ;
2521 font-variant: small-caps;
2522 }
2523
2524 div.qauthor p {
2525 text-align: right ;
2526 }
2527
2528 div.epigraph, div.dictum {
2529 line-height: 1.2;
2530 text-align: left ;
2531 padding: 3ex 1em 0ex 1em ;
2532 /* margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
2533 margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2534 /* margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
```

```
2535 font-size: .85em ;
2536 max-width: 27em ;
2537 }
2538
2539 div.epigraphsource, div.dictumauthor {
2540 text-align:right ;
2541 margin-left:auto ;
2542 /* max-width: 50% ; */
2543 border-top: 1px solid #A0A0A0 ;
2544 padding-bottom: 3ex ;
2545 line-height: 1.2;
2546 }
2547
2548 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2549 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2550 div.dictumauthor { font-style:italic }
2551
2552
2553 /* copyrightbox package: */
2554 div.copyrightbox { margin: .5ex .5em }
2555 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2556 div.copyrightboxnote {text-align: left ; font-size: 60%}
2557
2558
2559 /* lettrine package: */
2560 span.lettrine { font-size: 4ex ; float: left ; }
2561 span.lettrinetext { font-variant: small-caps ; }
2562
2563 /* ulem, soul, umoline packages: */
2564 span.uline {
2565 text-decoration: underline ;
2566 text-decoration-skip: auto ;
2567 }
2568
2569 span.uuline {
2570 text-decoration: underline ;
2571 text-decoration-skip: auto ;
2572 text-decoration-style: double ;
2573 }
2574
2575 span.uwave {
2576 text-decoration: underline ;
2577 text-decoration-skip: auto ;
2578 text-decoration-style: wavy ;
2579 }
2580
2581 span.sout {
2582 text-decoration: line-through ;
2583 }
2584
2585 span.oline {
2586 text-decoration: overline ;
2587 text-decoration-skip: auto ;
2588 }
2589
```



```
2590 span.xout {
2591 text-decoration: line-through ;
2592 }
2593
2594 span.dashuline {
2595 text-decoration: underline ;
2596 text-decoration-skip: auto ;
2597 text-decoration-style: dashed ;
2598 }
2599
2600 span.dotuline {
2601 text-decoration: underline ;
2602 text-decoration-skip: auto ;
2603 text-decoration-style: dotted ;
2604 }
2605
2606 span.letterspacing { letter-spacing: .2ex ; }
2607
2608 span.capsspacing {
2609 font-variant: small-caps ;
2610 letter-spacing: .1ex ;
2611 }
2612
2613 span.highlight { background: #F8E800 ; }
2614
2615
2616 /* keystroke package: */
2617 span.keystroke {
2618 border-style: outset ;
2619 padding: 0pt .5em 0pt .5em ;
2620 }
2621
2622
2623 html body {
2624 margin: 0 ;
2625 line-height: 1.2;
2626 }
2627
2628
2629 body div {
2630 margin: 0ex;
2631 }
2632
2633
2634 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2635 {
2636 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2637 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2638 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2639 "Times New Roman", serif;
2640 font-style: normal ;
2641 font-weight: bold ;
2642 text-align: left ;
2643 }
2644
```

```
2645 h1 { /* title of the entire website, used on each page */
2646 text-align: center ;
2647 font-size: 2.5em ;
2648 padding: .4ex 0em 0ex 0em ;
2649 }
2650
2651 div.book {
2652 text-align: center ;
2653 font-size: 2.325em ;
2654 padding: .4ex 0em 0ex 0em ;
2655 }
2656
2657 h2 { font-size: 2.25em }
2658 h3 { font-size: 2em }
2659 h4 { font-size: 1.75em }
2660 h5 { font-size: 1.5em }
2661 h6 { font-size: 1.25em }
2662 span.paragraph {font-size: 1em ; font-variant: normal ;
2663 margin-right: 1em ; }
2664 span.subparagraph {font-size: 1em ; font-variant: normal ;
2665 margin-right: 1em ; }
2666
2667 div.minisec {
2668 font-family: "DejaVu Sans", "Bitstream Vera Sans",
2669 Geneva, Verdana, sans-serif ;
2670 font-style: normal ;
2671 font-weight: bold ;
2672 text-align: left ;
2673 }
2674
2675 h1 {
2676 margin: 0ex 0em 0ex 0em ;
2677 line-height: 1.3;
2678 text-align: center ;
2679 }
2680
2681 h2 {
2682 margin: 1ex 0em 1ex 0em ;
2683 line-height: 1.3;
2684 text-align: center ;
2685 }
2686
2687 h3 {
2688 margin: 3ex 0em 1ex 0em ;
2689 line-height: 1.3;
2690 }
2691
2692 h4 {
2693 margin: 3ex 0em 1ex 0em ;
2694 line-height: 1.3;
2695 }
2696
2697 h5 {
2698 margin: 3ex 0em 1ex 0em ;
2699 line-height: 1.3;
```

```
2700 }
2701
2702 h6 {
2703 margin: 3ex 0em 1ex 0em ;
2704 line-height: 1.3;
2705 }
2706
2707
2708 div.titlepage {
2709 text-align: center ;
2710 }
2711
2712 .footnotes {
2713 text-align: left ;
2714 font-size: .85em ;
2715 margin: 3ex 2em 0ex 2em ;
2716 border-top: 1px solid silver ;
2717 }
2718
2719 .marginpar, .marginparblock {
2720 max-width: 50%;
2721 float: right ;
2722 clear: both ;
2723 text-align: left ;
2724 margin: 1ex 0.5em 1ex 1em ;
2725 padding: 1ex 0.5em 1ex 0.5em ;
2726 font-size: 85% ;
2727 border-top: 1px solid silver ;
2728 border-bottom: 1px solid silver ;
2729 overflow-x: auto ;
2730 }
2731
2732 .marginpar br { margin-bottom: 2ex ; }
2733
2734 div.marginblock, div.marginparblock {
2735 max-width:50%;
2736 min-width: 10em; /* room for caption */
2737 float:right;
2738 text-align:left;
2739 margin: 1ex 0.5em 1ex 1em ;
2740 padding: 1ex 0.5em 1ex 0.5em ;
2741 overflow-x: auto;
2742 }
2743
2744 div.marginblock div.minipage,
2745 div.marginparblock div.minipage {
2746 display: inline-block ;
2747 margin: 0pt auto 0pt auto ;
2748 }
2749
2750 div.marginblock div.minipage p ,
2751 div.marginparblock div.minipage p
2752 { font-size: 85%}
2753
2754 div.marginblock br ,
```

```
2755 div.marginparblock br
2756 { margin-bottom: 2ex ; }
2757
2758 main.bodycontainer {
2759 float: left ;
2760 width: 80% ;
2761 }
2762
2763 div.bodywithoutsidetoc main.bodycontainer {
2764 float: none ;
2765 width: 100% ;
2766 }
2767
2768 section.textbody div.footnotes{
2769 margin: 3ex 2em .5ex 2em ;
2770 border-bottom: 2px solid silver ;
2771 }
2772
2773 .footnoteheader {
2774 border-top: 2px solid silver ;
2775 margin-top: 3ex ;
2776 padding-top: 1ex ;
2777 font-weight: bold ;
2778 }
2779
2780 .mpfootnotes {
2781 text-align: left ;
2782 font-size: .85em ;
2783 margin-left: 1em ;
2784 border-top: 1px solid silver ;
2785 }
2786
2787 /* Remove footnote top border in the title page. */
2788 div.titlepage div.mpfootnotes {
2789 border-top: none ;
2790 }
2791
2792
2793
2794 ul, ol {
2795 margin: 1ex 1em 1ex 0em;
2796 line-height: 1.2;
2797 }
2798
2799 body dir, body menu {
2800 margin: 3ex 1em 3ex 0em;
2801 line-height: 1.2;
2802 }
2803
2804 li { margin: 0ex 0em 1ex 0em; }
2805
2806 html {
2807 margin: 0;
2808 padding: 0;
2809 }
```

```
2810
2811 .programlisting {
2812 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2813 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2814 "Courier New", monospace;
2815 margin: 1ex 0ex 1ex 0ex ;
2816 padding: .5ex 0pt .5ex 0pt ;
2817 overflow-x: auto;
2818 }
2819
2820 section.textbody>pre.programlisting {
2821 border-top: 1px solid silver ;
2822 border-bottom: 1px solid silver ;
2823 }
2824
2825
2826 div.displaymath {
2827 text-align: center ;
2828 }
2829
2830 div.displaymathnumbered {
2831 text-align: right ;
2832 margin-left: 5% ;
2833 margin-right: 5% ;
2834 min-width: 2.5in ;
2835 }
2836
2837 @media all and (min-width: 400px) {
2838 div.displaymathnumbered {
2839 margin-left: 10% ;
2840 margin-right: 10% ;
2841 }
2842 }
2843
2844 @media all and (min-width: 800px) {
2845 div.displaymathnumbered {
2846 margin-right: 20% ;
2847 }
2848 }
2849
2850 @media all and (min-width: 1200px) {
2851 div.displaymathnumbered {
2852 margin-right: 30% ;
2853 }
2854 }
2855
2856
2857 .inlineprogramlisting {
2858 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2859 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2860 "Courier New", monospace;
2861 overflow-x: auto;
2862 }
2863
2864 span.listinglabel {
```

```
2865 display: inline-block ;
2866 font-size: 70% ;
2867 width: 4em ;
2868 text-align: right ;
2869 margin-right: 2em ;
2870 }
2871
2872 div.abstract {
2873 margin: 2em 5% 2em 5% ;
2874 padding: 1ex 1em 1ex 1em ;
2875 /* font-weight: bold ; */
2876 font-size: 90% ;
2877 text-align: left ;
2878 }
2879
2880 div.abstract dl {line-height:1.5;}
2881 div.abstract dt {color:#304070;}
2882
2883 div.abstracttitle{
2884 font-family: "URW Classico", Optima, "Linux Biolinum O",
2885 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2886 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2887 font-weight:bold;
2888 font-size:1.25em;
2889 text-align: center ;
2890 }
2891
2892 span.abstracruntintitle{
2893 font-family: "URW Classico", Optima, "Linux Biolinum O",
2894 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2895 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2896 font-weight:bold;
2897 }
2898
2899
2900 .verbatim {
2901 overflow-x: auto ;
2902 }
2903
2904 .alltt {
2905 overflow-x: auto ;
2906 }
2907
2908
2909 .bverbatim {
2910 margin: 1ex 0pt 1ex 0pt ;
2911 padding: .5ex 0pt .5ex 0pt ;
2912 overflow-x: auto ;
2913 }
2914
2915 .lverbatim {
2916 margin: 1ex 0pt 1ex 0pt ;
2917 padding: .5ex 0pt .5ex 0pt ;
2918 overflow-x: auto ;
2919 }
```

```
2920
2921 .fancyvrb {
2922 font-size:.85em ;
2923 margin: 3ex 0pt 3ex 0pt
2924 }
2925
2926 .fancyvrblabel {
2927 font-size: .85em ;
2928 text-align: center ;
2929 font-weight: bold ;
2930 margin-top: 1ex ;
2931 margin-bottom: 1ex ;
2932 }
2933
2934
2935 .verse {
2936 font-family: "Linux Libertine Mono O", "Lucida Console",
2937 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2938 "Liberation Mono", "FreeMono", "Andale Mono",
2939 "Nimbus Mono L", "Courier New", monospace;
2940 margin-left: 1em ;
2941 }
2942
2943
2944 div.singlespace { line-height: 1.2 ; }
2945 div.onehalfspace { line-height: 1.5 ; }
2946 div.doublespace { line-height: 2 ; }
2947
2948
2949 /* Word processor format output: */
2950 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2951 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2952 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ;}
2953
2954
2955
2956
2957 /* Minipage environments, vertically aligned to top, center, bottom: */
2958 .minipage, .fminipage, .fcolorminipage {
2959 /* display: inline-block ; */
2960 /* Mini pages which follow each other will be tiled. */
2961 text-align:left;
2962 margin: .25em .25em .25em .25em;
2963 padding: .25em .25em .25em .25em;
2964 display: inline-flex;
2965 flex-direction: column ;
2966 overflow: auto;
2967 }
2968
2969 .inlineminipage {
2970 display: inline-block ;
2971 text-align: left
2972 }
2973
2974 /* Paragraphs in the flexbox did not collapse their margins. */
```

```
2975 /* Have not yet researched this. */
2976 .minipage p {margin: .75ex 0em .75ex 0em ;}
2977
2978 .fbxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
2979 .fcolorbox .minipage, .fcolorboxBlock .minipage
2980 {border: none ; background: none;}
2981
2982 .fbx, .fbxBlock { border: 1px solid black ; }
2983
2984 .fbx, .fbxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
2985 .fminipage, .fcolorminipage
2986 {display: inline-block}
2987
2988 .shadowbox, .shabox {
2989 border: 1px solid black;
2990 box-shadow: 3px 3px 3px #808080 ;
2991 border-radius: 0px ;
2992 padding: .4ex .3em .4ex .3em ;
2993 margin: 0pt .3ex 0pt .3ex ;
2994 display: inline-block ;
2995 }
2996
2997 .doublebox {
2998 border: 3px double black;
2999 border-radius: 0px ;
3000 padding: .4ex .3em .4ex .3em ;
3001 margin: 0pt .3ex 0pt .3ex ;
3002 display: inline-block ;
3003 }
3004
3005 .ovalbox, .Ovalbox {
3006 border: 1px solid black;
3007 border-radius: 1ex ;
3008 padding: .4ex .3em .4ex .3em ;
3009 margin: 0pt .3ex 0pt .3ex ;
3010 display: inline-block ;
3011 }
3012
3013 .Ovalbox { border-width: 2px ; }
3014
3015 .framebox {
3016 border: 1px solid black;
3017 border-radius: 0px ;
3018 padding: .3ex .2em 0ex .2em ;
3019 margin: 0pt .1ex 0pt .1ex ;
3020 display: inline-block ;
3021 }
3022
3023
3024 /* mdframed, tcolorbox, shadebox packages */
3025 .mdframed, .tcolorbox, .shadebox {
3026 padding: 0ex ;
3027 margin: 2ex 0em 2ex 0em ;
3028 border: 1px solid black ;
3029 }
```



```
3030
3031 .tcolorbox {
3032 border-radius: 10pt ;
3033 margin: 2ex 1em 2ex 1em ;
3034 }
3035
3036 .mdframed p, .tcolorbox p { padding: 0ex .5em 0ex .5em ; }
3037
3038 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
3039
3040 .mdframedtitle, .tcolorboxtitle {
3041 padding: .5ex 0pt 0pt 0pt ;
3042 border-radius: 10pt 10pt 0pt 0pt ;
3043 display: block ;
3044 margin-bottom: 1ex ;
3045 border-bottom: 1px solid silver ;
3046 }
3047
3048 .tcolorboxsubtitle .tcolorbox {
3049 margin: 2ex 0em 2ex 0em ;
3050 border-radius: 0pt ;
3051 }
3052
3053 .mdframedsubtitle {
3054 display: block ;
3055 }
3056
3057 .mdframedsubsubtitle {
3058 display: block ;
3059 }
3060
3061 .mdtheorem {
3062 padding: 0ex .5em 0ex .5em ;
3063 margin: 3ex 5% 3ex 5% ;
3064 }
3065
3066
3067 /* framed package */
3068 .framed, pre.boxedverbatim, fcolorbox {
3069 margin: 3ex 0em 3ex 0em ;
3070 border: 1px solid black;
3071 border-radius: 0px ;
3072 padding: .3ex 1em 0ex 1em ;
3073 display: block ;
3074 }
3075
3076 .shaded {
3077 margin: 3ex 0em 3ex 0em ;
3078 padding: .3ex 1em .3ex 1em ;
3079 display: block ;
3080 }
3081
3082 .snugframed {
3083 margin: 3ex 0em 3ex 0em ;
3084 border: 1px solid black;
```

```
3085 border-radius: 0px ;
3086 display: block ;
3087 }
3088
3089 .framedleftbar {
3090 margin: 3ex 0em 3ex 0em ;
3091 border-left: 3pt solid black;
3092 border-radius: 0px ;
3093 padding: .3ex .2em .3ex 1em ;
3094 display: block ;
3095 }
3096
3097 .framedtitle {
3098 margin: 0em ;
3099 padding: 0em ;
3100 font-size: 130%
3101 }
3102
3103 .framedtitle p { padding: .3em }
3104
3105
3106 /* For the niceframe package: */
3107
3108 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
3109 padding: 1ex ;
3110 margin: 2ex auto ;
3111 border-radius: 2ex ;
3112 }
3113
3114 div.niceframe {
3115 border: 6px groove black ;
3116 }
3117
3118 div.curlyframe {
3119 border-left: 3px dotted black ;
3120 border-right: 3px dotted black ;
3121 border-radius: 6ex ;
3122 }
3123
3124 div.artdecoframe {
3125 border-left: 10px double black ;
3126 border-right: 10px double black ;
3127 border-radius: 6ex ;
3128 }
3129
3130 div.generalframe {
3131 border: 6px groove black ;
3132 }
3133
3134
3135
3136 dl {
3137 margin: 1ex 2em 1ex 0em;
3138 line-height: 1.3;
3139 }
```

```
3140
3141 dl dt {
3142 display: block ;
3143 float:left ;
3144 font-weight: bold;
3145 padding-right: 1em ;
3146 }
3147
3148 dl dd { display: block ; }
3149
3150 dl dd:after { content: "" ; display: block ; clear: both }
3151
3152 dl dd p { margin-top: 0em; }
3153
3154 dd ul, dd ol, dd dl {
3155 clear: both ;
3156 /* padding-top: 1ex ; */
3157 }
3158
3159
3160 nav {
3161 font-family: "URW Classico", Optima, "Linux Biolinum O",
3162 "DejaVu Sans", "Bitstream Vera Sans",
3163 Geneva, Verdana, sans-serif ;
3164 margin-bottom: 4ex ;
3165 }
3166
3167 nav p {
3168 line-height: 1.2 ;
3169 margin-top:.5ex ;
3170 margin-bottom:.5ex;
3171 font-size: .9em ;
3172 }
3173
3174
3175
3176 img, img.hyperimage, img.borderimage {
3177 max-width: 600px;
3178 border: 1px solid silver;
3179 box-shadow: 3px 3px 3px #808080 ;
3180 padding: .5% ;
3181 margin: .5% ;
3182 background: none ;
3183 }
3184
3185 img.inlineimage{
3186 padding: 0px ;
3187 box-shadow: none ;
3188 border: none ;
3189 background: none ;
3190 margin: 0px ;
3191 display: inline-block ;
3192 border-radius: 0px ;
3193 }
3194
```

```
3195 img.logoimage{
3196 max-width: 300px ;
3197 box-shadow: 3px 3px 3px #808080 ;
3198 border: 1px solid black ;
3199 background:none ;
3200 padding:0 ;
3201 margin:.5ex ;
3202 border-radius: 10px ;
3203 }
3204
3205
3206 .section {
3207 /*
3208 To have each section float relative to each other:
3209 */
3210 /*
3211 display: block ;
3212 float: left ;
3213 position: relative ;
3214 background: white ;
3215 border: 1px solid silver ;
3216 padding: .5em ;
3217 */
3218 margin: 0ex .5em 0ex .5em ;
3219 padding: 0 ;
3220 }
3221
3222
3223 figure {
3224 margin: 5ex auto 5ex auto ;
3225 padding: 1ex 1em 1ex 1em ;
3226 overflow-x: auto ;
3227 }
3228
3229
3230 /* To automatically center images in figures: */
3231 /*
3232 figure img.inlineimage {
3233 margin: 0ex auto 0ex auto ;
3234 display: block ;
3235 }
3236 */
3237
3238 /* To automatically center minipages in figures: */
3239 /*
3240 figure div.minipage, figure div.minipage div.minipage {
3241 margin: 1ex auto 1ex auto ;
3242 display: block ;
3243 }
3244 */
3245
3246 figure figure { margin: 0pt }
3247
3248 figure div.minipage p { font-size: 85% ; }
3249
```

```
3250 figure.subfigure, figure.subtable {
3251 display: inline-block ; margin: 3ex 1em 3ex 1em ;
3252 }
3253
3254 div.figurecaption .minipage { margin:0 ; padding: 0 }
3255
3256 /* for subcaptions: */
3257 figure div.minipage div.figurecaption {
3258 max-width: 100% ; /* fallback if min() does not work */
3259 max-width: min(30em,100%)
3260 }
3261
3262 div.minipage figure { border: none ; box-shadow: none ; }
3263 div.minipage figure.table { margin: 0ex }
3264 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
3265
3266 div.floatrow { text-align: center; }
3267
3268 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3269
3270 div.floatfoot { font-size: .85em ;
3271 border-top: 1px solid silver ; line-height: 1.2 ; }
3272
3273 /* Center if only one line, "start" align if more than one line: */
3274 div.figurecaption , .lstlistingtitle {
3275 font-size: .85em ;
3276 font-weight: bold ;
3277 text-align: start ;
3278 margin: 1ex auto ;
3279 width: max-content ;
3280 max-width: 100% ;
3281 }
3282
3283 /* A marginblock is small, so always center and don't mess with the width. */
3284 div.marginblock div.figurecaption {
3285 width: 100% ;
3286 text-align: center ;
3287 }
3288
3289 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3290 border-bottom: none ; background: none ;
3291 }
3292
3293 div.nonfloatcaption {
3294 margin: 1ex auto 1ex auto ;
3295 font-size: .85em ;
3296 text-align: center ;
3297 font-weight: bold ;
3298 }
3299
3300 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
3301 figure div.floatrow div.minipage div.figurecaption {
3302 border: none ;
3303 background: none ;
3304 }
```

```
3305
3306
3307 /* For packages such as float, rotfloat, and algorithm2e: */
3308
3309 figure.boxed, figure.boxruled {
3310 border: 1px solid black ;
3311 }
3312
3313 figure.ruled {
3314 border-top: 1px solid black ;
3315 border-bottom: 1px solid black ;
3316 border-left: 0px ;
3317 border-right: 0px ;
3318 border-radius: 0px ;
3319 background: none ;
3320 box-shadow: none ;
3321 }
3322
3323 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
3324 border-top: 1px solid silver ;
3325 border-bottom: 1px solid silver ;
3326 }
3327
3328
3329 table {
3330 margin: 1ex auto 1ex auto ;
3331 border-collapse: separate ;
3332 border-spacing: 0px ;
3333 line-height: 1.3 ;
3334 }
3335
3336 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
3337 margin-bottom: 0ex ; } /* for \hline */
3338
3339 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
3340 margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
3341
3342 td {padding: .5ex .5em .5ex .5em ;}
3343
3344 table td.tdl { text-align: left ; vertical-align: middle ; }
3345 table td.tdc { text-align: center ; vertical-align: middle ; }
3346 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
3347 table td.tdbang { text-align: center ; vertical-align: middle ; }
3348 table td.tdr { text-align: right ; vertical-align: middle ; }
3349 table td.tdp { text-align: left ; vertical-align: bottom ; }
3350 table td.tdm { text-align: left ; vertical-align: middle ; }
3351 table td.tdb { text-align: left ; vertical-align: top ; }
3352
3353 table td.tvertbarl { border-left: 1px solid black }
3354 table td.tvertbardouble { border-left: 4px double black }
3355 table td.tvertbarr { border-right: 1px solid black }
3356 table td.tvertbarrdouble { border-right: 4px double black }
3357
3358 table td.tvertbardash { border-left: 1px dashed black }
3359 table td.tvertbardoubledash { border-left: 2px dashed black }
```

```
3360 table td.tvertbarrdash { border-right: 1px dashed black }
3361 table td.tvertbarrdoubledash { border-right: 2px dashed black }
3362
3363 table td.tdcenter { text-align: center}
3364 table td.tdleft { text-align: left}
3365 table td.tdright { text-align: right}
3366
3367
3368 /* for cmidrules: */
3369 table td.tdrule {
3370 border-top: 1px solid #A0A0A0 ;
3371 }
3372
3373 table td.tdrulel {
3374 border-top-left-radius:.5em ;
3375 border-top: 1px solid #A0A0A0 ;
3376 }
3377
3378 table td.tdruler {
3379 border-top-right-radius:.5em ;
3380 border-top: 1px solid #A0A0A0 ;
3381 }
3382
3383 table td.tdrulelr {
3384 border-top-left-radius:.5em ;
3385 border-top-right-radius:.5em ;
3386 border-top: 1px solid #A0A0A0 ;
3387 }
3388
3389
3390 /* Margins of paragraphs inside table cells: */
3391 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
3392 padding-bottom: 1ex ; margin: 0ex ; }
3393 td.tdm p , td.tdmrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
3394 padding-bottom: 1ex ; margin: 0ex ; }
3395 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
3396 padding-bottom: 1ex ; margin: 0ex ; }
3397
3398 td.tdp , td.tdprule , td.tdP , td.tdPrule
3399 { padding: 0ex .5em 0ex .5em ; }
3400 td.tdm , td.tdmrule , td.tdM , td.tdMrule
3401 { padding: 0ex .5em 0ex .5em ; }
3402 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3403 { padding: 0ex .5em 0ex .5em ; }
3404
3405
3406 /* table notes: */
3407 .tnotes {
3408 margin: 0ex 5% 1ex 5% ;
3409 padding: 0.5ex 1em 0.5ex 1em;
3410 font-size:.80em;
3411 text-align: left ;
3412 }
3413
3414 .minipage .tnotes {
```

```
3415 margin: 0pt ;
3416 padding: 0pt ;
3417 }
3418
3419 .tnotes dl dt p {margin-bottom:0px;}
3420
3421 .tnoteitemheader {margin-right: 1em;}
3422
3423
3424 /* for colortbl and cell color */
3425 div.cellcolor {
3426 width: 100% ;
3427 padding: .5ex .5em .5ex .5em ;
3428 margin: -.5ex -.5em -.5ex -.5em ;
3429 }
3430
3431
3432 /* for lyluatex */
3433 span.lyluatex {
3434 display: inline-block ;
3435 }
3436
3437 div.lyluatex p span.lateximagesource img {
3438 display: block ;
3439 margin-top: 3ex ;
3440 margin-bottom: 3ex ;
3441 }
3442
3443
3444 /* for bigdelim */
3445 .ldelim, .rdelim { font-size: 200% }
3446
3447
3448 /* center, flushleft, flushright environments */
3449 div.center{text-align:center;}
3450 div.center table {margin-left:auto;margin-right:auto;}
3451 div.flushleft{text-align:left;}
3452 div.flushleft table {margin-left:0em ; margin-right:auto;}
3453 div.flushright{text-align:right;}
3454 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3455
3456
3457 /* Fancybox */
3458 div.Btrivlist table tr td {
3459 padding: .2ex 0em ;
3460 }
3461
3462
3463 /* program listing callouts: */
3464 span.callout {
3465 font-family: "DejaVu Sans", "Bitstream Vera Sans",
3466 Geneva, Verdana, sans-serif ;
3467 border-radius: .5em;
3468 background-color:black;
3469 color:white;
```



```
3470 padding:0px .25em 0px .25em;
3471 margin: 0 ;
3472 font-weight: bold;
3473 font-size:.72em ;
3474 }
3475
3476 div.programlisting pre.verbatim span.callout{
3477 font-size: .85em ;
3478 }
3479
3480 span.verbatim {
3481 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3482 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3483 "Courier New", monospace;
3484 }
3485
3486
3487
3488 div.titlehead
3489 {
3490 text-align: left ;
3491 font-style: normal ;
3492 font-weight: normal ;
3493 font-style: normal ;
3494 font-size: .8em ;
3495 margin: 1ex 0em 1ex 0em ;
3496 }
3497
3498 div.subject
3499 {
3500 text-align: center ;
3501 font-style: normal ;
3502 font-weight: bold ;
3503 font-style: normal ;
3504 font-size: .8em ;
3505 margin: 1ex 0em 1ex 0em ;
3506 }
3507
3508 div.published
3509 {
3510 text-align: center ;
3511 font-variant: normal ;
3512 font-style: italic ;
3513 font-size: 1em ;
3514 margin: 1ex 0em 1ex 0em ;
3515 }
3516
3517 div.subtitle
3518 {
3519 text-align: center ;
3520 font-variant: normal ;
3521 font-style: italic ;
3522 font-size: 1.25em ;
3523 margin: 1ex 0em 1ex 0em ;
3524 }
```

```
3525
3526 div.subtitle p { margin: 1ex ; }
3527
3528 div.author
3529 {
3530 font-variant: normal ;
3531 font-style: normal ;
3532 font-size: 1em ;
3533 margin: 1ex 0em 1ex 0em ;
3534 }
3535
3536 div.oneauthor {
3537 display: inline-block ;
3538 margin: 0ex 1em 0ex 1em ;
3539 }
3540
3541 /*
3542 div.author table {
3543 margin: 1ex auto 0ex auto ;
3544 background: none ;
3545 }
3546
3547 div.author table tbody tr td { padding: .25ex ; }
3548 */
3549
3550 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3551
3552 div.titledate {
3553 text-align: center ;
3554 font-size: .85em ;
3555 font-style: italic;
3556 margin: 1ex 0em 1ex 0em ;
3557 }
3558
3559
3560 nav.topnavigation{
3561 text-align: left ;
3562 padding: 0.5ex 1em 0.5ex 1em ;
3563 /* margin: 2ex 0em 3ex 0em ; */
3564 margin: 0 ;
3565 border-bottom: 1px solid silver ;
3566 border-top: 1px solid silver ;
3567 clear:both ;
3568 }
3569
3570 nav.botnavigation{
3571 text-align: left ;
3572 padding: 0.5ex 1em 0.5ex 1em ;
3573 /* margin: 3ex 0em 2ex 0em ; */
3574 margin: 0 ;
3575 border-top: 1px solid silver ;
3576 border-bottom: 1px solid silver ;
3577 clear:both ;
3578 }
3579
```

```
3580
3581 header {
3582 line-height: 1.2 ;
3583 font-size: 1em ;
3584 border-bottom: 1px solid silver ;
3585 margin: 0px ;
3586 padding: 2ex 1em 2ex 1em ;
3587 text-align:left ;
3588 }
3589
3590
3591 footer {
3592 font-size: .85em ;
3593 line-height: 1.2 ;
3594 margin-top: 1ex ;
3595 border-top: 1px solid silver ;
3596 padding: 2ex 1em 2ex 1em ;
3597 clear:both ;
3598 text-align:left ;
3599 }
3600
3601
3602 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3603 a.linkhome { font-weight:bold ; font-size: 1em ;}
3604
3605
3606 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3607
3608 img.lateximage{
3609 padding: 0pt ;
3610 margin: 0pt ;
3611 box-shadow: none ;
3612 border: none ;
3613 background: none ;
3614 max-width: 100% ;
3615 border-radius: 0ex ;
3616 border: none ;
3617 }
3618
3619
3620 div.sidetoccontainer {
3621 font-family: "DejaVu Serif", "Bitstream Vera Serif",
3622 "Lucida Bright", Georgia, serif;
3623 float: left ;
3624 width: 19%; /* room for border-right next to 80% main */
3625 margin: 0pt 0em 3ex 0pt ;
3626 border-right: 1px solid silver;
3627 border-bottom: 1px solid silver;
3628 background: #FAF7F4 ;
3629 font-size:.9em ;
3630 border-radius: 0px 0px 20px 0px ;
3631 }
3632
3633 div.sidetoccontents {
3634 overflow-y: auto ;
```

```
3635 width: 100% ;
3636 text-align: left ;
3637 }
3638
3639
3640 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3641 text-indent: 0 ; }
3642
3643 nav.sidetoc p a {color:black ; font-size: .7em ;}
3644
3645 div.sidetocitle {font-size: 1.2em; font-weight:bold; text-align:center;
3646 border-bottom: 1px solid silver ; }
3647
3648 nav.sidetoc a:hover {text-decoration: underline ; }
3649
3650
3651
3652 section.textbody { margin: 0ex 1em 0ex 1em ;}
3653
3654
3655 div.multicolsheading { -webkit-column-span: all;
3656 -moz-column-span: all; column-span: all; }
3657 div.multicols {
3658 -webkit-columns: 3 auto ;
3659 -moz-columns: 3 auto ;
3660 columns: 3 auto ;
3661 }
3662 div.multicols p {margin-top: 0ex}
3663
3664
3665 /* Used for xfrac and nicefrac: */
3666 span.numerator {
3667 font-size: 60% ;
3668 vertical-align: .4em ;
3669 }
3670
3671 span.denominator {
3672 font-size: 60%
3673 }
3674
3675
3676 /* Used for algorithm2e: */
3677 div.alg2evline{
3678 margin-left: 1em ;
3679 padding-left: 1em ;
3680 border-left: 1px solid black ;
3681 border-radius: 0px 0px 0px 1ex ;
3682 }
3683
3684 div.alg2evsline{
3685 margin-left: 1em ;
3686 padding-left: 1em ;
3687 border-left: 1px solid black ;
3688 }
3689
```

```
3690 div.alg2enoline{
3691 margin-left: 1em ;
3692 padding-left: 1em ;
3693 }
3694
3695 span.alg2elinenumber{
3696 margin-right: .5em ;
3697 font-size: 50% ;
3698 color: red ;
3699 }
3700
3701
3702 /* Used for algorithmicx: */
3703 span.floatright { float: right ; }
3704
3705
3706 /* keyfloat and tocdata: */
3707 .floatnotes {
3708 margin: 0ex 5% 0ex 5% ;
3709 padding: 0ex 1em 0ex 1em ;
3710 font-size:.80em ;
3711 text-align: left ;
3712 }
3713
3714 .authorartist{
3715 display:block ;
3716 font-size:.70em ;
3717 font-style: italic;
3718 }
3719
3720 nav .authorartist{ display:inline; }
3721
3722
3723
3724 /* Native LaTeX theorems: */
3725
3726 .theoremcontents {
3727 font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3728 }
3729
3730 .theoremlabel {
3731 font-style: normal; font-weight: bold ; margin-right: .5em ;
3732 }
3733
3734
3735
3736 /* theorem, amsthm, and ntheorem packages */
3737
3738 span.theoremheader,
3739 span.theoremheaderplain,
3740 span.theoremheaderdefinition,
3741 span.theoremheaderbreak,
3742 span.theoremheadermarginbreak,
3743 span.theoremheaderchangebreak,
3744 span.theoremheaderchange,
```

```
3745 span.theoremheadermargin
3746 {
3747 font-style:normal ; font-weight: bold ; margin-right: 1em ;
3748 }
3749
3750 span.amsthmnameplain,
3751 span.amsthmnamedefinition,
3752 span.amsthmnumberplain,
3753 span.amsthmnumberdefinition
3754 {
3755 font-style:normal ; font-weight: bold ;
3756 }
3757
3758
3759 span.amsthmnameremark,
3760 span.amsthmnumberremark
3761 {font-style:italic ; font-weight: normal ; }
3762
3763
3764 span.amsthmnoteplain,
3765 span.amsthmnotedefinition
3766 {font-style:normal ;}
3767
3768
3769 span.theoremheaderremark,
3770 span.theoremheaderproof,
3771 span.amsthmproofname
3772 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3773
3774 span.theoremheadersc
3775 {
3776 font-style:normal ;
3777 font-variant: small-caps ;
3778 font-weight: normal ;
3779 margin-right: 1em ;
3780 }
3781
3782 .theoremdemark {float:right}
3783
3784 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3785 div.theorembodybreak, div.theorembodynonumberbreak,
3786 div.theorembodymarginbreak,
3787 div.theorembodychangebreak,
3788 div.theorembodychange,
3789 div.theorembodymargin
3790 {
3791 font-style:italic;
3792 margin-top: 3ex ; margin-bottom: 3ex ;
3793 }
3794
3795 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3796 div.theorembodyplainupright, nonumberplainuprightsc,
3797 div.amsthmbodydefinition, div.amsthmbodyremark,
3798 div.amsthmproof
3799 {
```

```
3800 font-style: normal ;
3801 margin-top: 3ex ; margin-bottom: 3ex ;
3802 }
3803
3804 span.amsthmnoteremark {}
3805
3806
3807 /* thmbox */
3808
3809 .thmbox {
3810 font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3811 border: 1px solid gray ;
3812 padding: 1ex ;
3813 }
3814
3815 .thmboxtitle {
3816 font-style: normal; font-weight: bold ; margin-right: .5em ;
3817 border-bottom: 1px solid gray ;
3818 }
3819
3820 span.thmboxproofname, span.thmboxexamplename {
3821 font-weight: bold ;
3822 }
3823
3824 div.thmboxproof, div.thmboxexample {
3825 font-size: 0.85em ;
3826 margin: 2ex ;
3827 }
3828
3829 div.thmboxleftbar {
3830 border-left: 2px solid black ;
3831 padding-left: 1em ;
3832 }
3833
3834
3835
3836 /* For the backnaur package: */
3837 div.backnaur {
3838 display: block ;
3839 margin: 2ex 2em 2ex 2em ;
3840 }
3841
3842 div.backnaur p {
3843 margin: .25ex 0ex .25ex 0ex ;
3844 }
3845
3846 div.backnaurprod {
3847 display: inline-block ;
3848 min-width: 8em ;
3849 text-align:right ;
3850 }
3851
3852 div.backnaurdesc {
3853 display: inline-block ;
3854 }
```

```
3855
3856
3857 /* For the notes package: */
3858 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3859 clear: both ;
3860 margin: 2ex 2em 2ex 2em ;
3861 border: 1px solid silver ;
3862 }
3863
3864 div.notesicon {
3865 float:left ;
3866 display: inline-block ;
3867 background: gold ;
3868 padding: 0ex 1em 0ex 1em ;
3869 margin-right: 1em ;
3870 font-weight: bold ;
3871 }
3872
3873 div.notescontents { font-style: italic }
3874
3875
3876 /* nolbreaks package: */
3877 span.nolbreaks { white-space: nowrap ; }
3878
3879
3880 /*
3881 For CSS LaTeX and related logos:
3882 Based on spacing demonstrated by the metafont package.
3883
3884 The subscripts are shrunk instead of lowered below the baseline,
3885 to avoid browser rendering errors with the line height in lists, etc.
3886 */
3887
3888 .latexlogofont {
3889 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3890 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3891 font-variant: normal ;
3892 }
3893
3894 .latexlogo {
3895 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3896 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3897 }
3898
3899 .latexlogosup {
3900 text-transform: uppercase;
3901 letter-spacing: .03em ;
3902 font-size: 0.7em;
3903 vertical-align: 0.25em;
3904 margin-left: -0.4em;
3905 margin-right: -0.15em;
3906 }
3907
3908 .latexlogosub {
3909 text-transform: uppercase;
```



```
3910 /* vertical-align: -0.27ex; */
3911 margin-left: -0.08em;
3912 margin-right: -0.07em;
3913 /* font-size: 1em; */
3914 font-size: .7em ;
3915 }
3916
3917 .latexlogotwoe {
3918 text-transform: none ;
3919 font-variant-numeric: oldstyle-nums ;
3920 }
3921
3922 .latexlogotwoesub {
3923 font-style:italic ;
3924 /* vertical-align: -0.27ex; */
3925 margin-left: -0.11em;
3926 margin-right: -0.1em;
3927 /* font-size: 1em; */
3928 font-size: .7em ;
3929 }
3930
3931 .xelatexlogo {
3932 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3933 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3934 letter-spacing: .03em ;
3935 }
3936
3937 .xelatexlogosub {
3938 /* vertical-align: -0.27ex; */
3939 margin-left: -0.0667em;
3940 margin-right: -.05em;
3941 /* font-size: 1em; */
3942 font-size: .7em ;
3943 letter-spacing: .03em ;
3944 }
3945
3946 .amslogo {
3947 font-family: "TeXGyreChorus","URW Chancery L",
3948 "Apple Chancery","ITC Zapf Chancery","Monotype Corsiva",
3949 "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
3950 "Hoefler Text", Times, "Times New Roman", serif ;
3951 font-style: italic ;
3952 }
3953
3954 .lyxlogo {
3955 font-family: "URW Classico", Optima, "Linux Biolinum O",
3956 "DejaVu Sans", "Bitstream Vera Sans", Geneva,
3957 Verdana, sans-serif ;
3958 }
3959
3960
3961 /* Only display top and bottom navigation if a small screen: */
3962 /* Hide the sidetoc if a small screen: */
3963 nav.topnavigation { display:none; }
3964 nav.botnavigation { display:none; }
```

```
3965
3966 /* Only display the sidetoc's webpage title if a small screen */
3967 span.sidetocthetitle { display: none }
3968
3969 @media screen and (max-width: 100em) {
3970 div.multicols {
3971 -webkit-columns: 2 auto ;
3972 -moz-columns: 2 auto ;
3973 columns: 2 auto ;
3974 }
3975 }
3976
3977 @media screen and (max-width: 50em) {
3978 div.sidetoccontainer {
3979 float: none ;
3980 width: 100% ;
3981 padding: 0 ;
3982 border-radius: 0 ;
3983 border-bottom: 1px solid black ;
3984 border-top: 1px solid black ;
3985 box-shadow: none ;
3986 }
3987 span.sidetocthetitle { display: inline }
3988 nav.topnavigation { display:block }
3989 nav.botnavigation { display:block }
3990 main.bodycontainer { width: 100% }
3991 .marginpar {
3992 max-width: 100%;
3993 float: none;
3994 display:block ;
3995 margin: 1ex 1em 1ex 1em ;
3996 }
3997 div.multicols {
3998 -webkit-columns: 1 auto ;
3999 -moz-columns: 1 auto ;
4000 columns: 1 auto ;
4001 }
4002 }
4003
4004 @media print {
4005 body {
4006 font-family: "Linux Libertine O",
4007 "DejaVu Serif", "Bitstream Vera Serif",
4008 "Liberation Serif", "Nimbus Roman No 9 L",
4009 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4010 }
4011 div.sidetoccontainer { display:none; }
4012 nav.topnavigation { display: none; }
4013 nav.botnavigation { display: none; }
4014 main.bodycontainer { width: 100% }
4015 }
4016
4017 @media handheld {
4018 div.sidetoccontainer { display:none; }
4019 nav.topnavigation { display:block }
```

```

4020 nav.botnavigation { display:block }
4021 main.bodycontainer { width: 100% }
4022 }
4023
4024 @media projection {
4025 div.sidetoccontainer { display:none; }
4026 nav.topnavigation { display:block }
4027 nav.botnavigation { display:block }
4028 main.bodycontainer { width: 100% }
4029 }
4030 \end{filecontents*}
4031 % \end{Verbatim}% for syntax highlighting
4032 \end{LWRwriteconf}

```

## 40.5 lwarp\_sagebrush.css

File `lwarp_sagebrush.css` An optional css which may be used for a semi-modern appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

4033 \begin{LWRwriteconf}
4034 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
4035 @import url("lwarp.css") ;
4036
4037
4038 A:link {color:#105030 ; text-decoration: none ; }
4039 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
4040 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
4041 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
4042
4043
4044
4045 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4046 {
4047 font-family: "URW Classico", Optima, "Linux Biolinum O",
4048 "Linux Libertine O", "Liberation Serif",
4049 "Nimbus Roman No 9 L", "FreeSerif",
4050 "Hoefler Text", Times, "Times New Roman", serif;
4051 font-variant: small-caps ;
4052 font-weight: normal ;
4053 color: #304070 ;
4054 text-shadow: 2px 2px 3px #808080;
4055 }
4056
4057 h1 { /* title of the entire website, used on each page */
4058 font-variant: small-caps ;
4059 color: #304070 ;
4060 text-shadow: 2px 2px 3px #808080;
4061 background-color: #F7F7F0 ;
4062 background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
4063 }
4064
4065 h1 {

```

```
4066 border-bottom: 1px solid #304070;
4067 /* border-top: 2px solid #304070; */
4068 }
4069
4070 h2 {
4071 border-bottom: 1px solid #304070;
4072 /* border-top: 2px solid #304070; */
4073 background-color: #F7F7F0 ;
4074 background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
4075 }
4076
4077
4078
4079 div.abstract {
4080 background: #f5f5eb ;
4081 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4082
4083 border: 1px solid silver;
4084 border-radius: 1em ;
4085 }
4086
4087 div.abstract dl {line-height:1.5;}
4088 div.abstract dt {color:#304070;}
4089
4090 div.abstracttitle{
4091 font-family: "URW Classico", Optima, "Linux Biolinum O",
4092 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4093 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4094 font-weight:bold;
4095 font-variant: small-caps ;
4096 font-size:1.5em;
4097 border-bottom: 1px solid silver ;
4098 color: #304070 ;
4099 text-align: center ;
4100 text-shadow: 1px 1px 2px #808080;
4101 }
4102
4103 span.abstracruntintitle{
4104 font-family: "URW Classico", Optima, "Linux Biolinum O",
4105 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4106 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4107 font-weight:bold;
4108 }
4109
4110
4111 div.epigraph, div.dictum {
4112 background: #f5f5eb ;
4113 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4114
4115 border: 1px solid silver ;
4116 border-radius: 1ex ;
4117 box-shadow: 3px 3px 3px #808080 ;
4118 }
4119
4120
```

```
4121 .example {
4122 background-color: #f5f5eb ;
4123 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4124
4125 }
4126
4127 div.exampletitle{
4128 font-family: "URW Classico", Optima, "Linux Biolinum O",
4129 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4130 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4131 font-weight:bold;
4132 font-variant: small-caps ;
4133 border-bottom: 1px solid silver ;
4134 color: #304070 ;
4135 text-align: center ;
4136 text-shadow: 1px 1px 2px #808080;
4137 }
4138
4139
4140 .sidebar {
4141 background-color: #f5f5eb ;
4142 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4143
4144 }
4145
4146 div.sidebartitle{
4147 font-family: "URW Classico", Optima, "Linux Biolinum O",
4148 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4149 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4150 font-weight:bold;
4151 font-variant: small-caps ;
4152 border-bottom: 1px solid silver ;
4153 color: #304070 ;
4154 text-align: center ;
4155 text-shadow: 1px 1px 2px #808080;
4156 }
4157
4158
4159 .fancyvrblabel {
4160 font-family: "URW Classico", Optima, "Linux Biolinum O",
4161 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4162 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4163 font-weight:bold;
4164 font-variant: small-caps ;
4165 font-size: 1.5em ;
4166 color: #304070 ;
4167 text-align: center ;
4168 text-shadow: 1px 1px 2px #808080;
4169 }
4170
4171 div.minipage {
4172 background-color: #eeeeee7 ;
4173 border: 1px solid silver ;
4174 border-radius: 1ex ;
4175 }
```

```
4176
4177 table div.minipage { background: none ; border: none ; }
4178
4179 div.framebox div.minipage {border:none ; background:none}
4180
4181 section.textbody > div.minipage {
4182 box-shadow: 3px 3px 3px #808080 ;
4183 }
4184
4185 div.fboxBlock div.minipage { box-shadow: none ; }
4186
4187 .framed .minipage , .framedleftbar .minipage {
4188 border: none ;
4189 background: none ;
4190 padding: 0ex ;
4191 margin: 0ex ;
4192 }
4193
4194 figure.figure .minipage, div.figurecaption .minipage { border: none; }
4195
4196 div.marginblock div.minipage ,
4197 div.marginparblock div.minipage
4198 { border: none; }
4199
4200 figure , div.marginblock {
4201 background-color: #eeeeee7 ;
4202 border: 1px solid silver ;
4203 border-radius: 1ex ;
4204 box-shadow: 3px 3px 3px #808080 ;
4205 }
4206
4207 figure figure {
4208 border: 1px solid silver ;
4209 margin: 0em ;
4210 box-shadow: none ;
4211 }
4212
4213 /*
4214 div.figurecaption {
4215 border-top: 1px solid silver ;
4216 border-bottom: 1px solid silver ;
4217 background-color: #e8e8e8 ;
4218 }
4219 */
4220
4221
4222 div.table {
4223 box-shadow: 3px 3px 3px #808080 ;
4224 }
4225
4226 /*
4227 .tnotes {
4228 background: #e8e8e8;
4229 border: 1px solid silver;
4230 }
```

```
4231 */
4232
4233
4234 nav.topnavigation{
4235 background-color: #b0b8b0 ;
4236 background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
4237 }
4238
4239 nav.botnavigation{
4240 background-color: #b0b8b0 ;
4241 background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
4242 }
4243
4244
4245
4246 header{
4247 background-color: #F7F7F0 ;
4248 background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
4249 }
4250
4251 footer{
4252 background-color: #F7F7F0 ;
4253 background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
4254 }
4255
4256
4257
4258 div.sidetoccontainer {
4259 background-color: #F7F7F0 ;
4260 background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
4261 box-shadow: 3px 3px 3px #808080 ;
4262 }
4263
4264 div.sidetocitle {color: #304070 ; }
4265
4266 nav.sidetoc a:hover {
4267 color:#006000 ;
4268 text-decoration: none ;
4269 text-shadow:0px 0px 2px #a0a0a0;
4270 }
4271
4272
4273 @media screen and (max-width: 45em) {
4274 div.sidetoccontainer { border-radius: 0 ; }
4275 }
4276
4277
4278 \end{filecontents*}
4279 % \end{Verbatim}% for syntax highlighting
4280 \end{LWRwriteconf}
```

## 40.6 lwarp\_formal.css

File lwarp\_formal.css An optional css which may be used for a more formal appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

```
Config file: 4281 \begin{LWRwriteconf}
4282 \begin{filecontents*}[overwrite]{lwarp_formal.css}
4283 @import url("lwarp.css") ;
4284
4285
4286
4287 A:link {color:#802020 ; text-decoration:none; }
4288 A:visited {color:#802020 ; text-shadow:none ;}
4289 A:hover {color:#400000 ; text-shadow:none ;}
4290 A:active {color:#C00000 ; text-shadow:none ;}
4291
4292
4293 body {
4294 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4295 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4296 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4297 "Times New Roman", serif;
4298 background: #fffcf5;
4299 }
4300
4301 span.textrm {
4302 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4303 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4304 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4305 "Times New Roman", serif;
4306 }
4307
4308 span.textsf {
4309 font-family: "DejaVu Sans", "Bitstream Vera Sans",
4310 Geneva, Verdana, sans-serif ;
4311 }
4312
4313
4314
4315 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4316 {
4317 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4318 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4319 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4320 "Times New Roman", serif;
4321 color: #800000 ;
4322 text-shadow: none ;
4323 }
4324
4325 h1, h2 {
4326 background-color: #fffcf5 ;
4327 background-image: none ;
4328 border-bottom: 1px solid #808080;
4329 /* border-top: 2px solid #808080; */
4330 }
4331
4332 div.abstracttitle {
4333 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
```



```
4334 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4335 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4336 "Times New Roman", serif;
4337 color: black ;
4338 text-shadow: none ;
4339 }
4340
4341 span.abstractrunintitle {
4342 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4343 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4344 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4345 "Times New Roman", serif;
4346 color: black ;
4347 text-shadow: none ;
4348 }
4349
4350 div.abstract { font-size: 100% }
4351
4352 .sidebar {
4353 background: #fffcf5;
4354 background-image: none ;
4355 margin: 2em 5% 2em 5%;
4356 padding: 0.5em 1em;
4357 border: none ;
4358 border-top : 1px solid silver;
4359 border-bottom : 1px solid silver;
4360 font-size: 90% ;
4361 }
4362
4363 div.sidebartitle{
4364 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4365 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4366 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4367 "Times New Roman", serif;
4368 color: #800000 ;
4369 text-shadow: none ;
4370 border: none ;
4371 }
4372
4373 .example {
4374 background: #fffcf5;
4375 background-image: none ;
4376 margin: 2em 5% 2em 5%;
4377 padding: 0.5em 1em;
4378 border: none ;
4379 border-top : 1px solid silver;
4380 border-bottom : 1px solid silver;
4381 }
4382
4383 div.exampletitle{
4384 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4385 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4386 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4387 "Times New Roman", serif;
4388 color: #800000 ;
```

```
4389 text-shadow: none ;
4390 border: none ;
4391 }
4392
4393 div.fancyvrblabel{
4394 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4395 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4396 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4397 "Times New Roman", serif;
4398 color: #800000 ;
4399 text-shadow: none ;
4400 border: none ;
4401 }
4402
4403
4404
4405 figure {
4406 margin: 5ex 5% 5ex 5% ;
4407 padding: 1ex 1em 1ex 1em ;
4408 background-color: #fffcf5 ;
4409 overflow-x: auto ;
4410 border: none ;
4411 /* border-top: 1px solid silver; */
4412 /* border-bottom: 1px solid silver; */
4413 }
4414
4415
4416 div.figurecaption , .lstlisting {
4417 border: none ;
4418 /* border-top: 1px solid silver ; */
4419 /* border-bottom: 1px solid silver ; */
4420 background-color: #fffcf5 ;
4421 }
4422
4423 .tnotes {
4424 background: #fffcf5 ;
4425 border-top: 1px solid silver ;
4426 border-bottom: 1px solid silver ;
4427 }
4428
4429 .theorem {
4430 background: none ;
4431 }
4432
4433 .minipage {
4434 background-color: #fffcf5 ;
4435 border: none ;
4436 }
4437
4438 div.floatrow figure { border: none ; }
4439
4440 figure figure { border: none ; }
4441
4442
4443 nav.toc, nav.lof, nav.lot, nav.lol {
```

```

4444 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4445 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4446 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4447 "Times New Roman", serif;
4448 }
4449
4450 div.sidetoccontainer {
4451 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4452 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4453 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4454 "Times New Roman", serif;
4455 background-image: linear-gradient(to bottom, #fffcf5, #C0C0C0);
4456 }
4457
4458 div.sidetocitle{
4459 color: #800000 ;
4460 }
4461
4462 header{
4463 background-color: #e0e0e0 ;
4464 background-image: linear-gradient(to top, #fffcf5, #b0b0b0);
4465 text-align:center ;
4466 }
4467
4468 footer{
4469 background-color: #e0e0e0 ;
4470 background-image: linear-gradient(to bottom, #fffcf5, #b0b0b0);
4471 padding: 2ex 1em 2ex 1em ;
4472 text-align:left ;
4473 }
4474
4475 nav.botnavigation {
4476 background: #dedcd5 ;
4477 border-top: 1px solid black ;
4478 }
4479 \end{filecontents*}
4480 % \end{Verbatim}% for syntax highlighting
4481 \end{LWRwriteconf}

```

## 40.7 sample\_project.css

File `sample_project.css` The project-specific css file. Use with `\CSSFilename`.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

4482 \begin{LWRwriteconf}
4483 \begin{filecontents*}[overwrite]{sample_project.css}
4484 /* (--- Start of project.css ---) */
4485 /* (--- A sample project-specific CSS file for lwarp ---) */
4486
4487 /* Uncomment one of the following: */
4488 @import url("lwarp.css") ;
4489 /* @import url("lwarp_formal.css") ; */

```

```

4490 /* @import url("lwarp_sagebrush.css") ; */
4491
4492 /* Project-specific CSS setting follow here. */
4493 /* . . . */
4494
4495 /* (--- End of project.css ---) */
4496 \end{filecontents*}
4497 % \end{Verbatim}% for syntax highlighting
4498 \end{LWRwriteconf}

```

## 40.8 lwarp.ist

File lwarp.ist Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The page compositor line is for memoir's `\specialindex`.

```

Config file: 4499 \begin{LWRwriteconf}
4500 \begin{filecontents*}[overwrite]{lwarp.ist}
4501 preamble
4502 "\begin{theindex}
4503 \providecommand*\lettergroupDefault[1]{}
4504 \providecommand*\lettergroup[1]{%
4505 \par\textbf{#1}\par
4506 \nopagebreak
4507 }
4508 "
4509 headings_flag 1
4510 heading_prefix "
4511 \lettergroup{"
4512 heading_suffix "}"
4513 delim_0 ", \hyperindexref{"
4514 delim_1 ", \hyperindexref{"
4515 delim_2 ", \hyperindexref{"
4516 delim_n "}, \hyperindexref{"
4517 delim_r "} -- \hyperindexref{"
4518 delim_t "}"
4519 page_compositor "."
4520 \end{filecontents*}
4521 % \end{Verbatim}% for syntax highlighting
4522 \end{LWRwriteconf}

```

## 40.9 lwarp.xdy

File lwarp.xdy Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

See:

<https://tex.stackexchange.com/questions/80300/how-can-i-convince-hyperref-and-xindy-to-play-together-nicely>

```

Config file: 4523 \begin{LWRwriteconf}
4524 \begin{filecontents*}[overwrite]{lwarp.xdy}
4525 (require "tex/inputenc/latin.xdy")
4526 (merge-rule "\\PS *" "Postscript")
4527 (require "texindy.xdy")
4528 (require "page-ranges.xdy")
4529 (require "book-order.xdy")
4530 (define-location-class "arabic-page-numbers"
4531 ("arabic-numbers") :min-range-length 1)
4532 (require "makeindex.xdy")
4533 (define-attributes (("hyperindexref")))
4534 (markup-locref :open "\hyperindexref{" :close "}")
4535 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")
4536 (markup-locref :open "\textbf{\hyperindexref{" :close "}}" :attr "textbf")
4537 (markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
4538 (define-location-class-order ("roman-page-numbers"
4539 "arabic-page-numbers"
4540 "alpha-page-numbers"
4541 "Roman-page-numbers"
4542 "Alpha-page-numbers"
4543 "see"
4544 "seealso"))
4545 \end{filecontents*}
4546 % \end{Verbatim}% for syntax highlighting
4547 \end{LWRwriteconf}

```

## 40.10 lwarp\_one\_limage.cmd

File `lwarp_one_limage.cmd` Used by `lwarp` to help make lateximages when using WINDOWS.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The arguments are each of the three fields from `<project>-images.txt`, and also the base name of the source file.

*MiKTeX* does not allow file `lwarp_one_limage.cmd` to be created directly by *lwarpmk*, so `lwarp_one_limage.txt` is created instead, then copied to `lwarp_one_limage.cmd` by *lwarpmk*. This occurs each time *lwarpmk* used to create lateximages.

```

Config file: 4548 \begin{LWRwriteconf}
4549 \immediate\openout\LWR@quickfile=lwarp_one_limage.txt
4550 \immediate\write\LWR@quickfile{%
4551 pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4552 \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4553 }
4554 \immediate\write\LWR@quickfile{%
4555 pdfcrop --hires \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4556 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4557 }

```

```

4558 \immediate\write\LWR@quickfile{%
4559 pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4560 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4561 }
4562 \immediate\write\LWR@quickfile{%
4563 del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4564 }
4565 \immediate\write\LWR@quickfile{%
4566 del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4567 }
4568 \immediate\write\LWR@quickfile{exit}
4569 \immediate\closeout\LWR@quickfile
4570 \end{LWRwriteconf}

```

## 40.11 lwarp\_mathjax.txt

*(Emulates or patches code by DAVIDE P. CERVONE.)*

File `lwarp_mathjax.txt` The default MATHJAX script used by `lwarp` when using MATHJAX. A recent version of MATHJAX is used, as served by the recommended repository. Adjustments are made to allow L<sup>A</sup>T<sub>E</sub>X to control the equation tags and provide for starred macros.

`\MathJaxFilename` determines which script file is copied into the HTML pages, and defaults to `lwarp_mathjax.txt`. The script files must be present when compiling the project, but do not need to be present when distributing the resulting HTML files.

**custom script** To generate a custom script, such as to use a local repository, copy `lwarp_mathjax.txt` to a new file, make changes while keeping `lwarp`'s adjustments for equation numbering and starred macros, and use `\MathJaxFilename` to select the new filename.

**Config file:**

```

4571 \begin{LWRwriteconf}
4572 \begin{filecontents*}[overwrite]{lwarp_mathjax.txt}
4573 <script>
4574 // Lwarp MathJax emulation code
4575 //
4576 // Based on code by Davide P. Cervone.
4577 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4578 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4579 // \left, \right delimiters: https://github.com/mathjax/MathJax/issues/2535
4580 //
4581 // Modified by Brian Dunn to adjust equation numbering and add subequations.
4582 //
4583 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4584 // subequations? is 0 usually, 1 if inside subequations.
4585 // section is a string printed as-is, or empty.
4586 // number is auto-incremented by MathJax between equations.
4587 //
4588 MathJax = {
4589 subequations: "0",
4590 section: "",
4591 loader: {
4592 load: ['[tex]/tagformat', '[tex]/textmacros'],
4593 },
4594 startup: {

```

```
4595 ready() {
4596 // These would be replaced by import commands if you wanted to make
4597 // a proper extension.
4598 const Configuration = MathJax._.input.tex.Configuration.Configuration;
4599 const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4600 const Macro = MathJax._.input.tex.Symbol.Macro;
4601 const TexError = MathJax._.input.tex.TexError.default;
4602 const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4603 const expandable = MathJax._.util.Options.expandable;
4604
4605 // Insert the replacement string into the TeX string, and check
4606 // that there haven't been too many macro substitutions (prevents
4607 // infinite loops).
4608 const useArgument = (parser, text) => {
4609 parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));
4610 parser.i = 0;
4611 if (++parser.macroCount > parser.configuration.options.maxMacros) {
4612 throw new TexError('MaxMacroSub1',
4613 'MathJax maximum macro substitution count exceeded; ' +
4614 'is there a recursive macro call?');
4615 }
4616 }
4617
4618 // Create the command map for:
4619 // \ifstar, \ifnextchar, \ifblank, \ifstrequal, \seteqnumber
4620 new CommandMap('Lwarp-macros', {
4621 ifstar: 'IfstarFunction',
4622 ifnextchar: 'IfnextcharFunction',
4623 ifblank: 'IfblankFunction',
4624 ifstrequal: 'IfstrequalFunction',
4625 seteqnumber: 'SeteqnumberFunction'
4626 }, {
4627 // This function implements an ifstar macro.
4628 IfstarFunction(parser, name) {
4629 const resultstar = parser.GetArgument(name);
4630 const resultnostar = parser.GetArgument(name);
4631 const star = parser.GetStar(); // true if there is a *
4632 useArgument(parser, star ? resultstar : resultnostar);
4633 },
4634
4635 // This function implements an ifnextchar macro.
4636 IfnextcharFunction(parser, name) {
4637 let whichchar = parser.GetArgument(name);
4638 if (whichchar.match(/^(?:\x[0-9A-F]+|[0-9]+)$/i)) {
4639 // $ syntax highlighting
4640 whichchar = String.fromCharCode(parseInt(whichchar));
4641 }
4642 const resultnextchar = parser.GetArgument(name);
4643 const resultnotnextchar = parser.GetArgument(name);
4644 const gotchar = (parser.GetNext() === whichchar);
4645 useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4646 },
4647
4648 // This function implements an ifblank macro.
4649 IfblankFunction(parser, name) {
```

```

4650 const blankarg = parser.GetArgument(name);
4651 const resultblank = parser.GetArgument(name);
4652 const resultnotblank = parser.GetArgument(name);
4653 const isblank = (blankarg.trim() == "");
4654 useArgument(parser, isblank ? resultblank : resultnotblank);
4655 },
4656
4657 // This function implements an ifstrequal macro.
4658 IfstrequalFunction(parser, name) {
4659 const strequalfirst = parser.GetArgument(name);
4660 const strequalsecond = parser.GetArgument(name);
4661 const resultequal = parser.GetArgument(name);
4662 const resultnotequal = parser.GetArgument(name);
4663 const isequal = (strequalfirst == strequalsecond);
4664 useArgument(parser, isequal ? resultequal : resultnotequal);
4665 },
4666
4667 // This function modifies the equation numbers.
4668 SeteqnumberFunction(parser, name) {
4669 // Get the macro parameters
4670 const star = parser.GetStar(); // true if there is a *
4671 const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4672 const newsubequations = parser.GetArgument(name); // the subequations argument
4673 const neweqsection = parser.GetArgument(name); // the eq section argument
4674 const neweqnumber = parser.GetArgument(name); // the eq number argument
4675 MathJax.config.subequations=newsubequations; // a string with boolean meaning
4676 MathJax.config.section=neweqsection; // a string with numeric meaning
4677 parser.tags.counter = parser.tags.allCounter = neweqnumber;
4678 }
4679
4680 });
4681
4682 // Create the Lwarp-macros package
4683 Configuration.create('Lwarp-macros', {
4684 handler: {macro: ['Lwarp-macros']}
4685 });
4686
4687 MathJax.startup.defaultReady();
4688
4689 // For forward references:
4690 MathJax.startup.input[0].preFilters.add(({math}) => {
4691 if (math.inputData.recompile){
4692 MathJax.config.subequations = math.inputData.recompile.subequations;
4693 MathJax.config.section = math.inputData.recompile.section;
4694 }
4695 });
4696 MathJax.startup.input[0].postFilters.add(({math}) => {
4697 if (math.inputData.recompile){
4698 math.inputData.recompile.subequations = MathJax.config.subequations;
4699 math.inputData.recompile.section = MathJax.config.section;
4700 }
4701 });
4702
4703 // For \left, \right with unicode-math:
4704 const {DelimiterMap} = MathJax._.input.tex.SymbolMap;

```



```

4705 const {Symbol} = MathJax._.input.tex.Symbol;
4706 const {MapHandler} = MathJax._.input.tex.MapHandler;
4707 const delimiter = MapHandler.getMap('delimiter');
4708 delimiter.add('\lBrack', new Symbol('\lBrack', '\u27E6'));
4709 delimiter.add('\rBrack', new Symbol('\rBrack', '\u27E7'));
4710 delimiter.add('\lAngle', new Symbol('\lAngle', '\u27EA'));
4711 delimiter.add('\rAngle', new Symbol('\rAngle', '\u27EB'));
4712 delimiter.add('\lbrbrak', new Symbol('\lbrbrak', '\u2772'));
4713 delimiter.add('\rbrbrak', new Symbol('\rbrbrak', '\u2773'));
4714 delimiter.add('\lbag', new Symbol('\lbag', '\u27C5'));
4715 delimiter.add('\rbag', new Symbol('\rbag', '\u27C6'));
4716 delimiter.add('\llparenthesis', new Symbol('\llparenthesis', '\u2987'));
4717 delimiter.add('\rrparenthesis', new Symbol('\rrparenthesis', '\u2988'));
4718 delimiter.add('\llangle', new Symbol('\llangle', '\u2989'));
4719 delimiter.add('\rrangle', new Symbol('\rrangle', '\u298A'));
4720 delimiter.add('\Lbrak', new Symbol('\Lbrak', '\u27EC'));
4721 delimiter.add('\Rbrak', new Symbol('\Rbrak', '\u27ED'));
4722 delimiter.add('\lBrace', new Symbol('\lBrace', '\u2983'));
4723 delimiter.add('\rBrace', new Symbol('\rBrace', '\u2984'));
4724 delimiter.add('\lParen', new Symbol('\lParen', '\u2985'));
4725 delimiter.add('\rParen', new Symbol('\rParen', '\u2986'));
4726 delimiter.add('\lbrackubar', new Symbol('\lbrackubar', '\u298B'));
4727 delimiter.add('\rbrackubar', new Symbol('\rbrackubar', '\u298C'));
4728 delimiter.add('\lbrackultick', new Symbol('\lbrackultick', '\u298D'));
4729 delimiter.add('\rbracklrtick', new Symbol('\rbracklrtick', '\u298E'));
4730 delimiter.add('\lbracklltick', new Symbol('\lbracklltick', '\u298F'));
4731 delimiter.add('\rbrackurtick', new Symbol('\rbrackurtick', '\u2990'));
4732 delimiter.add('\langedot', new Symbol('\langedot', '\u2991'));
4733 delimiter.add('\rangedot', new Symbol('\rangedot', '\u2992'));
4734 delimiter.add('\lparenless', new Symbol('\lparenless', '\u2993'));
4735 delimiter.add('\rparengtr', new Symbol('\rparengtr', '\u2994'));
4736 delimiter.add('\Lparengtr', new Symbol('\Lparengtr', '\u2995'));
4737 delimiter.add('\Rparenless', new Symbol('\Rparenless', '\u2996'));
4738 delimiter.add('\lblkbrbrak', new Symbol('\lblkbrbrak', '\u2997'));
4739 delimiter.add('\rblkbrbrak', new Symbol('\rblkbrbrak', '\u2998'));
4740 delimiter.add('\lvzigzag', new Symbol('\lvzigzag', '\u29D8'));
4741 delimiter.add('\rvzigzag', new Symbol('\rvzigzag', '\u29D9'));
4742 delimiter.add('\Lvzigzag', new Symbol('\Lvzigzag', '\u29DA'));
4743 delimiter.add('\Rvzigzag', new Symbol('\Rvzigzag', '\u29DB'));
4744 delimiter.add('\lcurvyangle', new Symbol('\lcurvyangle', '\u29FC'));
4745 delimiter.add('\rcurvyangle', new Symbol('\rcurvyangle', '\u29FD'));
4746 delimiter.add('\Vvert', new Symbol('\Vvert', '\u2980'));
4747 } // ready
4748 }, // startup
4749
4750 tex: {
4751 packages: {'[+]': ['tagformat', 'Lwarp-macros', 'textmacros']},
4752 tags: "ams",
4753 tagformat: {
4754 number: function (n) {
4755 if(MathJax.config.subequations==0)
4756 return(MathJax.config.section + n);
4757 else
4758 return(MathJax.config.section + String.fromCharCode(96+n));
4759 },

```

```

4760 },
4761 }
4762 }
4763 </script>
4764
4765 <script
4766 id="MathJax-script"
4767 src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-ctml.js"
4768 ></script>
4769 \end{filecontents*}
4770 % \end{Verbatim}% for syntax highlighting
4771 \end{LWRwriteconf}

```

## 40.12 lwarpmk.lua — lwarpmk option

Opt lwarpmk Creates a local copy of *lwarpmk*.

Prog lwarpmk Command-line utility to process lwarp files and images.

**parallel processing** lateximages and SVG math images are generated using multiple processes in parallel. For UNIX and LINUX, every 32 images the wait command is issued to wait for the previous batch of images to finish processing before starting a new batch. For WINDOWS, every 32 images one task is dispatched with

```
START /B /WAIT /BELOWNORMAL
```

which causes the operating system to wait until this lesser-priority tasks finishes, hopefully also waiting for the normal priority tasks which were already in progress to also complete. Afterwards, the next batch of images is started.

The following is only generated if the lwarpmk option was given to lwarp.

```

4772 \begin{LWRcreateLwarpmk}

4773 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4774 #!/usr/bin/env texlua
4775
4776 -- Copyright 2016-2021 Brian Dunn
4777
4778
4779 printversion = "v0.901"
4780 requiredconfversion = "2" -- also at *lwarpmk.conf
4781
4782 function printhelp ()
4783 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.") ;
4784 end
4785
4786
4787 function printusage ()
4788 --
4789 -- Print the usage of the lwarpmk command:
4790 --
4791 print ([[

```

```

4792
4793 lwarpmk print [-p project]: Compile the print version if necessary.
4794 lwarpmk printl [-p project]: Forced single compile of the print version.
4795 lwarpmk printindex [-p project]: Process print indexes.
4796 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4797 lwarpmk html [-p project]: Compile the HTML version if necessary.
4798 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4799 lwarpmk htmlindex [-p project]: Process HTML indexes.
4800 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4801 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4802 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
4803 lwarpmk pdftohtml [-p project]:
4804 For use with latexmk or a Makefile:
4805 Converts project_html.pdf to project_html.html and individual HTML files.
4806 Finishes the HTML conversion even if there was a compile error.
4807 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4808 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4809 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4810 *.idx, *.ind, *.bbl, *.log, *_html_inc.*, .gl*,
4811 *_html.pdf, *_html.html, *_html.sidetoc
4812 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4813 lwarpmk cleanimages: Removes all images from the "lateximages" directory.
4814 lwarpmk -v: Print the version number.
4815 lwarpmk -h: Print this help message.
4816 lwarpmk --help: Print this help message.
4817
4818]])
4819 -- printconf ()
4820 end
4821
4822
4823 function splitfilename (pathandfilename)
4824 --
4825 -- Separates out the path and extension from a filename.
4826 -- Returns path, filename with extension, and extension.
4827 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4828 --
4829 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code_snippets:
4830 -- split_filename_in_to_path_filename_and_extension
4831 --
4832 if lfs.attributes(pathandfilename,"mode") == "directory" then
4833 local strPath = pathandfilename:gsub("[\\/]$", "") -- $(syntax highlighting)
4834 return strPath.."\\", "", ""
4835 end
4836 pathandfilename = pathandfilename.."."
4837 return pathandfilename:match("^(-)([^\\"/]-)%.(^[^\\"/\.]-)%?.?$")
4838 end
4839
4840
4841 function splitfile (destfile,sourcefile)
4842 --
4843 -- Split one large sourcefile into a number of files,
4844 -- starting with destfile.
4845 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4846 -- If lwarp is in use, sets usinglwarp.

```

```
4847 --
4848 usinglwarp = false ;
4849 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
4850 local sfile = io.open(sourcefile)
4851 io.output(destfile)
4852 for line in sfile:lines() do
4853 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|");
4854 if ((i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
4855 -- split the file
4856 io.output(newfilename) ;
4857 else
4858 if ((i~= nil) and (copen == "<!--") and (cstart == "Using lwarp")) then
4859 -- verified the use of \usepackage{lwarp}
4860 usinglwarp = true ;
4861 else
4862 -- not a splitpoint
4863 io.write (line .. "\n") ;
4864 end end
4865 end -- do
4866 io.close(sfile)
4867 if (usinglwarp == false) then
4868 print ("lwarpmk: ===")
4869 print ("lwarpmk: \\usepackage{lwarp} was not detected.")
4870 print ("lwarpmk: The HTML output will not be correct.")
4871 print ("lwarpmk: Ensured that \\usepackage{lwarp} is enabled,")
4872 print ("lwarpmk: then lwarpmk print and lwarpmk html again.")
4873 print ("lwarpmk: ===")
4874 end
4875 end -- function
4876
4877
4878 function cvalueerror (line, linenum , cvalue)
4879 --
4880 -- Incorrect value, so print an error and exit.
4881 --
4882 print ("lwarpmk: ===")
4883 print ("lwarpmk: " .. linenum .. " : " .. line) ;
4884 print (
4885 "lwarpmk: incorrect variable value \"" .. cvalue ..
4886 "\"" in lwarpmk.conf.\n"
4887) ;
4888 print ("lwarpmk: ===")
4889 -- printconf () ;
4890 os.exit(1) ;
4891 end
4892
4893
4894 function printhowtorecompile ()
4895 -- Tells the user how to recompile to regenerate the configuration files.
4896 print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf")
4897 print ("lwarpmk: must be updated. To do so, recompile")
4898 print ("lwarpmk: " , sourcename.."tex")
4899 if (printlatexcmd == "") then
4900 print ("lwarpmk: using xe/luapdflatex,")
4901 else
```

```
4902 print ("lwarpmk: using the command:")
4903 print ("lwarpmk: ", printlatexcmd)
4904 end
4905 print ("lwarpmk: then use lwarpmk again.")
4906 end -- printhowtorecompile
4907
4908
4909 function ignoreconf ()
4910 -- Global argument index
4911 argindex = 2
4912 end
4913
4914 function loadconf ()
4915 --
4916 -- Load settings from the project's "lwarpmk.conf" file:
4917 --
4918 -- Default configuration filename:
4919 local conffile = "lwarpmk.conf"
4920 local confroot = "lwarpmk"
4921 -- Global argument index
4922 argindex = 2
4923 -- Optional configuration filename:
4924 if (arg[argindex] == "-p") then
4925 argindex = argindex + 1
4926 confroot = arg[argindex]
4927 conffile = confroot.."lwarpmk.conf"
4928 argindex = argindex + 1
4929 end
4930 -- Additional defaults:
4931 confversion = "0"
4932 opsystem = "Unix"
4933 imagesdirectory = "lateximages"
4934 imagesname = "image-"
4935 latexmk = "false"
4936 printlatexcmd = ""
4937 HTMLlatexcmd = ""
4938 printindexcmd = ""
4939 HTMLindexcmd = ""
4940 latexmkindexcmd = ""
4941 -- to be removed:
4942 -- indexprog = "makeindex"
4943 -- makeindexstyle = "lwarp.ist"
4944 -- xindylanguage = "english"
4945 -- xindycodepage = "utf8"
4946 -- xindystyle = "lwarp.xdy"
4947 -- pdftotextenc = "UTF-8"
4948 glossarycmd = "makeglossaries"
4949 -- Verify the file exists:
4950 if (lfs.attributes(conffile,"mode")==nil) then
4951 -- file not exists
4952 print ("lwarpmk: ===")
4953 print ("lwarpmk: File \"\" .. conffile ..\"\" does not exist.")
4954 print ("lwarpmk: Move to the project's source directory,")
4955 print ("lwarpmk: recompile using pdflatex, xelatex, or luatex,")
4956 print ("lwarpmk: then try using lwarpmk again.")
```

```
4957 if (arg[argindex] ~= nil) then
4958 print (
4959 "lwarpmk: (\\"" .. confroot ..
4960 "\" does not appear to be a project name.)"
4961)
4962 end
4963 print ("lwarpmk: ===")
4964 printhelp () ;
4965 os.exit(1) -- exit the entire lwarpmk script
4966 else -- file exists
4967 -- Read the file:
4968 print ("lwarpmk: Reading " .. conffile .. ".")
4969 local cfile = io.open(conffile)
4970 -- Scan each line, parsing each line as: name = [[string]]
4971 local linenum = 0
4972 for line in cfile:lines() do -- scan lines
4973 linenum = linenum + 1
4974 i,j,cvarname,cvalue = string.find (line,"([%w-_]*)%s*=%s*%[[^%]]*%]");
4975 -- Error if incorrect enclosing characters:
4976 if (i == nil) then
4977 print ("lwarpmk: ===")
4978 print ("lwarpmk: " .. linenum .. " : " .. line);
4979 print ("lwarpmk: Incorrect entry in " .. conffile .. ".\n");
4980 print ("lwarpmk: ===")
4981 -- printconf () ;
4982 os.exit(1) ;
4983 end -- nil
4984 if (cvarname == "confversion") then
4985 confversion = cvalue
4986 elseif (cvarname == "opssystem") then
4987 -- Verify choice of opssystem:
4988 if ((cvalue == "Unix") or (cvalue == "Windows")) then
4989 opssystem = cvalue
4990 else
4991 cvalueerror (line, linenum , cvalue)
4992 end
4993 elseif (cvarname == "sourcename") then sourcename = cvalue
4994 elseif (cvarname == "homehtmlfilename") then homehtmlfilename = cvalue
4995 elseif (cvarname == "htmlfilename") then htmlfilename = cvalue
4996 elseif (cvarname == "imagesdirectory") then imagesdirectory = cvalue
4997 elseif (cvarname == "imagesname") then imagesname = cvalue
4998 elseif (cvarname == "latexmk") then latexmk = cvalue
4999 elseif (cvarname == "printlatexcmd") then printlatexcmd = cvalue
5000 elseif (cvarname == "HTMLlatexcmd") then HTMLlatexcmd = cvalue
5001 elseif (cvarname == "printindexcmd") then printindexcmd = cvalue
5002 elseif (cvarname == "HTMLindexcmd") then HTMLindexcmd = cvalue
5003 elseif (cvarname == "latexmkindexcmd") then latexmkindexcmd = cvalue
5004 elseif (cvarname == "glossarycmd") then glossarycmd = cvalue
5005 elseif (cvarname == "pdftotextenc") then pdftotextenc = cvalue
5006 else
5007 print ("lwarpmk: ===")
5008 print ("lwarpmk: " .. linenum .. " : " .. line);
5009 print (
5010 "lwarpmk: Incorrect variable name \"" .. cvarname .. "\" in " ..
5011 conffile .. ".\n"

```

```
5012);
5013 print ("lwarpmk: ===")
5014 -- printconf ();
5015 os.exit(1) ;
5016 end -- cvarname
5017 end -- do scan lines
5018 io.close(cfile)
5019 end -- file exists
5020 -- Error if sourcename is "lwarp".
5021 -- This could happen if a local copy of lwarp has recently been recompiled.
5022 if sourcename=="lwarp" then
5023 print ("lwarpmk: ===")
5024 print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
5025 print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
5026 print ("lwarpmk: (Perhaps you are not in your project's directory?)")
5027 print ("lwarpmk: In your project directory, recompile your project")
5028 print ("lwarpmk: using pdf/luaxelatex <projectname>.")
5029 print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
5030 print ("lwarpmk: and you may again use lwarpmk.")
5031 print ("lwarpmk: ===")
5032 os.exit(1)
5033 end -- sourcename of "lwarp"
5034 -- Select some operating-system commands:
5035 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
5036 rmname = "rm"
5037 mvname = "mv"
5038 cpname = "cp"
5039 touchnamepre = "touch"
5040 touchnamepost = ""
5041 newtouchname = "touch"
5042 dirslash = "/"
5043 opquote= "\""
5044 cmdgroupopenname = " ("
5045 cmdgroupclosename = ")"
5046 seqname = " && "
5047 bgnname = " &"
5048 elseif opsystem=="Windows" then -- For Windows
5049 rmname = "DEL"
5050 mvname = "MOVE"
5051 cpname = "COPY"
5052 touchnamepre = "COPY /b"
5053 touchnamepost = "+,,"
5054 newtouchname = "echo empty >"
5055 dirslash = "\\\"
5056 opquote= "\""
5057 cmdgroupopenname = ""
5058 cmdgroupclosename = ""
5059 seqname = " & "
5060 bgnname = ""
5061 else
5062 print ("lwarpmk: ===")
5063 print ("lwarpmk: Select Unix or Windows for opsystem.")
5064 print ("lwarpmk: ===")
5065 os.exit(1)
5066 end --- for Windows
```

```
5067 -- Warning if the operating system does not appear to be correct,
5068 -- in case files were transferred to another system.
5069 if ((package.config:sub(1,1)) ~= dirslash) then
5070 print ("lwarpmk: ===")
5071 print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system.")
5072 printhowtorecompile ()
5073 print ("lwarpmk: ===")
5074 os.exit(1)
5075 end
5076 -- Error if the configuration file's version is not current:
5077 if (confversion ~= requiredconfversion) then
5078 print ("lwarpmk: ===")
5079 printhowtorecompile ()
5080 print ("lwarpmk: ===")
5081 os.exit(1)
5082 end
5083 end -- loadconf
5084
5085
5086 function executecheckerror (executecommands , errormessage)
5087 --
5088 -- Execute an operating system call,
5089 -- and maybe exit with an error message.
5090 --
5091 local err
5092 err = os.execute (executecommands)
5093 if (err ~= 0) then
5094 print ("lwarpmk: ===")
5095 print ("lwarpmk: " .. errormessage)
5096 print ("lwarpmk: ===")
5097 os.exit(1)
5098 end
5099 end -- executecheckerror
5100
5101
5102 function refreshdate ()
5103 os.execute(touchnamepre .. " " .. sourcename .. ".tex " .. touchnamepost)
5104 end
5105
5106
5107
5108 function reruntoget (filesource)
5109 --
5110 -- Scan the LaTeX log file for the phrase "Rerun to get",
5111 -- indicating that the file should be compiled again.
5112 -- Return true if found.
5113 --
5114 local fsource = io.open(filesource)
5115 for line in fsource:lines() do
5116 if (string.find(line,"Rerun to get") ~= nil) then
5117 io.close(fsource)
5118 return true
5119 end -- if
5120 end -- do
5121 io.close(fsource)
```



```
5122 return false
5123 end
5124
5125
5126
5127 function onetime (latexcmd, fsuffix)
5128 --
5129 -- Compile one time, return true if should compile again.
5130 -- fsuffix is "" for print, "_html" for HTML output.
5131 --
5132 print("lwarpmk: Compiling with: " .. latexcmd)
5133 executecheckerror (
5134 latexcmd ,
5135 "Compile error."
5136)
5137 return (reruntoget(sourcename .. fsuffix .. ".log")) ;
5138 end
5139
5140
5141 function manytimes (latexcmd, fsuffix)
5142 --
5143 -- Compile up to five times.
5144 -- fsuffix is "" for print, "_html" for HTML output
5145 --
5146 if onetime(latexcmd, fsuffix) == true then
5147 if onetime(latexcmd, fsuffix) == true then
5148 if onetime(latexcmd, fsuffix) == true then
5149 if onetime(latexcmd, fsuffix) == true then
5150 if onetime(latexcmd, fsuffix) == true then
5151 end end end end end
5152 end
5153
5154
5155 function verifyfileexists (filename)
5156 --
5157 -- Exit if the given file does not exist.
5158 --
5159 if (lfs.attributes (filename , "modification") == nil) then
5160 print ("lwarpmk: ===")
5161 print ("lwarpmk: " .. filename .. " not found.") ;
5162 print ("lwarpmk: ===")
5163 os.exit (1) ;
5164 end
5165 end
5166
5167
5168
5169 function pdftohtml ()
5170 --
5171 -- Convert <project>_html.pdf into HTML files:
5172 --
5173 -- Convert to text:
5174 print ("lwarpmk: Converting " .. sourcename
5175 .. "_html.pdf to " .. sourcename .. "_html.html")
5176 os.execute("pdftotext -enc " .. pdftotextenc .. " -npgbrk -layout "
```

```
5177 .. sourcename .. "_html.pdf " .. sourcename .. "_html.html")
5178 -- Split the result into individual HTML files:
5179 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
5180 end
5181
5182
5183 function removeaux ()
5184 --
5185 -- Remove auxiliary files:
5186 -- All .aux files are removed since there may be many bbl*.aux files.
5187 -- Also removes sourcename_html.pdf, sourcename_html.html,
5188 -- and sourcename_html.sidetoc, plus comment_*.cut.
5189 --
5190 os.execute (rmname .. " *.aux " ..
5191 sourcename .. ".toc " .. sourcename .. "_html.toc " ..
5192 sourcename .. ".lof " .. sourcename .. "_html.lof " ..
5193 sourcename .. ".lot " .. sourcename .. "_html.lot " ..
5194 sourcename .. ".bbl " .. sourcename .. "_html.bbl " ..
5195 " *.idx " ..
5196 " *.ind " ..
5197 sourcename .. ".ps " .. sourcename .. "_html.ps " ..
5198 sourcename .. ".log " .. sourcename .. "_html.log " ..
5199 sourcename .. ".gl*" .. sourcename .. "_html.gl*" ..
5200 sourcename .. "_html.pdf " ..
5201 sourcename .. "_html.html " ..
5202 sourcename .. "_html.sidetoc " ..
5203 " *_html_inc.* " ..
5204 " comment_*.cut"
5205)
5206 end
5207
5208 function checkhtmlpdfexists ()
5209 --
5210 -- Error if the HTML document does not exist.
5211 -- The lateximages are drawn from the HTML PDF version of the document,
5212 -- so "lwarpmk html" must be done before "lwarpmk limages".
5213 --
5214 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
5215 if (htmlpdffile == nil) then
5216 print ("")
5217 print ("lwarpmk: ===")
5218 print ("lwarpmk: The HTML version of the document does not exist.")
5219 print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
5220 print ("lwarpmk: ===")
5221 os.exit(1)
5222 end
5223 io.close (htmlpdffile)
5224 end -- checkhtmlpdfexists
5225
5226
5227 function warnlimages ()
5228 --
5229 -- Warning of a missing <sourcename>-images.txt file:
5230 print ("lwarpmk: ===")
5231 print ("lwarpmk: \"\" .. sourcename .. "-images.txt\" does not exist.")
```

```
5232 print ("lwarpmk: Your project does not use SVG math or other lateximages,")
5233 print ("lwarpmk: or the file has been deleted somehow.")
5234 print ("lwarpmk: Use \"lwarpmk html1\" to recompile your project")
5235 print ("lwarpmk: and recreate \"\" .. sourcename .. \"-images.txt\".")
5236 print ("lwarpmk: If your project does not use SVG math or other lateximages,")
5237 print ("lwarpmk: then \"\" .. sourcename .. \"-images.txt\" will never exist, and")
5238 print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
5239 print ("lwarpmk: ===")
5240 end -- warnlimages
5241
5242
5243 function warnlimagesrecompile ()
5244 -- Warning if must recompile before creating limages:
5245 print ("")
5246 print ("lwarpmk: ===")
5247 print ("lwarpmk: Cross-references are not yet correct.")
5248 print ("lwarpmk: The document must be recompiled before creating the lateximages.")
5249 print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
5250 print ("lwarpmk: ===")
5251 end --warnlimagesrecompile
5252
5253
5254 function checklimages ()
5255 --
5256 -- Check <sourcename>.txt to see if need to recompile first.
5257 -- If any entry has a page number of zero, then there were incorrect images.
5258 --
5259 print ("lwarpmk: Checking for a valid \" .. sourcename .. \"-images.txt file.")
5260 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5261 if (limagesfile == nil) then
5262 warnlimages ()
5263 os.exit(1)
5264 end
5265 -- Track warning to recompile if find a page 0
5266 local pagezerowarning = false
5267 -- Scan <sourcename>.txt
5268 for line in limagesfile:lines() do
5269 -- lwimgpage is the page number in the PDF which has the image
5270 -- lwimghash is true if this filename is a hash
5271 -- lwimghash is the lateximage filename root to assign for the image
5272 i,j,lwimgpage,lwimghash,lwimghash = string.find (line,"|(.*)|(.*)|(.*)|")
5273 -- For each entry:
5274 if ((i~=nil)) then
5275 -- If the page number is 0, image references are incorrect
5276 -- and must recompile the source document:
5277 if (lwimgpage == "0") then
5278 pagezerowarning = true
5279 end
5280 end -- if i~=nil
5281 end -- do
5282 -- The last line should be |end|end|end|.
5283 -- If not, the compile must have aborted, and the images are incomplete.
5284 if (lwimgpage ~= "end") then
5285 warnlimagesrecompile()
5286 os.exit(1) ;
```

```
5287 end
5288 if (pagezerowarning) then
5289 warnlimagesrecompile()
5290 os.exit(1) ;
5291 end -- pagezerowarning
5292 end -- checklimages
5293
5294
5295 function createuniximage (lwimgfullname)
5296 --
5297 -- Create one lateximage for Unix / Linux / Mac OS.
5298 --
5299 executecheckerror (
5300 cmdgroupopenname ..
5301 "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
5302 sourcename .. "_html.pdf " ..
5303 imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
5304 seqname ..
5305 -- Crop the image:
5306 "pdfcrop --hires " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
5307 lwimgpage .. ".pdf " ..
5308 imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5309 seqname ..
5310 -- Convert the image to svg:
5311 "pdftocairo -svg -noshrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf " ..
5312 imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
5313 seqname ..
5314 -- Remove the temporary files:
5315 rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
5316 rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
5317 cmdgroupclosename .. " >/dev/null " .. bgnam
5318 ,
5319 "File error trying to convert " .. lwimgfullname
5320)
5321 -- Every 32 images, wait for completion at below normal priority,
5322 -- allowing other image tasks to catch up.
5323 numimageprocesses = numimageprocesses + 1
5324 if (numimageprocesses > 32) then
5325 numimageprocesses = 0
5326 print ("lwarpmk: waiting")
5327 executecheckerror ("wait" , "File error trying to wait.")
5328 end
5329 end -- createuniximage
5330
5331
5332 function createwindowsimage (lwimgfullname)
5333 --
5334 -- Create one lateximage for Windows.
5335 --
5336 -- Every 32 images, wait for completion at below normal priority,
5337 -- allowing other image tasks to catch up.
5338 numimageprocesses = numimageprocesses + 1
5339 if (numimageprocesses > 32) then
5340 numimageprocesses = 0
5341 thiswaitcommand = "/WAIT /BELOWNORMAL"
```

```

5342 print ("lwarpmk: waiting")
5343 else
5344 thiswaitcommand = ""
5345 end
5346 -- Execute the image generation command
5347 executecheckerror (
5348 "start /B " .. thiswaitcommand .. " \\" .. lwarp_one_limage " ..
5349 lwimgpage .. " " ..
5350 lwimghash .. " " ..
5351 lwimgname .. " " ..
5352 sourcename .. " <nul >nul"
5353 ,
5354 "File error trying to create image."
5355)
5356 end -- createwindowsimage
5357
5358
5359 function createonelateximage (line)
5360 --
5361 -- Given the next line of <sourcename>.txt, convert a single image.
5362 --
5363 -- lwimgpage is the page number in the PDF which has the image
5364 -- lwimghash is true if this filename is a hash
5365 -- lwimgname is the lateximage filename root to assign for the image
5366 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5367 -- For each entry:
5368 if (i~=nil) then
5369 -- Skip if the page number is 0:
5370 if (lwimgpage == "0") then
5371 pagezerowarning = true
5372 -- Skip if the page number is "end":
5373 else if (lwimgpage == "end") then
5374 else
5375 -- Skip is this image is hashed and already exists:
5376 local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
5377 if (
5378 (lwimghash ~= "true") or
5379 (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5380)
5381 then -- not hashed or not exists:
5382 -- Print the name of the file being generated:
5383 print ("lwarpmk: " .. lwimgname)
5384 -- Touch/create the dest so that only once instance tries to build it:
5385 executecheckerror (
5386 newtouchname .. " " .. lwimgfullname ,
5387 "File error trying to touch " .. lwimgfullname
5388)
5389 -- Separate out the image into its own single-page pdf:
5390 if opsystem=="Unix" then
5391 createuniximage (lwimgfullname)
5392 elseif opsystem=="Windows" then
5393 createwindowsimage (lwimgfullname)
5394 end
5395 end -- not hashed or not exists
5396 end -- not page "end"

```

```
5397 end -- not page 0
5398 end -- not nil
5399 end -- createonelateximage
5400
5401
5402 function createlateximages ()
5403 --
5404 -- Create lateximages based on <sourcename>-images.txt:
5405 --
5406 -- See if the document must be recompiled first:
5407 checklimages ()
5408 -- See if the HTML version exists:
5409 checkhtmlpdfexists ()
5410 -- Attempt to create the lateximages:
5411 print ("lwarpmk: Creating lateximages.")
5412 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5413 if (limagesfile == nil) then
5414 warnlimages ()
5415 os.exit(1)
5416 end
5417 -- Create the lateximages directory, ignore error if already exists
5418 err = os.execute("mkdir " .. imagesdirectory)
5419 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5420 if opsystem=="Windows" then
5421 executecheckerror (
5422 cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5423 "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5424)
5425 end -- create lwarp_one_limage.cmd
5426 -- Track the number of parallel processes
5427 numimageprocesses = 0
5428 -- Track warning to recompile if find a page 0
5429 pagezerowarning = false
5430 -- Scan <sourcename>.txt
5431 for line in limagesfile:lines() do
5432 createonelateximage (line)
5433 end -- do
5434 io.close(limagesfile)
5435 print ("lwarpmk limages: ===")
5436 print ("lwarpmk limages: Wait a moment for the images to complete")
5437 print ("lwarpmk limages: before reloading the page.")
5438 print ("lwarpmk limages: ===")
5439 print ("lwarpmk limages: Done.")
5440 if (pagezerowarning == true) then
5441 print ("lwarpmk limages: WARNING: Images will be incorrect.")
5442 print ("lwarpmk limages: Enter \"lwarpmk cleanlimages\", then")
5443 print ("lwarpmk limages: recompile the document one more time, then")
5444 print ("lwarpmk limages: repeat \"lwarpmk images\" again.")
5445 end -- pagezerowarning
5446 end -- function
5447
5448
5449 function convertepstopdf ()
5450 --
5451 -- Converts EPS files to PDF files.
```

```
5452 -- The filenames are arg[argindex] and up.
5453 -- arg[1] is the command "epstopdf".
5454 --
5455 ignoreconf ()
5456 for i = argindex , #arg do
5457 if (lfs.attributes(arg[i],"mode")==nil) then
5458 print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
5459 else
5460 print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
5461 thispath, thisfilename, thisextension = splitfilename(arg[i])
5462 if (thispath == nil) then
5463 os.execute ("epstopdf " .. arg[i])
5464 else
5465 os.execute (
5466 "epstopdf " ..
5467 thispath .. thisfilename .. "." .. thisextension .. " " ..
5468 thispath .. thisfilename .. ".pdf"
5469)
5470 end
5471 end -- if
5472 end -- do
5473 end --function
5474
5475
5476 function convertpdfptosvg ()
5477 --
5478 -- Converts PDF files to SVG files.
5479 -- The filenames are arg[argindex] and up.
5480 -- arg[1] is the command "pdfptosvg".
5481 --
5482 ignoreconf ()
5483 for i = argindex , #arg do
5484 if (lfs.attributes(arg[i],"mode")==nil) then
5485 print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
5486 else
5487 print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
5488 thispath, thisfilename, thisextension = splitfilename(arg[i])
5489 if (thispath == nil) then
5490 os.execute ("pdftocairo -svg " .. arg[i])
5491 else
5492 os.execute (
5493 "pdftocairo -svg " ..
5494 thispath .. thisfilename .. "." .. thisextension .. " " ..
5495 thispath .. thisfilename .. ".svg"
5496)
5497 end
5498 end -- if
5499 end -- do
5500 end --function
5501
5502
5503 -- Force an update and conclude processing:
5504 function updateanddone ()
5505 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")
5506 refreshdate ()
```

```
5507 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
5508 print ("lwarpmk: Done.")
5509 end -- function
5510
5511
5512 -- Start of the main code: --
5513
5514
5515 -- lwarpmk --version :
5516
5517 if (arg[1] == "--version") then
5518 print ("lwarpmk: " .. printversion)
5519
5520 else -- not --version
5521
5522
5523 -- print intro:
5524
5525 print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarp package.")
5526
5527
5528 -- lwarpmk print:
5529
5530 if arg[1] == "print" then
5531 loadconf ()
5532 if (latexmk == "true") then
5533 print ("lwarpmk: Compiling with: " .. printlatexcmd)
5534 executecheckerror (
5535 printlatexcmd ,
5536 "Compile error."
5537)
5538 print ("lwarpmk: Done.")
5539 else -- not latexmk
5540 verifyfileexists (sourcename .. ".tex") ;
5541 -- See if up to date:
5542 if (
5543 (lfs.attributes (sourcename .. ".pdf" , "modification") == nil) or
5544 (
5545 lfs.attributes (sourcename .. ".tex" , "modification") >
5546 lfs.attributes (sourcename .. ".pdf" , "modification")
5547)
5548) then
5549 -- Recompile if not yet up to date:
5550 manytimes(printlatexcmd, "")
5551 print ("lwarpmk: Done.") ;
5552 else
5553 print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
5554 end
5555 end -- not latexmk
5556
5557
5558 -- lwarpmk print1:
5559
5560 elseif arg[1] == "print1" then
5561 loadconf ()
```



```
5562 verifyfileexists (sourcename .. ".tex") ;
5563 onetime(printlatexcmd, "")
5564 print ("lwarpmk: Done.") ;
5565
5566
5567 -- lwarpmk printindex:
5568 -- Compile the index then touch the source
5569 -- to trigger a recompile of the document:
5570
5571 elseif arg[1] == "printindex" then
5572 loadconf ()
5573 os.execute (printindexcmd)
5574 print ("lwarpmk: -----")
5575 updateanddone ()
5576
5577
5578 -- lwarpmk printglossary:
5579 -- Compile the glossary then touch the source
5580 -- to trigger a recompile of the document:
5581
5582 elseif arg[1] == "printglossary" then
5583 loadconf ()
5584 print ("lwarpmk: Processing the glossary.")
5585
5586 os.execute(glossarycmd .. " " .. sourcename)
5587 updateanddone ()
5588
5589
5590 -- lwarpmk html:
5591
5592 elseif arg[1] == "html" then
5593 loadconf ()
5594 if (latexmk == "true") then
5595 print ("lwarpmk: Compiling with: " .. HTMLlatexcmd)
5596 executecheckerror (
5597 HTMLlatexcmd ,
5598 "Compile error."
5599)
5600 pdftohtml ()
5601 print ("lwarpmk: Done.")
5602 else -- not latexmk
5603 verifyfileexists (sourcename .. ".tex") ;
5604 -- See if exists and is up to date:
5605 if (
5606 (lfs.attributes (homehtmlfilename .. ".html" , "modification") == nil) or
5607 (
5608 lfs.attributes (sourcename .. ".tex" , "modification") >
5609 lfs.attributes (homehtmlfilename .. ".html" , "modification")
5610)
5611) then
5612 -- Recompile if not yet up to date:
5613 manytimes(HTMLlatexcmd, "_html")
5614 pdftohtml ()
5615 print ("lwarpmk: Done.")
5616 else
```

```
5617 print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5618 end
5619 end -- not latexmk
5620
5621
5622 -- lwarpmk html1:
5623
5624 elseif arg[1] == "html1" then
5625 loadconf ()
5626 verifyfileexists (sourcename .. ".tex");
5627 onetime(HTMLlatexcmd, "_html")
5628 pdftohtml ()
5629 print ("lwarpmk: Done.")
5630
5631
5632 -- lwarpmk pdftohtml:
5633 elseif arg[1] == "pdftohtml" then
5634 loadconf ()
5635 pdftohtml ()
5636
5637
5638 -- lwarpmk htmlindex:
5639 -- Compile the index then touch the source
5640 -- to trigger a recompile of the document:
5641
5642 elseif arg[1] == "htmlindex" then
5643 loadconf ()
5644 os.execute (HTMLindexcmd)
5645 print ("lwarpmk: -----")
5646 updateanddone ()
5647
5648
5649 -- lwarpmk htmlglossary:
5650 -- Compile the glossary then touch the source
5651 -- to trigger a recompile of the document.
5652 -- The <sourcename>.xdy file is created by the glossaries package.
5653
5654 elseif arg[1] == "htmlglossary" then
5655 loadconf ()
5656 print ("lwarpmk: Processing the glossary.")
5657 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5658 updateanddone ()
5659
5660
5661 -- lwarpmk limages:
5662 -- Scan the <sourcename>.txt file to create lateximages.
5663
5664 elseif arg[1] == "limages" then
5665 loadconf ()
5666 print ("lwarpmk: Processing images.")
5667 createlateximages ()
5668 print ("lwarpmk: Done.")
5669
5670
5671 -- lwarpmk again:
```

```
5672 -- Touch the source to trigger a recompile.
5673
5674 elseif arg[1] == "again" then
5675 loadconf ()
5676 updateanddone ()
5677
5678
5679 -- lwarpmk clean:
5680 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5681
5682 elseif arg[1] == "clean" then
5683 loadconf ()
5684 removeaux ()
5685 print ("lwarpmk: Done.")
5686
5687
5688 -- lwarpmk cleanall
5689 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5690 -- and also project.pdf, project.dvi, *.html
5691
5692 elseif arg[1] == "cleanall" then
5693 loadconf ()
5694 removeaux ()
5695 os.execute (rmname .. " " ..
5696 sourcename .. ".pdf " .. sourcename .. "_html.pdf " ..
5697 sourcename .. ".dvi " .. sourcename .. "_html.dvi " ..
5698 "*.html"
5699)
5700 print ("lwarpmk: Done.")
5701
5702
5703 -- lwarpmk cleanimages
5704 -- Remove images from the imagesdirectory.
5705
5706 elseif arg[1] == "cleanimages" then
5707 loadconf ()
5708 os.execute (rmname .. " " .. imagesdirectory .. dirslash .. "*")
5709 print ("lwarpmk: Done.")
5710
5711 -- lwarpmk epstopdf <list of file names>
5712 -- Convert EPS files to PDF using epstopdf
5713 elseif arg[1] == "epstopdf" then
5714 convertepstopdf ()
5715 print ("lwarpmk: Done.")
5716
5717
5718 -- lwarpmk pdftosvg <list of file names>
5719 -- Convert PDF files to SVG using pdftocairo
5720 elseif arg[1] == "pdftosvg" then
5721 convertpdftosvg ()
5722 print ("lwarpmk: Done.")
5723
5724
5725 -- lwarpmk with no argument :
5726
```

```

5727 elseif (arg[1] == nil) then
5728 printhelp ()
5729
5730
5731 -- lwarpmk -v:
5732
5733 elseif (arg[1] == "-v") then
5734 -- The version number has already been printed
5735 -- by the lwarpmk intro.
5736
5737 -- lwarpmk -h or lwarpmk --help :
5738
5739 elseif (arg[1] == "-h") or (arg[1] == "--help") then
5740 printusage ()
5741
5742
5743 -- Unknown command:
5744
5745 else
5746 printhelp ()
5747 print ("\nlwarpmk: ***** Unknown command \""..arg[1].."\". *****\n")
5748 end
5749
5750 end -- not --version
5751 \end{filecontents*}
5752 % \end{Verbatim}% for syntax highlighting

5753 \end{LWRcreatelwarpmk}

```

## 41 Stacks

**for HTML output:** 5754 \begin{warpHTML}



Stacks are used to remember how to close sections and list items. Before a new section is started, previously nested sections and items must be closed out (un-nested) in proper order. Note that starting a new section may close several levels of previously nested items at the same time. For example, starting a new `\section` would close any currently open subsection, subsubsection, and paragraph. General environments are not nested on the stack since they have their own close mechanism. List environments are nested, and items inside those environments are nested one level deeper still. List environments may be nested inside other list environments, and list items are nested inside list environments as well. Thus, the stack may have items which are not necessarily in order, since a description may contain an enumerate, for example. Depths to be recorded in `\LWR@closedepthone`, etc.

### 41.1 Assigning depths

initial depths for empty stack entries:

```
5755 \newcommand*{\LWR@depthnone}{-5}
```

All sectioning depths are deeper than LWR@depthfinished:

```
5756 \newcommand*\LWR@depthfinished}{-4}
5757 \newcommand*\LWR@depthbook}{-2}
5758 \newcommand*\LWR@depthpart}{-1}
5759 \newcommand*\LWR@depthchapter}{0}
5760 \newcommand*\LWR@depthsection}{1}
5761 \newcommand*\LWR@depthsubsection}{2}
5762 \newcommand*\LWR@depthsubsubsection}{3}
5763 \newcommand*\LWR@depthparagraph}{4}
5764 \newcommand*\LWR@depthsubparagraph}{5}
```

Used by \itemize, \enumerate, \description:

```
5765 \newcommand*\LWR@depthlist}{6}
```

Used by \item:

```
5766 \newcommand*\LWR@depthlistitem}{7}
5767 \let\LWR@depthdescitem\LWR@depthlistitem
```

## 41.2 Closing actions

A stack to record the action to take to close each nesting level: Add more levels of stack if necessary for a very deeply nested document, adding to \pushclose and \popclose as well.

```
5768 \newcommand*\LWR@closeone}{% top of the stack
5769 \newcommand*\LWR@closetwo}{ }
5770 \newcommand*\LWR@closethree}{ }
5771 \newcommand*\LWR@closefour}{ }
5772 \newcommand*\LWR@closefive}{ }
5773 \newcommand*\LWR@closesix}{ }
5774 \newcommand*\LWR@closeseven}{ }
5775 \newcommand*\LWR@closeeight}{ }
5776 \newcommand*\LWR@closenine}{ }
5777 \newcommand*\LWR@closeten}{ }
5778 \newcommand*\LWR@closeeleven}{ }
5779 \newcommand*\LWR@closetwelve}{ }
5780 \newcommand*\LWR@closethirteen}{ }
5781 \newcommand*\LWR@closefourteen}{ }
5782 \newcommand*\LWR@closefifteen}{ }
5783 \newcommand*\LWR@closesixteen}{ }
5784 \newcommand*\LWR@closeseventeen}{ }
5785 \newcommand*\LWR@closeeighteen}{ }
5786 \newcommand*\LWR@closenineteen}{ }
```

## 41.3 Closing depths

A stack to record the depth of each level:



Note that nested L<sup>A</sup>T<sub>E</sub>X structures may push depths which are non-sequential.

*Ex:*

---

```

\begin{itemize}
 \item{A}
 \begin{description}
 \item{B}
 \end{description}
\end{itemize}

```

---

```

5787 \newcommand*\LWR@closedepthone{\LWR@depthnone}% top of the stack
5788 \newcommand*\LWR@closedepthtwo{\LWR@depthnone}
5789 \newcommand*\LWR@closedepththree{\LWR@depthnone}
5790 \newcommand*\LWR@closedepthfour{\LWR@depthnone}
5791 \newcommand*\LWR@closedepthfive{\LWR@depthnone}
5792 \newcommand*\LWR@closedepthsix{\LWR@depthnone}
5793 \newcommand*\LWR@closedepthseven{\LWR@depthnone}
5794 \newcommand*\LWR@closedeptheight{\LWR@depthnone}
5795 \newcommand*\LWR@closedepthnine{\LWR@depthnone}
5796 \newcommand*\LWR@closedephten{\LWR@depthnone}
5797 \newcommand*\LWR@closedeptheleven{\LWR@depthnone}
5798 \newcommand*\LWR@closedephtwelve{\LWR@depthnone}
5799 \newcommand*\LWR@closedepththirteen{\LWR@depthnone}
5800 \newcommand*\LWR@closedepthfourteen{\LWR@depthnone}
5801 \newcommand*\LWR@closedepthfifteen{\LWR@depthnone}
5802 \newcommand*\LWR@closedepthsixteen{\LWR@depthnone}
5803 \newcommand*\LWR@closedepthseventeen{\LWR@depthnone}
5804 \newcommand*\LWR@closedeptheighteen{\LWR@depthnone}
5805 \newcommand*\LWR@closedepthnineteen{\LWR@depthnone}

```

## 41.4 Pushing and popping the stack

`\LWR@pushclose`  $\langle\{sectiontype}\rangle$

Pushes one return action and its L<sup>A</sup>T<sub>E</sub>X depth onto the stacks.

```

5806 \NewDocumentCommand{\LWR@pushclose}{m}
5807 {%
5808 \global\let\LWR@closeynineteen\LWR@closeeighteen%
5809 \global\let\LWR@closeeighteen\LWR@closeseventeen%
5810 \global\let\LWR@closeseventeen\LWR@closesixteen%
5811 \global\let\LWR@closesixteen\LWR@closefifteen%
5812 \global\let\LWR@closefifteen\LWR@closefourteen%
5813 \global\let\LWR@closefourteen\LWR@closethirteen%
5814 \global\let\LWR@closethirteen\LWR@closetwelve%
5815 \global\let\LWR@closetwelve\LWR@closeeleven%
5816 \global\let\LWR@closeeleven\LWR@closeten%
5817 \global\let\LWR@closeten\LWR@closeynine%
5818 \global\let\LWR@closeynine\LWR@closeeight%
5819 \global\let\LWR@closeeight\LWR@closeseven%

```

```

5820 \global\let\LWR@closeseven\LWR@closefive%
5821 \global\let\LWR@closefive\LWR@closefour%
5822 \global\let\LWR@closefour\LWR@closethree%
5823 \global\let\LWR@closethree\LWR@closestwo%
5824 \global\let\LWR@closestwo\LWR@closeone%
5825 \global\csletcs{LWR@closeone}{LWR@printclose#1}%
5826 \global\let\LWR@closedepthnineteen\LWR@closedeptheighteen%
5827 \global\let\LWR@closedeptheighteen\LWR@closedepthseventeen%
5828 \global\let\LWR@closedepthseventeen\LWR@closedepthsixteen%
5829 \global\let\LWR@closedepthsixteen\LWR@closedepthfifteen%
5830 \global\let\LWR@closedepthfifteen\LWR@closedepthfourteen%
5831 \global\let\LWR@closedepthfourteen\LWR@closedepththirteen%
5832 \global\let\LWR@closedepththirteen\LWR@closedepthtwelve%
5833 \global\let\LWR@closedepthtwelve\LWR@closedeptheleven%
5834 \global\let\LWR@closedeptheleven\LWR@closedepthten%
5835 \global\let\LWR@closedepthten\LWR@closedepthnine%
5836 \global\let\LWR@closedepthnine\LWR@closedeptheight%
5837 \global\let\LWR@closedeptheight\LWR@closedepthseven%
5838 \global\let\LWR@closedepthseven\LWR@closedepthsix%
5839 \global\let\LWR@closedepthsix\LWR@closedepthfive%
5840 \global\let\LWR@closedepthfive\LWR@closedepthfour%
5841 \global\let\LWR@closedepthfour\LWR@closedepththree%
5842 \global\let\LWR@closedepththree\LWR@closedepthtwo%
5843 \global\let\LWR@closedepthtwo\LWR@closedepthone%
5844 \global\csletcs{LWR@closedepthone}{LWR@depth#1}%
5845 \global\csletcs{LWR@closedepthone}{LWR@depth#1}%

```

Error if the deepest depth is no longer `\LWR@depthnone`, which means that it somehow has been nested too deeply, or things are not being unnested correctly.

```

5846 \ifdefstring{\LWR@closedepthnineteen}{\LWR@depthnone}%
5847 {}%
5848 {%
5849 \PackageError{lwarp}%
5850 {The document is nested too deeply for Lwarp}%
5851 {PLEASE inform the Lwarp maintainer!}%
5852 }%
5853 }

```

`\LWR@popclose` Pops one action and its depth off the stacks.

```

5854 \newcommand*{\LWR@popclose}
5855 {%
5856 \global\let\LWR@closeone\LWR@closestwo%
5857 \global\let\LWR@closestwo\LWR@closethree%
5858 \global\let\LWR@closethree\LWR@closefour%
5859 \global\let\LWR@closefour\LWR@closefive%
5860 \global\let\LWR@closefive\LWR@closefive%
5861 \global\let\LWR@closefive\LWR@closefive%
5862 \global\let\LWR@closefive\LWR@closefive%
5863 \global\let\LWR@closefive\LWR@closefive%
5864 \global\let\LWR@closefive\LWR@closefive%
5865 \global\let\LWR@closefive\LWR@closefive%
5866 \global\let\LWR@closefive\LWR@closefive%
5867 \global\let\LWR@closefive\LWR@closefive%

```

```

5868 \global\let\LWR@closesthirteen\LWR@closefourteen%
5869 \global\let\LWR@closefourteen\LWR@closefifteen%
5870 \global\let\LWR@closefifteen\LWR@closesixteen%
5871 \global\let\LWR@closesixteen\LWR@closeseventeen%
5872 \global\let\LWR@closeseventeen\LWR@closeeighteen%
5873 \global\let\LWR@closeeighteen\LWR@closenineteen%
5874 \global\let\LWR@closedepthone\LWR@closedepthtwo%
5875 \global\let\LWR@closedepthtwo\LWR@closedepththree%
5876 \global\let\LWR@closedepththree\LWR@closedepthfour%
5877 \global\let\LWR@closedepthfour\LWR@closedepthfive%
5878 \global\let\LWR@closedepthfive\LWR@closedepthsix%
5879 \global\let\LWR@closedepthsix\LWR@closedepthseven%
5880 \global\let\LWR@closedepthseven\LWR@closedeptheight%
5881 \global\let\LWR@closedeptheight\LWR@closedepthnine%
5882 \global\let\LWR@closedepthnine\LWR@closedephten%
5883 \global\let\LWR@closedephten\LWR@closedeptheleven%
5884 \global\let\LWR@closedeptheleven\LWR@closedepthtwelve%
5885 \global\let\LWR@closedepthtwelve\LWR@closedepththirteen%
5886 \global\let\LWR@closedepththirteen\LWR@closedepthfourteen%
5887 \global\let\LWR@closedepthfourteen\LWR@closedepthfifteen%
5888 \global\let\LWR@closedepthfifteen\LWR@closedepthsixteen%
5889 \global\let\LWR@closedepthsixteen\LWR@closedepthseventeen%
5890 \global\let\LWR@closedepthseventeen\LWR@closedeptheighteen%
5891 \global\let\LWR@closedeptheighteen\LWR@closedepthnineteen%
5892 }

5893 \end{warpHTML}

```

## 42 Data arrays

These macros are similar to the `arrayjobx` package, except that `\LWR@setexparray`'s argument is expanded only once when assigned.

`name` has no backslash, `index` can be a number or a text name, and an empty value must be `\relax` instead of empty.

To assign an empty value:

```
\LWR@setexparray{name}{index}{}
```

**for HTML output:** 5894 `\begin{warpHTML}`

```
\LWR@setexparray {<name>} {<index>} {<contents>}
```

```

5895 \NewDocumentCommand{\LWR@setexparray}{m m m}{%
5896 \let\LWR@temp@par\par%
5897 \let\par\relax%
5898 \edef\LWR@thisexparrayname{#1#2}%
5899 \ifstrempy{#3}%
5900 {\csdef{\LWR@thisexparrayname}{}}%
5901 {\csdef{\LWR@thisexparrayname}{#3}}%
5902 \let\par\LWR@temp@par%

```



5903 }

`\LWR@getexpparray` {<*name*>} {<*index*>}

5904 `\newcommand*{\LWR@getexpparray}[2]{%`


5905 `\@nameuse{#1#2}%`

5906 }

5907 `\end{warpHTML}`

### 43 Localizing catcodes

**for HTML & PRINT:** 5908 `\begin{warpall}`

 **Misplaced alignment tab character &** Place `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros or environments which include the tabular & character in their definitions.

The catcode of & must be changed before the definitions begin, and must be restored afterwards. Doing so avoids the error

Misplaced alignment tab character &.

`\StartDefiningTabulars` Place before defining something with & in it.

```
5909 \newcommand{\StartDefiningTabulars}{%
5910 \LWR@traceinfo{StartDefiningTabulars}%
5911 \warpHTMLonly{\catcode'\&=\active}%
5912 }
```

`\StopDefiningTabulars` Place after defining something with & in it.

```
5913 \newcommand{\StopDefiningTabulars}{%
5914 \LWR@traceinfo{StopDefiningTabulars}%
5915 \warpHTMLonly{\catcode'\&=4}%
5916 }
```

**Bool** `LWR@mathmacro` True if currently defining math macros. Used to disable SVG math hashing and MATHJAX math contents while defining a macro using inline math. Begin a macro, it is not guaranteed that the contents are static, and so the image must be unique. The contents also almost certainly will not be parsed correctly by MATHJAX.

```
5917 \newbool{LWR@mathmacro}
5918 \boolfalse{LWR@mathmacro}
```

`\StartDefiningMath` Place before defining something with \$ in it.

```
5919 \newcommand{\StartDefiningMath}{%
5920 \LWR@traceinfo{StartDefiningMath}%
5921 \warpHTMLonly{\catcode'\$=\active}%
5922 }
```

`\StopDefiningMath` Place after defining something with `$` in it.

```
5923 \newcommand{\StopDefiningMath}{%
5924 \LWR@traceinfo{StopDefiningMath}%
5925 \warpHTMLOnly{\catcode'\$=3}% math shift
5926 }

5927 \end{warpall}
```

## 44 Localizing dynamic math

Inline SVG math usually uses a hash of its contents to generate `lateximages` which are reusable for multiple instances with the same contents. If the contents may change for each use, such as depending on the current value of a counter, then `\inlinemathother` must be used before the inline math expression, and `\inlinemathnormal` must be used after.

For `MATHJAX`, the inline math expression is usually printed for `MATHJAX` to interpret. When marked as dynamic math, the following inline math expression will be displayed as an unhashed inline SVG image instead.

For existing code and packages, it may be possible to patch macros after they have been defined, using the `xpatch` package, which is pre-loaded by `lwarp`:

---

```
\xpatchcmd{\macroname}
 {$math expression$}
 {\inlinemathother$math expression$\inlinemathnormal}
 {}
 {\typeout{Error patching macroname.}}
```

---

**for HTML & PRINT:** 5928 `\begin{warpall}`

Bool `LWR@dynamicmath` True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.  
 Default: `false`

```
5929 \newbool{LWR@dynamicmath}
5930 \boolfalse{LWR@dynamicmath}
```

`\inlinemathother` Place before using `$ ... $` or `\( ... \)` if the contents of the math are not static, depending on counters or dynamic macros.

```
5931 \newcommand{\inlinemathother}{%
5932 \LWR@traceinfo{inlinemathother}%
5933 \booltrue{LWR@dynamicmath}%
5934 }
```

`\inlinemathnormal` Place after using `$ ... $` or `\( ... \)` with dynamic contents.

```

5935 \newcommand{\inlinemathnormal}{%
5936 \LWR@traceinfo{inlinemathnormal}%
5937 \boolfalse{LWR@dynamicmath}%
5938 }

5939 \end{warpall}

```

## 45 HTML entities

**for HTML output:** 5940 \begin{warpHTML}

HTML Unicode entities:

```
5941 \let\LWR@origampersand\&
```

\HTMLentity {*<entitytag>*}

```

5942 \newcommand*{\HTMLentity}[1]{%
5943 % \LWR@traceinfo{HTMLentity \detokenize{#1}}%
5944 \begingroup%
5945 \LWR@hook@processingtags%
5946 \LWR@origampersand#1;%
5947 \endgroup%
5948 % \LWR@traceinfo{HTMLentity done}%
5949 }

```

\HTMLUnicode {*<hex\_unicode>*}

```
5950 \newcommand*{\HTMLUnicode}[1]{\HTMLentity{\LWR@origpound{#1}}
```

\&

```
5951 \renewrobustcmd*{\&}{\HTMLentity{amp}}
```

\textless

```

5952 \let\LWR@origtextless\textless
5953 \renewrobustcmd*{\textless}{\HTMLentity{lt}}

```

\textgreater

```

5954 \let\LWR@origtextgreater\textgreater
5955 \renewrobustcmd*{\textgreater}{\HTMLentity{gt}}

```

```
5956 \end{warpHTML}
```

## 46 HTML filename generation

The filename of the homepage is set to `\HomeHTMLFilename.html`. The filenames of additional sections start with `\HTMLFilename`, to which is appended a section number or a simplified section name, depending on `FileSectionNames`.

**for HTML & PRINT:** 5957 `\begin{warpall}`

`\BaseJobname` The `\jobname` of the printed version, even if currently compiling the HTML version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

5958 `\providecommand*\BaseJobname{\jobname}`

`\HTMLFilename` The prefix for all generated HTML files other than the home page, defaulting to empty. See section 7.6.1.

5959 `\providecommand*\HTMLFilename{}`

`\HomeHTMLFilename` The filename of the home page, defaulting to the `\BaseJobname`. See section 7.6.1.

5960 `\providecommand*\HomeHTMLFilename{\BaseJobname}`

`\SetHTMLFileNumber` `{\langle number \rangle}`

Sets the file number for the next file to be generated. 0 is the home page. Use just before the next sectioning command, and set it to one less than the desired number of the next section. May be used to generate numbered groups of nodes such as 100+ for one chapter, 200+ for another chapter, etc.

5961 `\newcommand*\SetHTMLFileNumber[1]{%`  
 5962 `\setcounter{LWR@htmlfilenumber}{#1}%`  
 5963 `}`

**Bool** `FileSectionNames` Selects how to create HTML file names.

Defaults to use section names in the filenames.

5964 `\newbool{FileSectionNames}`  
 5965 `\booltrue{FileSectionNames}`

5966 `\end{warpall}`

**for HTML output:** 5967 `\begin{warpHTML}`

Updated each time a new HTML file is begun. Used to provide HTML previous/next web page links.

5968 `\newcounter{LWR@HTMLpagenum}`  
 5969 `\setcounter{LWR@HTMLpagenum}{0}`

Ctrl LWR@htmlseqfilenumber A sequential count of the number of each HTML file as it is being created. Number 0 is the home page. Unlike \LWR@htmlfilenumber, this one is known to increment by one for each file. This is used to generate previous /next links for each web page, via labels called \BaseJobname-autofile-\*, and the last page is also labelled \BaseJobname-autofile-last.

```
5970 \newcounter{LWR@htmlseqfilenumber}
5971 \setcounter{LWR@htmlseqfilenumber}{0}
```

Bool LWR@setseqfilelabel At each new HTML file, this is false until a sectional unit is used, at which point this is set true and a label is placed. In this way, the previous/next labels will point to a named section.

```
5972 \newbool{LWR@setseqfilelabel}
5973 \setbool{LWR@setseqfilelabel}{false}
```

Ctrl LWR@htmlfilenumber Records the number of each HTML file as it is being created. Number 0 is the home page. This might not be sequential, as the user may use \SetHTMLFileName to create groups of numbered nodes.

```
5974 \newcounter{LWR@htmlfilenumber}
5975 \setcounter{LWR@htmlfilenumber}{0}
```

\LWR@htmlsectionfilename {*<htmlfilenumber or name>*}

Prints the filename for a given section: \HTMLFilename{ }filenumber/name.html

```
5976 \newcommand*{\LWR@htmlsectionfilename}[1]{%
5977 \LWR@traceinfo{LWR@htmlsectionfilename A !\detokenize{#1}!}%
5978 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
5979 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```
5980 % \LWR@traceinfo{about to assign temp}%
5981 \LWR@sanitize{#1}%
5982 \LWR@traceinfo{about to compare with ??}%
5983 \ifdefstring{\LWR@sanitized}{??}
5984 {\LWR@traceinfo{found ??}}%
5985 {\LWR@traceinfo{not found ??}}%
5986 \LWR@traceinfo{about to compare with zero or empty}%
5987 \ifboolexpr{
5988 test {\ifdefstring{\LWR@sanitized}{0}} or
5989 test {\ifdefstring{\LWR@sanitized}} or
5990 test {\ifdefstring{\LWR@sanitized}{??}}
5991 }
5992 {%
5993 \LWR@traceinfo{LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
5994 \HomeHTMLFilename.html%
```

5995 }%

For a L<sup>A</sup>T<sub>E</sub>X section named “Index” or “index” without a prefix, create a filename with a trailing `-0` to avoid colliding with the HTML filename `index.html`:

```

5996 {%
5997 \LWR@traceinfo{LWR@htmlsectionfilename C \LWR@sanitized}%
5998 \ifboolexpr{
5999 test{\ifdefvoid{\HTMLFilename}} and
6000 (
6001 test{\ifdefstring{\LWR@sanitized}{Index}} or
6002 test{\ifdefstring{\LWR@sanitized}{index}}
6003)
6004 }%
6005 {%
6006 \LWR@traceinfo{Adding a zero to the index filename.}%
6007 \LWR@sanitized-0.html%
6008 }%
```

Otherwise, create a filename with the chosen prefix:

```

6009 {%
6010 \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
6011 }%
6012 }%
6013 \LWR@traceinfo{LWR@htmlsectionfilename Z}%
6014 \endgroup%
6015 }
```

`\LWR@htmlrefsectionfilename`  $\{<label>\}$

Prints the filename for the given label

```

6016 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
6017 \LWR@traceinfo{LWR@htmlrefsectionfilename: !\detokenize{#1}!}%
```

`\LWR@nullfonts` to allow math in a section name.

```

6018 \begingroup%
6019 \LWR@nullfonts%
6020 \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
6021 \endgroup%
6022 \LWR@traceinfo{LWR@htmlrefsectionfilename: done}%
6023 }
```

```

6024 \end{warpHTML}
```

## 47 Homepage link

**for HTML & PRINT:** `6025 \begin{warpall}`

`\linkhomename` Holds the default name for the home link.

```
6026 \newcommand{\linkhomename}{Home}
6027 \end{warpall}
```

**for HTML output:** 6028 `\begin{warpHTML}`

`\LinkHome` May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```
6029 \newcommand*\LinkHome{%
6030 \LWR@subhyperrefclass{\HomeHTMLFilename.html}{\linkhomename}{linkhome}%
6031 }

6032 \end{warpHTML}
```

**for PRINT output:** 6033 `\begin{warpprint}`

`\LinkHome` May be used wherever you wish to place a link back to the homepage. For print output, if `hyperref` is available a hyperlink to the first page is used, named by `\linkhomename`. If `hyperref` is not available, a `pageref` is used instead.

`\BaseJobname` is included in the link label in case multiple documents are cross-referenced.

```
6034 \AtBeginDocument{
6035 \@ifundefined{hyperref}{
6036 \newcommand*\LinkHome{%
6037 \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
6038 }
6039 }{
6040 \newcommand*\LinkHome{%
6041 \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
6042 }
6043 }
6044 }
6045
6046 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}

6047 \end{warpprint}
```

**for HTML output:** 6048 `\begin{warpHTML}`

`\LWR@topnavigation` Creates a link to the homepage at the top of the page for use when the window is too narrow for the sideroc.

```
6049 \newcommand*\LWR@topnavigation{%
6050 \LWR@htmlElementclassline{nav}{topnavigation}{\LinkHome}
6051 }
```

`\LWR@botnavigation` Creates a link to the homepage at the bottom of the page for use when the window is too narrow for the sideroc.

```
6052 \newcommand*\LWR@botnavigation{%
6053 \LWR@html@elementclassline{nav}{botnavigation}{\LinkHome}
6054 }

6055 \end{warpHTML}
```

## 48 Previous/next navigation links

**for HTML & PRINT:** 6056 `\begin{warpall}`

`\linkpreviousname` What to call the link to the previous web page.

```
6057 \newcommand*\linkpreviousname{Previous}
```

`\linknextname` What to call the link to the next web page.

```
6058 \newcommand*\linknextname{Next}
```

```
6059 \end{warpall}
```

**for PRINT output:** 6060 `\begin{warpprint}`

`\LinkPrevious` Creates a link to the previous web page if there is one.

```
6061 \newcommand*\LinkPrevious{}
```

`\LinkNext` Creates a link to the next web page if there is one.

```
6062 \newcommand*\LinkNext{}
```

```
6063 \end{warpprint}
```

**for HTML output:** 6064 `\begin{warpHTML}`

`\LinkPrevious` Creates a link to the previous web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels `\Basejobname-autofile-*`

```
6065 \newcommand*\LinkPrevious{%
6066 \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{%
6067 \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}-1}%
6068 \LWR@subhyperrefclass{%
6069 \LWR@htmlrefsectionfilename{%
6070 \BaseJobname-autofile-\arabic{LWR@tempcountone}%
```



```

6071 }%
6072 }{\linkpreviousname}{linkhome}%
6073 }%
6074 }

```

`\LinkNext` Creates a link to the next web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels `\Basejobname-autofile-*` and the last is the label `\Basejobname-autofile-last`

```

6075 \newcommand*{\LinkNext}{%
6076 \ifcsdef{r@\BaseJobname-autofile-last@lwarp}{%
6077 \edef\LWR@tempone{%
6078 \LWR@htmlfileref{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
6079 }%
6080 \edef\LWR@temptwo{%
6081 \LWR@htmlfileref{\BaseJobname-autofile-last}%
6082 }%
6083 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{}%
6084 \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}+1}%
6085 \LWR@subhyperrefclass{%
6086 \LWR@htmlrefsectionfilename{%
6087 \BaseJobname-autofile-\arabic{LWR@tempcountone}%
6088 }%
6089 }{\linknextname}{linkhome}%
6090 }%
6091 }{}%
6092 }

6093 \end{warpHTML}

```

## 49 \LWRPrintStack diagnostic tool



Diagnostics tool: Prints the L<sup>A</sup>T<sub>E</sub>X nesting depth values for the stack levels. `\LWR@startpars` is used before printing the stack, so that `\LWRPrintStack` may be called from anywhere in the normal text flow.

**for HTML output:** 6094 `\begin{warpHTML}`

`\LWRPrintStack` Prints the closedepth stack.

```

6095 \newcommand*{\LWR@subprintstack}{
6096 \LWR@closedepthone\ \LWR@closedepthtwo\ \LWR@closedepththree\
6097 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\
6098 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedepthnine\
6099 \LWR@closedepthten\ \LWR@closedeptheleven\ \LWR@closedepthtwelve\
6100 \LWR@closedepththirteen\ \LWR@closedepthfourteen\ \LWR@closedepthfifteen\
6101 \LWR@closedepthsixteen\ \LWR@closedepthseventeen\ \LWR@closedeptheighteen\
6102 \LWR@closedepthnineteen\
6103 }
6104

```

```

6105 \newcommand*{\LWRPrintStack}{
6106 \LWR@startpars
6107 \LWR@subprintstack
6108 }

```

```
6109 \end{warpHTML}
```

**for PRINT output:** 6110 \begin{warpprint}

```
6111 \newcommand*{\LWRPrintStack}{}

```

```
6112 \end{warpprint}
```

## 50 Closing stack levels

**for HTML output:** 6113 \begin{warpHTML}

Close one nested level:

```

6114 \newcommand*{\LWR@closeoneprevious}{%
6115
6116 \LWR@closeone
6117
6118 \LWR@popclose
6119 }

```

`\LWR@closeprevious` `{<sectintype>}` Close everything up to the given depth:

```

6120 \newcommand*{\LWR@closeprevious}[1]{
6121 \LWR@traceinfo{%
6122 \LWR@closeprevious to depth \csuse{LWR@depth#1}, %
6123 depths are \LWR@subprintstack%
6124 }%

```

Close any pending paragraph:

```
6125 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```

6126 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}{>}{\csuse{LWR@depth#1}}}}%
6127 {%
6128 \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
6129 \LWR@closeoneprevious%
6130 }%
6131 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{LWR@depth#1}}}}%
6132 {%
6133 \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
6134 \LWR@closeoneprevious%

```

```

6135 }{}%
6136 \LWR@traceinfo{LWR@closeprevious: done, depths are \LWR@subprintstack}%
6137 }

6138 \end{warpHTML}

```

## 51 PDF pages and styles

**for HTML output:** 6139 \begin{warpHTML}

\LWR@forcenewpage New PDF page a before major environment.

This is used just before major environments, such as verse. Reduces the chance of an environment overflowing the HTML PDF output page.

```

6140 \newcommand{\LWR@forcenewpage}{%
6141 \LWR@traceinfo{LWR@forcenewpage}%
6142 \ifinner\else%
6143 \LWR@traceinfo{LWR@forcenewpage A}%
6144 \LWR@stoppars%
6145 \LWR@traceinfo{LWR@forcenewpage B}%
6146 \LWR@maybe@orignewpage%
6147 \LWR@traceinfo{LWR@forcenewpage C}%
6148 \LWR@startpars%
6149 \fi%
6150 \LWR@traceinfo{LWR@forcenewpage done}%
6151 }

```

\pagestyle, etc. are nullified for HTML output.

\pagestyle {<style>}

```
6152 \renewcommand*{\pagestyle}[1]{}
```

\thispagestyle {<style>}

```
6153 \renewcommand*{\thispagestyle}[1]{}
```

\markboth {<left>} {<right>}

```
6154 \renewcommand*{\markboth}[2]{}
```

\markright {<right>}

```
6155 \renewcommand*{\markright}[1]{}
```

\raggedbottom

```
6156 \renewcommand*{\raggedbottom}{}

```

`\flushbottom`

```
6157 \renewcommand*{\flushbottom}{}
```

`\sloppy`

```
6158 \renewcommand*{\sloppy}{}
```

`\fussy`

```
6159 \renewcommand*{\fussy}{}
```

`\pagenumbering` \* `{<commands>}`

```
6160 \RenewDocumentCommand{\pagenumbering}{s m}{}

```

```
6161 \end{warpHTML}
```

## 52 HTML tags, spans, divs, elements

for HTML output: `6162 \begin{warpHTML}`

### 52.1 Mapping L<sup>A</sup>T<sub>E</sub>X sections to HTML sections

```
6163 \newcommand*\LWR@tagtitle}{h1}
6164 \newcommand*\LWR@tagtitleend}{/h1}
6165 \newcommand*\LWR@tagbook}{div class=\textquotedbl{}book\textquotedbl}
6166 \newcommand*\LWR@tagbookend}{/div}
6167 \newcommand*\LWR@tagpart}{h2}
6168 \newcommand*\LWR@tagpartend}{/h2}
6169 \newcommand*\LWR@tagchapter}{h3}
6170 \newcommand*\LWR@tagchapterend}{/h3}
6171 \newcommand*\LWR@tagsection}{h4}
6172 \newcommand*\LWR@tagsectionend}{/h4}
6173 \newcommand*\LWR@tagsubsection}{h5}
6174 \newcommand*\LWR@tagsubsectionend}{/h5}
6175 \newcommand*\LWR@tagsubsubsection}{h6}
6176 \newcommand*\LWR@tagsubsubsectionend}{/h6}
6177 \newcommand*\LWR@tagparagraph}{span class=\textquotedbl{}paragraph\textquotedbl}
6178 \newcommand*\LWR@tagparagraphend}{/span}
6179 \newcommand*\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
6180 \newcommand*\LWR@tagsubparagraphend}{/span}
6181
6182 \newcommand*\LWR@tagregularparagraph}{p}
```

### 52.2 Hook while processing tags

This is used to disable special text processing while processing HTML tags. Special processing includes that done by `babel-french`, `luavina`, `xevlva`.

`\LWR@hook@processingtags` Disable special text processing while generating tags. Replaces `\LWR@FBcancel` in most places.

```
6183 \newcommand*{\LWR@hook@processingtags}{}

```

### 52.3 Babel-French tag modifications

Adjust babel-french for HTML spaces. So far, this only works for *pdf<sub>l</sub>atex* and *xelatex*.

(Emulates or patches code by DANIEL FLIPO.)

```
6184 \providecommand*\LWR@FBcancel{}
6185
6186 \AtBeginDocument{%

```

In some circumstances, `\NoAutoSpacing` may be defined when `\frenchbsetup` is not.

```
6187 \@ifundefined{NoAutoSpacing}%
6188 {}%
6189 {%
6190 \LetLtxMacro\LWR@FBcancel\NoAutoSpacing%
6191 \appto{\LWR@hook@processingtags}\LWR@FBcancel}%
6192 }%
6193
6194 \@ifundefined{frenchbsetup}%
6195 {}%
6196 {%
6197 \frenchbsetup{FrenchFootnotes=false}%
6198 %
6199 \renewrobustcmd*\FBcolonspace{%
6200 \begingroup%
6201 \LWR@hook@processingtags%
6202 \LWR@origampersand{}nbsp;%
6203 \endgroup%
6204 }%
6205 \renewrobustcmd*\FBthinspace{%
6206 \begingroup%
6207 \LWR@hook@processingtags%
6208 \LWR@origampersand\LWR@origpound{x202f;% \,
6209 \endgroup%
6210 }%
6211 \renewrobustcmd*\FBguillspace{%
6212 \begingroup%
6213 \LWR@hook@processingtags%
6214 \LWR@origampersand{}nbsp;% ~, for \log xyz \fg{}
6215 \endgroup%
6216 }%
6217 \DeclareDocumentCommand\FBmedkern{}{}{%
6218 \begingroup%
6219 \LWR@hook@processingtags%
6220 \LWR@origampersand\LWR@origpound{x202f;% \,

```

```

6221 \endgroup%
6222 }%
6223 \DeclareDocumentCommand{\FBthickkern}{}{%
6224 \begingroup%
6225 \LWR@hook@processingtags%
6226 \LWR@origampersand{} \nbsp;% ~
6227 \endgroup%
6228 }%
6229 \renewrobustcmd*{~}{\HTMLentity{nbsp}}% was overwritten by babel-french
6230 \ifBUnicode%
6231 \else%
6232 \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
6233 \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
6234 \fi%
6235 }%
6236 }

```

## 52.4 HTML output formatting

Helps format the output HTML code for human readability.

`\LWR@indentHTML` Newline and indent the output HTML code.

```

6237 \newcommand*\LWR@indentHTML{%
6238 \LWR@orignewline\LWR@origrule{2em}{0pt}%
6239 }

```

`\LWR@indentHTMLtwo` Newline and indent the output HTML code.

```

6240 \newcommand*\LWR@indentHTMLtwo{%
6241 \LWR@orignewline\LWR@origrule{4em}{0pt}%
6242 }

```

## 52.5 HTML tags

`\LWR@htmltagc` `{<tag>}` Break ligatures and use upright apostrophes in HTML tags.

`\protect` is in case the tag appears in TOC, LOF, LOT.

```

6243 \newcommand*\LWR@htmltagc[1]{%
6244 \LWR@traceinfo{\LWR@htmltagc !\detokenize{#1}!}%
6245 \begingroup%
6246 \LWR@hook@processingtags%
6247 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6248 \protect\LWR@origtextless%
6249 \LWR@isolate{#1}%
6250 \protect\LWR@origtextgreater%
6251 \endgroup%
6252 }

```

`\LWR@spanwarnformat` {*object*}

Warns if the given object is used inside a span.


```
6253 \newcommand*{\LWR@spanwarnformat}[1]{%
6254 \ifnumcomp{\value{LWR@spandepth}}{>}{0}{%
6255 \PackageWarning{lwarp}{%
6256 A #1 is being used inside a span.\MessageBreak
6257 Formatting may be lost,%
6258 }%
6259 }{}%
6260 }
```


`\LWR@spanwarninvalid` {*object*}

Warns if the given object is used inside a span.

```
6261 \newcommand*{\LWR@spanwarninvalid}[1]{%
6262 \ifnumcomp{\value{LWR@spandepth}}{>}{0}{%
6263 \PackageWarning{lwarp}{%
6264 A #1 is being used inside a span.\MessageBreak
6265 This generates invalid HTML,%
6266 }%
6267 }{}%
6268 }
```

Env `LWR@nestspan` Disable minipage, `\parbox`, and HTML `<div>s` inside a `<span>`.

 `\begin{LWR@nestspan}` must follow the opening `<span>` tag to allow a paragraph to start if the span is at the beginning of a new paragraph.

 `\end{LWR@nestspan}` must follow the `</span>` or a `<p>` may appear inside the span.

```
6269 \newcommand*{\LWR@nestspanitem}{%
6270 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
6271 \LWR@origitem%
6272 }
6273
6274 \newenvironment*{LWR@nestspan}
6275 {%
6276 \LWR@traceinfo{LWR@nestspan starting}%
6277 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6278 {%
6279 \LWR@traceinfo{LWR@nestspan: inside a lateximage}%
6280 }%
6281 {% not in a lateximage
6282 \LWR@traceinfo{LWR@nestspan: NOT inside a lateximage}%
6283 \addtocounter{LWR@spandepth}{1}%
6284 }
```

Nullify several objects inside the span:

```
6284 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}%
6285 {\LWR@spanwarnformat{minipage or \protect\parbox}}%
6286 {}%
```

```

6287 \RenewDocumentEnvironment{BlockClass}{o m}%
6288 {\LWR@spanwarnformat{multi-paragraph object}}%
6289 {}%
6290 \RenewDocumentEnvironment{LWR@BlockClassWP}{m m D(){} m}%
6291 {\LWR@spanwarnformat{multi-paragraph object}}%
6292 {}%
6293 \renewcommand{\BlockClassSingle}[2]{%
6294 {\LWR@spanwarnformat{multi-paragraph object}}%
6295 ##2%
6296 }%
6297 \renewcommand{\LWR@forcenewpage}{}%
6298 \renewcommand{\LWR@liststart}{%
6299 \let\item\LWR@nestspanitem%
6300 }%
6301 \renewcommand{\LWR@listend}{\LWR@htmltagc{br /}\LWR@htmltagc{br /}}%
6302 \renewenvironment{quote}{\LWR@htmltagc{br /}\LWR@htmltagc{br /}}%
6303 \renewenvironment{quotation}{\LWR@htmltagc{br /}\LWR@htmltagc{br /}}%
6304 }% not in a lateximage
6305 \LWR@traceinfo{LWR@nestspan starting: done}%
6306 }% starting env
6307 {% ending env
6308 \LWR@traceinfo{LWR@nestspan ending}%
6309 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6310 {}%
6311 {\addtocounter{LWR@spandepth}{-1}}%
6312 \LWR@traceinfo{LWR@nestspan ending: done}%
6313 }
6314
6315 \AfterEndEnvironment{LWR@nestspan}{\global\let\par\LWR@closeparagraph}

```

`\LWR@htmlspan`  $\{ \langle tag \rangle \} \{ \langle text \rangle \}$



`\LWR@spandepth` is used to ensure that paragraph tags are not generated inside a span. The exact sequence of when to add and subtract the counter is important to correctly handle the paragraph tags before and after the span.

```

6316 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
6317 \LWR@ensuredoingapar%
6318 \LWR@htmltagc{#1}%
6319 \begin{LWR@nestspan}%
6320 #2%
6321 \LWR@htmltagc{/#1}%
6322 \end{LWR@nestspan}%
6323 }

```

`\LWR@htmlspanclass`  $[ \langle style \rangle ] ( \langle aria \ role \rangle ) \{ \langle class \rangle \} \{ \langle text \rangle \}$

```

6324 \NewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{%
6325 \LWR@traceinfo{LWR@htmlspanclass |#1|#2|#3|}%
6326 \LWR@ensuredoingapar%
6327 \ifblank{#2}%
6328 {\LWR@subhtmlclass{span}[#1]{#3}}%
6329 {\LWR@subhtmlclass{span}[#1](#2){#3}}%
6330 \begin{LWR@nestspan}%

```



```

6331 #4%
6332 \LWR@htmltagc{/span}%
6333 \LWR@traceinfo{LWR@htmlspanclass done}%
6334 \end{LWR@nestspan}%
6335 }

```

`\LWR@htmltag {<tag>}`

Print an HTML tag: <tag>

```

6336 \newcommand*\LWR@htmltag}[1]{%
6337 % \LWR@traceinfo{LWR@htmltagb !\detokenize{#1}!}%
6338 \LWR@htmltagc{#1}%
6339 % \LWR@traceinfo{LWR@htmltagb: done}%
6340 }

```

## 52.6 Block tags and comments

In the following, `\origttfamily` breaks ligatures, which may not be used for HTML codes:

`\LWR@htmlopencomment`  
`\LWR@htmlclosecomment`

```

6341 \newcommand*\LWR@htmlopencomment}{%
6342 {%
6343 % \LWR@traceinfo{LWR@htmlopencomment}%
6344 \begingroup%
6345 \LWR@hook@processingtags%
6346 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6347 \LWR@print@mbox{\LWR@origtextless{}!-\/-}%
6348 \endgroup%
6349 }%
6350 }
6351
6352 \newcommand*\LWR@htmlclosecomment}{%
6353 {%
6354 % \LWR@traceinfo{LWR@htmlclosecomment}%
6355 \begingroup%
6356 \LWR@hook@processingtags%
6357 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6358 \LWR@print@mbox{-\/-\LWR@origtextgreater}%
6359 \endgroup%
6360 }%
6361 }

```

`\LWR@htmlcomment {<comment>}`

```

6362 \newcommand{\LWR@htmlcomment}[1]{%
6363 \ifmmode%
6364 \else%
6365 \LWR@htmlopencomment{#1}%

```

```

6366 {%
6367 \LWR@print@normalfont%
6368 \LWR@origttfamily% break ligatures
6369 #1%
6370 }%
6371 \LWR@htmlclosecomment{}%
6372 \fi%
6373 }

```

\LWR@htmlblockcomment {*<comment>*}

```

6374 \newcommand{\LWR@htmlblockcomment}[1]
6375 {\LWR@stoppars\LWR@htmlcomment{#1}\LWR@startpars}

```

\LWR@htmlblocktag {*<tag>*} print a stand-alone HTML tag

```

6376 \newcommand*\LWR@htmlblocktag[1]{%
6377 \LWR@stoppars%
6378 \LWR@htmltag{#1}%
6379 \LWR@startpars%
6380 }

```

## 52.7 Div class and element class

\LWR@subhtmlclass {*<element>*} [*<style>*] (*<aria role>*) {*<class>*}

Factored and reused in several places.

The trailing spaces allow more places for a line break.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

```

6381 \NewDocumentCommand{\LWR@subhtmlclass}{m O{} D{} m}{%
6382 \LWR@traceinfo{\LWR@subhtmlclass !#1!#2!#3!#4!}%
6383 \ifblank{#2}%
6384 {% empty style
6385 \LWR@htmltag{%
6386 #1%
6387 \ifblank{#3}{\role=\textquotedbl#3\textquotedbl}% spaces
6388 \ifblank{#4}{\class=\textquotedbl#4\textquotedbl}% spaces
6389 }%
6390 }%
6391 {% non-empty style
6392 \LWR@htmltag{%
6393 #1\LWR@indentHTML%
6394 \ifblank{#3}{\role=\textquotedbl#3\textquotedbl\LWR@indentHTML}%
6395 \ifblank{#4}{\class=\textquotedbl#4\textquotedbl\LWR@indentHTML}%
6396 style=\textquotedbl#2\textquotedbl\LWR@orignewline%
6397 }%
6398 }%
6399 \LWR@traceinfo{\LWR@subhtmlclass done}%
6400 }

```

`\LWR@htmlElementclass` {<element>} [<style>] {<class>}

```
6401 \NewDocumentCommand{\LWR@htmlElementclass}{m o D()} m}{%
6402 \LWR@stoppars%
6403 \LWR@forceemptyline%
6404 \ifblank{#3}%
6405 {\LWR@subhtmlElementclass{#1}[#2]{#4}}%
6406 {\LWR@subhtmlElementclass{#1}[#2](#3){#4}}%
6407 \LWR@startpars%
6408 }
```

`\LWR@htmlElementclassend` {<element>} {<class>}

```
6409 \newcommand*{\LWR@htmlElementclassend}[2]{%
6410 \LWR@stoppars%
6411 \LWR@htmltag{/#1}%
6412 \ifbool{HTMLDebugComments}{%
6413 \LWR@htmlcomment{End of #1 ‘#2’}%
6414 }{}%
6415 \LWR@startpars%
6416 }
```

`\LWR@htmldivclass` [<style>] (<aria role>) {<class>}

```
6417 \NewDocumentCommand{\LWR@htmldivclass}{o D()} m}{%
6418 \ifblank{#2}
6419 {\LWR@htmlElementclass{div}[#1]{#3}}%
6420 {\LWR@htmlElementclass{div}[#1](#2){#3}}%
6421 }
```

`\LWR@htmldivclassend` {<class>}

```
6422 \newcommand*{\LWR@htmldivclassend}[1]{%
6423 \LWR@htmlElementclassend{div}{#1}%
6424 }
```

## 52.8 Single-line elements

A single-line element, without a paragraph tag for the line of text:

`\LWR@htmlElementclassline` {<element>} [<style>] {<class>} {<text>}

```
6425 \NewDocumentCommand{\LWR@htmlElementclassline}{m o m +m}{%
6426 \LWR@stoppars
6427 \LWR@forceemptyline%
6428 \LWR@subhtmlElementclass{#1}[#2]{#3}%
6429 #4%
6430 \LWR@htmltag{/#1}
6431 \LWR@startpars
6432 }
```

## 52.9 HTML5 semantic elements

`\LWR@htmlElement` {*element*}

```
6433 \newcommand*\LWR@htmlElement}[1]{%
6434 \LWR@htmlblocktag{#1}
6435 }
```

`\LWR@htmlElementend` {*element*}

```
6436 \newcommand*\LWR@htmlElementend}[1]{%
6437 \LWR@stoppars
6438 \LWR@htmltag{/#1}
6439 \LWR@startpars
6440 }
6441
6442 \end{warpHTML}
```

## 52.10 High-level block and inline classes

These are high-level commands which allow the creation of arbitrary block or inline sections which may be formatted with css.

Nullified versions are provided for print mode.

For other direct-formatting commands, see section [95](#).

Env `BlockClass` [*style*] (<*aria role*>) {*class*} High-level interface for <div> classes.

Ex: `\begin{BlockClass}{class} text \end{BlockClass}`

**for PRINT output:** `6443 \begin{warpprint}`  
`6444 \NewDocumentEnvironment{BlockClass}{o D(){} m}{}{}`  
`6445 \end{warpprint}`

**for HTML output:** `6446 \begin{warpHTML}`  
`6447`  
`6448 \NewDocumentEnvironment{LWR@print@BlockClass}{o D(){} m}{}{}`  
`6449`  
`6450 \NewDocumentEnvironment{LWR@HTML@BlockClass}{o D(){} m}%`  
`6451 \LWR@htmldivclass[#1](#2){#3}}%`  
`6452 \LWR@htmldivclassend{#3}}`  
`6453`  
`6454 \LWR@formattedenv{BlockClass}`  
`6455 \end{warpHTML}`

`\BlockClassSingle` {*class*} {*text*} A single-line <div>, without a paragraph tag for the line of text.

**for HTML & PRINT:** `6456 \begin{warpall}`  
`6457 \newcommand{\BlockClassSingle}[2]{#2}`  
`6458 \end{warpall}`

**for HTML output:** 6459 \begin{warpHTML}  
 6460 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%  
 6461 \LWR@html@elementclassline{div}{#1}{#2}%  
 6462 }  
 6463  
 6464 \LWR@formatted{BlockClassSingle}  
 6465 \end{warpHTML}

\InlineClass (*(WP style)*) [*(style)*] {*(class)*} {*(text)*}

High-level interface for inline span classes.

*(WP style)* is css styling to add when formatting for a word processor import.

[*(style)*] is the css styling to add when not formatting for a word processor.

**for PRINT output:** 6466 \begin{warpprint}  
 6467 \NewDocumentCommand{\InlineClass}{D{()}{}}{ o m +m}{#4}%  
 6468 \end{warpprint}

**for HTML output:** 6469 \begin{warpHTML}  
 6470 \NewDocumentCommand{\LWR@print@InlineClass}{D{()}{}}{ o m +m}{#4}%  
 6471  
 6472 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{()}{}}{ o m +m}{%  
 6473 \LWR@traceinfo{\LWR@HTML@InlineClass #3}%  
 6474 \ifbool{FormatWP}{%  
 6475 \LWR@traceinfo{\LWR@HTML@InlineClass: FormatWP}%  
 6476 \LWR@htmlspanclass[#1]{#3}{#4}%  
 6477 }{%  
 6478 \LWR@traceinfo{\LWR@HTML@InlineClass: not FormatWP}%  
 6479 \LWR@htmlspanclass[#2]{#3}{#4}%  
 6480 }%  
 6481 \LWR@traceinfo{\LWR@HTML@InlineClass: done}%  
 6482 }  
 6483  
 6484 \LWR@formatted{InlineClass}  
 6485 \end{warpHTML}

Env LWR@BlockClassWP {*(WPstyle)*} {*(HTMLstyle)*} (*(aria role)*) {*(class)*} Low-level interface for <div> classes with an automatic float ID. These are often used when \ifbool{FormatWP}.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

**for PRINT output:** 6486 \begin{warpprint}  
 6487 \NewDocumentEnvironment{LWR@BlockClassWP}{m m D(){} m}{ }  
 6488 \end{warpprint}

**for HTML output:** 6489 \begin{warpHTML}  
 6490 \NewDocumentEnvironment{LWR@print@LWR@BlockClassWP}{m m D(){} m}{ }  
 6491  
 6492 \NewDocumentEnvironment{LWR@HTML@LWR@BlockClassWP}{m m D(){} m}%  
 6493 {%  
 6494 \LWR@stoppars%  
 6495 \ifbool{FormatWP}%

```

6496 {%
6497 \addtocounter{LWR@thisautoidWP}{1}%

6498 \LWR@htmltag{%
6499 div class=\textquotedbl#4\textquotedbl\ % space
6500 id=\textquotedbl%
6501 \LWR@print@mbx{autoidWP-\arabic{LWR@thisautoidWP}}%
6502 \textquotedbl%
6503 \ifblank{#3}{\role=\textquotedbl#3\textquotedbl}%
6504 \ifblank{#1}{\style=\textquotedbl#1\textquotedbl}%
6505 }%
6506 }% FormatWP
6507 {% not FormatWP
6508 \LWR@htmltag{%
6509 div class=\textquotedbl#4\textquotedbl%
6510 \ifblank{#3}{\role=\textquotedbl#3\textquotedbl}%
6511 \ifblank{#2}{\style=\textquotedbl#2\textquotedbl}%
6512 }%
6513 }% not FormatWP
6514 \LWR@startpars%
6515 }
6516 {\LWR@htmldivclassend{#4}}
6517
6518 \LWR@formattedenv{LWR@BlockClassWP}
6519 \end{warpHTML}

```

## 52.11 Closing HTML tags

**for HTML output:** 6520 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6521 \newcommand*{\LWR@printclosebook}
6522 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6523 \newcommand*{\LWR@printclosepart}
6524 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6525 \newcommand*{\LWR@printclosechapter}
6526 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6527 \newcommand*{\LWR@printclosesection}
6528 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6529 \newcommand*{\LWR@printclosesubsection}
6530 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6531 \newcommand*{\LWR@printclosesubsubsection}
6532 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}
6533 \newcommand*{\LWR@printcloseparagraph}
6534 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6535 \newcommand*{\LWR@printclosesubparagraph}
6536 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

6537 \newcommand*{\LWR@printcloselistitem}

```

```

6538 {\LWR@htmltag{/li}}
6539 \newcommand*{\LWR@printclosedescitem}
6540 {\LWR@htmltag{/dd}}
6541 \newcommand*{\LWR@printcloseitemize}
6542 {\LWR@htmltag{/ul}}
6543 \newcommand*{\LWR@printcloseenumerate}
6544 {\LWR@htmltag{/ol}}
6545 \newcommand*{\LWR@printclosedescription}
6546 {\LWR@htmltag{/dl}}

6547 \end{warpHTML}

```

## 53 Paragraph handling

These commands generate the HTML paragraph tags when allowed and required.

Paragraph tags are or are not allowed depending on many conditions. Section 54 has high-level commands which allow paragraph-tag generation to start/stop. Even when allowed (`\LWR@doingstartpars`), tags are not generated until a  $\LaTeX$  paragraph is being used (`\LWR@doingapar`). `LWR@lateximagedepth` is used to prevent nesting tags inside a `lateximage`. `LWR@spandepth` is used to prevent nesting paragraph tags inside a paragraph, which became important inside `\fbox` commands and other spans.

**for HTML output:** 6548 `\begin{warpHTML}`

Ctrl `LWR@spandepth` Do not create paragraph tags inside of an HTML span.

```

6549 \newcounter{LWR@spandepth}
6550 \setcounter{LWR@spandepth}{0}

```

Bool `LWR@doingstartpars` Tells whether paragraphs may be generated.

```

6551 \newbool{LWR@doingstartpars}
6552 \boolfalse{LWR@doingstartpars}

```

Bool `LWR@doingapar` Tells whether have actually generated and are currently processing paragraph text.

```

6553 \newbool{LWR@doingapar}
6554 \global\boolfalse{LWR@doingapar}

```

`\LWR@ensuredoingapar` If are about to print something visible, and if allowed to start a new paragraph, ensure that are `LWR@doingapar`, so that paragraph tags are placed:

```

6555 \newcommand*{\LWR@ensuredoingapar}{%
6556 \ifbool{LWR@doingstartpars}%
6557 {\global\booltrue{LWR@doingapar}}%
6558 }%
6559 }

```

`\PN@parnotes@auto` Redefined by `parnotes` to print paragraph notes at the end of each paragraph.

```
6560 \def\PN@parnotes@auto{}
```

\LWR@openparagraph

```
6561 \newcommand*\LWR@openparagraph{
6562 {%
```

See if paragraph handling is enabled:

```
6563 \ifbool{LWR@doingstartpars}%
6564 {% handling pars
```

See if have already started a lateximage or a <span>. If so, do not generate nested paragraph tags.

```
6565 \ifboolexpr{
6566 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6567 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6568 }% nested par tags?
```

If so: Do nothing if already started a lateximage page. Cannot nest a lateximage. Also do nothing if already inside a <span>. Do not nest paragraph tags inside a <span>.

```
6569 {}% no nested par tags
```

Else: No lateximage or <span> has been started yet, so it's OK to generate paragraph tags.

```
6570 {% yes nest par tags
```

If parnotes is used, paragraph notes are inserted before starting the next paragraph:

```
6571 \PN@parnotes@auto%
```

The opening paragraph tag:

```
6572 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@originewline%
```

Now have started a paragraph.

```
6573 \global\booltrue{LWR@doingapar}%
```

At the end of each paragraph, generate closing tag and do regular /par stuff. (Attempting to use the everyhook cr hook for \LWR@closeparagraph does not work well.)

```
6574 \let\par\LWR@closeparagraph%
6575 }% end of yes nest par tags
6576 }% end of handling pars
6577 {}% not handling pars
6578 }
```



`\LWR@closeparagraph@br` Add an HTML break if in a span, and not in a lateximage, and not in tabular metadata. Factored from `\LWR@closeparagraph`.

```
6579 \newcommand*{\LWR@closeparagraph@br}
6580 {%
6581 \ifboolexpr{
6582 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} and
6583 test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}} and
6584 not bool {LWR@intabularmetadata}
6585 }%
6586 {\unskip\LWR@htmltagc{br /}}%
6587 }%
6588 }
```

`\LWR@closeparagraph`

```
6589 \newcommand*{\LWR@closeparagraph}
6590 {%
6591 % \LWR@traceinfo{LWR@closeparagraph}%
```

See if paragraph handling is enabled:

```
6592 \ifbool{LWR@doingapar}%
```

If currently in paragraph mode:

```
6593 {% handling pars
```

See if already started a lateximage or a <span>:

```
6594 \ifboolexpr{
6595 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6596 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6597 }%
```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```
6598 {% no nested par tags
6599 \LWR@closeparagraph@br%
6600 }% no nested par tags
```

If have not already started a lateximage or a <span>:

```
6601 {% yes nest par tags
```

Print a closing tag and some extra vertical space.

(The fill seems to be required to force the caption package to create flush left caption text in the HTML.)

```
6602 \@hspacer{\fill}% \hspace*{\fill}
6603 \leavevmode\LWR@orignewline%
6604 \LWR@htmltagc{/\LWR@tagregularparagraph}%
```

No longer doing a paragraph:

```
6605 \global\boolfalse{LWR@doingapar}%
```

Disable the special minipage & \hspace interaction until a new minipage is found:

```
6606 \global\boolfalse{LWR@minipagethispar}%
```

If `parnotes` is used, paragraph notes are inserted after ending the previous paragraph:

```
6607 \PN@parnotes@auto%
6608 }% end of yes nest par tags
6609 }% end of handling pars
```

Add a `parbreak` if in a span, not in a `lateximage`, and not in table metadata.

```
6610 {% not handling pars
6611 \LWR@closeparagraph@br%
6612 }% not handling pars
```

In most cases, finish with a `LATEX \par`, but in the case of paragraphs between lines in a `tabular` fetch the next token instead:

```
6613 \ifboolexpr{%
6614 not bool {LWR@doingapar} and
6615 test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
6616 test {
6617 \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
6618 } and
6619 bool {LWR@intabularmetadata} and
6620 not bool {LWR@tableparcell} and
6621 test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
6622 }%
6623 {%
6624 \LWR@getmynexttoken%
6625 }{%
6626 \LWR@origpar%
6627 }%
6628 }

6629 \end{warpHTML}
```

## 54 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 53 has the commands which actually generate the tags.

The `everyhook` package is used to generate the opening paragraph tags. The closing tags are generated by `\par`.

for HTML output: `6630 \begin{warpHTML}`

`\LWR@startpars` Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```
6631 \newcommand*{\LWR@startpars}%
6632 {%
6633 % \LWR@traceinfo{\LWR@startpars}%
```

Ignore if inside a `lateximage` or `<span>`:

```
6634 \ifboolexpr{
6635 test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6636 test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}
6637 }%
6638 {%
6639 {%
```

See if currently handling HTML paragraphs:

```
6640 \ifbool{\LWR@doingstartpars}%
```

If already in paragraph mode, do nothing.

```
6641 }%}
```

If not currently in paragraph mode:

```
6642 {%
```

At the start of each paragraph, generate an opening tag:

```
6643 \PushPreHook{par}{\LWR@openparagraph}%
```

At the end of each paragraph, generate closing tag then do regular `/par` actions:

```
6644 \let\par\LWR@closeparagraph
6645
6646 }% an intentionally blank line
```

Are now handling paragraphs, but have not yet actually started one:

```
6647 \global\setbool{\LWR@doingstartpars}{true}%
```

No `<par>` tag yet to undo:

```
6648 \global\boolfalse{\LWR@doingapar}%
6649 }% nestspan
6650 % \LWR@traceinfo{\LWR@startpars: done}%
6651 }
```

`\LWR@stoppars` Stop handling HTML paragraphs. Any currently open HTML paragraph is closed, and no more will be opened.

```
6652 \newcommand*{\LWR@stoppars}%
6653 {%
```

Ignore if inside a lateximage or <span>:

```
6654 \ifboolexpr{
6655 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6656 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6657 }%
6658 {%
6659 {%
```

See if currently handling HTML paragraphs:

```
6660 \ifbool{LWR@doingapar}%
```

if currently in an HTML paragraph:

```
6661 {%
```

Print a closing tag:

```
6662 \leavevmode\LWR@orignewline%
6663 \LWR@htmltagc{/\LWR@tagregularparagraph}%
6664 \LWR@orignewline%
```

No longer have an open HTML paragraph:

```
6665 \global\boolfalse{LWR@doingapar}%
```

Disable the special minipage & \hspace interaction until a new minipage is found:

```
6666 \global\boolfalse{LWR@minipagethispar}
6667 }%
```

If was not in an HTML paragraph:

```
6668 }%}
```

See if currently allowing HTML paragraphs:

```
6669 \ifbool{LWR@doingstartpars}%
```

If so: clear the par hook to no longer catch paragraphs:

```
6670 {\ClearPreHook{par}}%
```

Else: Do nothing:

```
6671 }%
```

No longer in paragraph mode:

```
6672 \global\setbool{LWR@doingstartpars}{false}%
```

No <p> tag to undo:

```
6673 \global\boolfalse{LWR@doingapar}%
6674 }% nestspan
6675 }

6676 \end{warpHTML}
```

## 55 Indentfirst

Pkg indentfirst indentfirst redefines \@afterindentfalse to be \@afterindenttrue. This is reversed \@AtBeginDocument here.

**for HTML output:** 6677 \begin{warpHTML}

```
6678 \AtBeginDocument{
6679 \def\@afterindentfalse{\let\if@afterindent\iffalse}
6680 \@afterindentfalse
6681 }
6682 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting

6683 \end{warpHTML}
```

## 56 Page headers and footers

**for HTML & PRINT:** 6684 \begin{warpall}

In the following, catcode is manually changed back and forth without groups, since new macros are being defined which must not be contained within the groups.

```
6685 \newcommand{\LWR@firstpagetop}{} % for the home page alone
6686 \newcommand{\LWR@firstpagebottom}{} % for the home page alone
6687 \newcommand{\LWR@pagetop}{} % for all other pages
6688 \newcommand{\LWR@pagebottom}{}%
```

\HTMLFirstPageTop {<*text and logos*>}

```
6689 \newcommand{\HTMLFirstPageTop}[1]{%
6690 \renewcommand{\LWR@firstpagetop}{#1}%
6691 }
```

\HTMLFirstPageBottom {<*text and logos*>}

```
6692 \newcommand{\HTMLFirstPageBottom}[1]{%
6693 \renewcommand{\LWR@firstpagebottom}{#1}%
6694 }
```

`\HTMLPageTop` {*<text and logos>*}

```
6695 \newcommand{\HTMLPageTop}[1]{%
6696 \renewcommand{\LWR@pagetop}{#1}%
6697 }
```

`\HTMLPageBottom` {*<text and logos>*}

```
6698 \newcommand{\HTMLPageBottom}[1]{%
6699 \renewcommand{\LWR@pagebottom}{#1}%
6700 }
```

```
6701 \end{warpall}
```

## 57 CSS

**for HTML output:** 6702 `\begin{warpHTML}`

`\LWR@currentcss` The css filename to use. This may be changed mid-document using `\CSSFilename`, allowing different css files to be used for different sections of the document.

```
6703 \newcommand*{\LWR@currentcss}{lwarp.css}
```

`\CSSFilename` {*<new-css-filename.css>*} Assigns the css file to be used by the following HTML pages.

```
6704 \newcommand*{\CSSFilename}[1]{%
6705 \renewcommand*{\LWR@currentcss}{#1}%
6706 \@onelevel@sanitize\LWR@currentcss%
6707 }
6708
6709 \end{warpHTML}
```

**for PRINT output:** 6710 `\begin{warpprint}`  
6711 `\newcommand*{\CSSFilename}[1]{}`  
6712 `\end{warpprint}`

## 58 MATHJAX script

**for HTML output:** 6713 `\begin{warpHTML}`  
Default: `lwarp_mathjax.txt`

`\LWR@mathjaxfilename` The MATHJAX script filename to use. This file is copied into the head of each HTML page. This may be changed mid-document using `\MathJaxFilename`, allowing the use of a custom MATHJAX script, such as for a local repository, or different MATHJAX script files to be used for different sections of the document.

```
6714 \newcommand*{\LWR@mathjaxfilename}{lwarp_mathjax.txt}
```

`\MathJaxFilename`  $\langle filename \rangle$  Assigns the MATHJAX script file to be used by the following HTML pages.

```
6715 \newcommand*\MathJaxFilename[1]{%
6716 \renewcommand*\LWR@mathjaxfilename{#1}%
6717 \@onelevel@sanitize\LWR@mathjaxfilename%
6718 }
6719
6720 \end{warpHTML}
```

**for PRINT output:**

```
6721 \begin{warpprint}
6722 \newcommand*\MathJaxFilename[1]{
6723 \end{warpprint}
```

## 59 Title, HTML meta author, HTML meta description

**for HTML output:**

```
6724 \begin{warpHTML}
```

`\title`  $\langle title \rangle$  Modified to remember `\thetitle`, which is used to set the HTML page titles.

```
6725 \let\LWR@origtitle\title
6726
6727 \renewcommand*\title[1]{%
6728 \LWR@origtitle{#1}%
6729 \begingroup%
6730 \renewcommand{\thanks}[1]{}%
6731 \protected@xdef\thetitle{#1}%
6732 \endgroup%
6733 }
```

```
6734 \end{warpHTML}
```

**for HTML & PRINT:**

```
6735 \begin{warpall}
```


`\HTMLTitle`  $\langle Titlename \rangle$  The Title to place into an HTML meta tag. The default is to use the document `\title`'s setting.

```
6736 \providecommand{\thetitle}{\BaseJobname}
6737
6738 \newcommand{\theHTMLTitle}{\thetitle}
6739
6740 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}
```

`\HTMLAuthor`  $\langle authorname \rangle$  The author to place into an HTML meta tag. If none given, the default is `\theauthor`, which is empty unless the titling package is used.

```
6741 \providecommand{\theauthor}{}
6742
6743 \newcommand{\theHTMLAuthor}{\theauthor}
6744
6745 \newcommand{\HTMLAuthor}[1]{\renewcommand{\theHTMLAuthor}{#1}}
```

This is placed inside an HTML meta tag at the start of each file. This may be changed mid-document using `\HTMLDescription`, allowing different HTML descriptions to be used for different sections of the document.

 **HTML author** Do not use double quotes, and do not exceed 150 characters.

`\HTMLDescription` `{\langle New html meta description.\rangle}` Assigns the HTML file's description meta tag.

```
6746 \newcommand{\LWR@currentHTMLDescription}{}
6747
6748 \newcommand{\HTMLDescription}[1]{%
6749 \renewcommand{\LWR@currentHTMLDescription}{#1}
6750 }
6751
6752 \end{warpall}
```

## 60 Footnotes

lwarp uses native L<sup>A</sup>T<sub>E</sub>X footnote code, although with its own `\box` to avoid the L<sup>A</sup>T<sub>E</sub>X output routine. The usual functions mostly work as-is.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

**MATHJAX** Also for MATHJAX, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading lwarp:


```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

**footmisc** The `footmisc stable` option is emulated by lwarp.

 **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between



print and HTML, use the `footmisc` package with the `stable` option, provide a short TOC entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

memoir with footmisc  
 memoir

If using `memoir` class, with which `lwarp` preloads `footmisc`, the `stable` option must be declared before `lwarp` is loaded:

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

Several kinds of footnotes are used: in a regular page, in a minipage, or as thanks in the titlepage. Each of these is handle differently.

## 60.1 Regular page footnotes

In HTML documents, footnotes are placed at the bottom of the web page or the section, depending on `FootnoteDepth`, using the L<sup>A</sup>T<sub>E</sub>X box `\LWR@footnotebox`. Using this instead of the original `\footins` box avoids having footnotes be printed by the output routine, since footnotes should be printed per HTML page instead of per PDF page.

See section 60.4 for the implementation.

## 60.2 Minipage footnotes

See section 60.5 for how minipage footnotes are gathered. See section 94.4 for how minipage footnotes are placed into the document.

## 60.3 Titlepage thanks

See section 69.7 for titlepage footnotes.

## 60.4 Regular page footnote implementation

for HTML & PRINT: 6753 `\begin{warppall}`

Ctrl FootnoteDepth Determines how deeply to place footnotes in the HTML files, similar to `tocdepth`. The default of 3 places footnotes before each `\subsubsection` or higher. See table 12 for a table of L<sup>A</sup>T<sub>E</sub>X section headings.

Default: 3

```
6754 \newcounter{FootnoteDepth}
6755 \setcounter{FootnoteDepth}{3}
```

Ctrl `footnoteReset` If non-zero, the footnote counter is reset to this value each time the footnotes are printed, as controlled by `FootnoteDepth`. For the `manyfoot` and `bigfoot` packages, additional counters such as `footnote<suffix>Reset` will be defined as well. These counters may be set non-zero by the user, and are also set if the `perpage`'s `\MakePerPage` or `\MakeSortedPerPage` macros are used for the `footnote` or `footnote<suffix>` counters.

Default: 0

(The name is not capitalized because it is made from the counter's name with "Reset" appended.)

```
6756 \newcounter{footnoteReset}
6757 \setcounter{footnoteReset}{0}
```

```
6758 \end{warpall}
```

for HTML output: `6759 \begin{warpHTML}`

`\LWR@footnotebox` Patch  $\LaTeX$  footnotes to use a new `\box` instead of an insert for `lwarp` footnotes. This avoids having the original `\footins` appear at the bottom of a `lateximage`, which is on its own new page.

```
6760 \newbox\LWR@footnotebox
```

Much of the following has unneeded print-mode formatting removed.

`\@makefntext` `{\text}`

```
6761 \long\def\@makefntext#1{\@thefnmark~#1}
```

`\@makefnmark`

```
6762 \def\@makefnmark{%
6763 \@thefnmark%
6764 }
```

Footnotes may be in regular text, in which case paragraphs are tagged, or in a table data cell or `lateximage`, in which case paragraph tags must be added manually.

In a `lateximage` during HTML output, the `lateximage` is placed inside a print-mode `minipage`, but the footnotes are broken out by:

```
\def\@mpfn{footnote}
\def\@thempfn{\thefootnote}
\let\@footnotetext\LWR@footnotetext
```

`\LWR@@footnotetext` `{\text}` `{\footnote box name}`

Factored to allow multiple footnote boxes for manyfoot.

```
6765 \long\def\LWR@footnotetext#1#2{%
6766 \LWR@traceinfo{LWR@footnotetext}%
```

Perhaps generate an autopage in the text to link a citation backreference closer to its usage.

```
6767 \LWR@newautopagelabel{page}%
```

Locally disable auto page labels inside the footnote text. Footnotes are accumulated in the current page before finally being placed in a potentially later page, so the aotopages would be incorrect.

```
6768 \begingroup%
6769 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

Take the existing footnote box and add the new content:

```
6770 \global\setbox\csname #2\endcsname=\vbox{%
6771 \unvbox\csname #2\endcsname%
```

Remember the footnote number for \ref:

```
6772 \protected@edef\@currentlabel{%
6773 \csname p@footnote\endcsname\@thefnmark%
6774 }% @currentlabel
```

Open a group:

```
6775 \color@begingroup%
```

Disable CJK xpinyin while generating footnotes.

```
6776 \LWR@disablepinyin%
```

Use HTML superscripts in the footnote even when the main text is inside a lateximage, because the footnote will be in HTML:

```
6777 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```
6778 \ifthenelse{%
6779 \boolean{LWR@doingstartpars} \AND%
6780 \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6781 }%
6782 {%
6783 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@originewline}%
```

Append the footnote to the list:

```
6784 \@makefntext{#1}%
```

Closing paragraph tag:

```

6785 \ifthenelse{%
6786 \boolean{LWR@doingstartpars} \AND%
6787 \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6788 }%
6789 {\par}%
6790 {%
6791 \LWR@htmltagc{/\LWR@tagregularparagraph}%
6792 \LWR@originewline%
6793 }%

```

Close the group:

```

6794 \color@endgroup%
6795 }% vbox
6796 \endgroup%

```

Paragraph handling:

```

6797 \LWR@ensuredoingapar%
6798 }%

```

```
\LWR@footnotetext {<text>}
```

```
6799 \long\def\LWR@footnotetext#1{\LWR@@footnotetext{#1}{LWR@footnotebox}}%
```

```
\@footnotetext {<text>}
```

```
6800 \LetLtxMacro\@footnotetext\LWR@footnotetext
```

## 60.5 Minipage footnote implementation

Patch  $\LaTeX$  minipage footnotes to use a new `\box` instead of an insert for `lwarp` minipage footnotes. This avoids having the original `\@mpfootins` appear at the bottom of a `lateximage`, which is on its own new page.

```
6801 \newbox\LWR@mpfootnotes
```

```
\@mpfootnotetext {<text>}
```

```

6802 \long\def\@mpfootnotetext#1{%
6803 \LWR@traceinfo{\@mpfootnotetext}%
6804 \global\setbox\LWR@mpfootnotes\vbox{%
6805 \unvbox\LWR@mpfootnotes%
6806 \reset@font\footnotesize%
6807 \hsize\columnwidth%
6808 \@parboxrestore%
6809 \protected@edef\@currentlabel%
6810 {\csname p@mpfootnote\endcsname\@thefnmark}%
6811 \color@begingroup%

```

Use paragraph tags if in a tabular data cell or a lateximage:

```

6812 \ifthenelse{%
6813 \boolean{LWR@doingstartpars} \AND%
6814 \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6815 }%
6816 {}%
6817 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewLine}%

6818 \@makefnstext{%
6819 \ignorespaces#1%
6820 }%

```

Don't add the closing paragraph tag if are inside a lateximage:

```

6821 \ifthenelse{\cnttest{\value{LWR@lateximagedepth}}{>}{0}}%
6822 {}%
6823 {%
6824 \leavevmode\LWR@orignewLine%
6825 \LWR@htmltagc{/\LWR@tagregularparagraph}%
6826 \LWR@origpar%
6827 }%
6828 \color@endgroup%
6829 }% vbox

```

Paragraph handling:

```

6830 \LWR@ensuredoingapar%
6831 \LWR@traceinfo{@mpfootnotetext: done}%
6832 }

```

`\thempfootnote` Redefined to remove the `\itshape`, which caused an obscure compiling error in some situations.

```

6833 \AtBeginDocument{
6834 \def\thempfootnote{\@alph\c@mpfootnote}
6835 }

```

## 60.6 Printing pending footnotes

`\LWR@printpendingfootnotes`  $\{ \langle footnote\ counter\ name \rangle \}$

```

6836 \newcommand*{\LWR@printpendingfootnotes}[1]{%
6837 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
6838 \LWR@forcenewpage
6839 \begin{BlockClass}(note){footnotes}%

```

Create a new autopage in case citation back references occur inside the footnotes:

```

6840 \LWR@newautopagelabel{page}%

```

```

6841 \null
6842 \unvbox\csuse{LWR@#1box}
6843 \setbox\csuse{LWR@#1box}=\vbox{}
6844 \end{BlockClass}
6845 \ifltxcounter{#1Reset}{%
6846 \ifnumgreater{\value{#1Reset}}{0}{%
6847 \setcounter{#1}{\value{#1Reset}}%
6848 \addtocounter{#1}{-1}%
6849 }{}%
6850 }{}%
6851 \fi
6852 }

```

`\LWR@printpendingfootnotes` Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```

6853 \newcommand*{\LWR@printpendingfootnotes}{%
6854 \LWR@printpendingfootnotes{footnote}%
6855 }

```

`\LWR@maybeprintpendingfootnotes` `{<depth>}` Used to print footnotes before sections only if formatting for an EPUB or word processor:

```

6856 \newcommand*{\LWR@maybeprintpendingfootnotes}[1]{%
6857 \ifboolexpr{
6858 not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}} or
6859 bool{FormatEPUB} or
6860 bool{FormatWP}
6861 }%
6862 {\LWR@printpendingfootnotes}%
6863 }{}%
6864 }

```

`\LWR@printpendingmpfootnotes` Enclose the minipage footnotes in a class, print, then clear.

```

6865 \newcommand*{\LWR@printpendingmpfootnotes}{%
6866 \ifvoid\LWR@mpfootnotes\else
6867 \LWR@forcenewpage
6868 \begin{BlockClass}(note){footnotes}%
6869 \null
6870 \unvbox\LWR@mpfootnotes
6871 \setbox\LWR@mpfootnotes=\vbox{}
6872 \end{BlockClass}
6873 \fi
6874 }

6875 \end{warpHTML}

```

## 61 Marginpars

`\marginpar` [`<left>`] [`<right>`] `\marginpar` may contains paragraphs, but in order to re-

main inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `<br />` tags.

`\marginparBlock` [*left*] [*right*] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a `<span>`. A line break will occur in the text where the `\marginBlock` occurs.

**for HTML output:** 6876 `\begin{warphTML}`

`\marginpar` [*left*] [*right*]

```
6877 \renewcommand{\marginpar}[2][]{%
6878 \ifbool{FormatWP}%
6879 {%
6880 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{(note){marginblock}%
6881 #2
6882 \end{LWR@BlockClassWP}%
6883 }%
6884 {%
6885 \LWR@htmlspanclass(note){marginpar}{#2}%
6886 }%
6887 }
```

`\marginparBlock` [*left*] [*right*]

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```
6888 \newcommand{\marginparBlock}[2][]{%
6889 \LWR@stoppars%
6890 \ifbool{FormatWP}%
6891 {%
6892 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{(note){marginblock}%
6893 #2
6894 \end{LWR@BlockClassWP}
6895 }{%
6896 \begin{BlockClass}[width:2in; float:right; margin:10pt](note){marginparblock}%
6897 #2
6898 \end{BlockClass}
6899 }%
6900 \LWR@startpars%
6901 }
```

`\reversemarginpar`

```
6902 \renewcommand*{\reversemarginpar}{}
```

`\normalmarginpar`

```
6903 \renewcommand*{\normalmarginpar}{}
```

```
6904 \end{warpHTML}
```

**for PRINT output:** `6905 \begin{warpprint}`

```
\marginparBlock [left] [right]
```

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

Print version.

```
6906 \LetLtxMacro\marginparBlock\marginpar
```

```
6907 \end{warpprint}
```

## 62 Tracking internal cross references

Cross references are generated using the PDF file's page number during L<sup>A</sup>T<sub>E</sub>X compilation. Internal labels are generated which include these page numbers in the label.

File `*_html.aux` A new entry in the `*_html.aux` file is used to help cross-references:

```
\newlabel{autopage-<nnn>}{<x>}{<y>}}
```

Ctrl `LWR@currentautosecpage` Records the page number when the section was created. (If a math expression is included in the section name, and `svg math` is used, the corresponding `lateximage` will cause the page number to change by the time the following `autosec` label is created, thus the initial page number is recorded here.) `LWR@currentautosecfloatpage` is updated more often than `LWR@currentautosecpage`.

```
6908 \newcounter{LWR@currentautosecpage}
```

```
6909 \setcounter{LWR@currentautosecpage}{1}
```

Ctrl `LWR@currentautosecfloatpage` The HTML output's PDF page number at the start of a new HTML file, section, or float. Updated more often than `LWR@currentautosecpage`, such as when a new float occurs. Used only for table of contents, list of figures, list of tables, but not for general cross references such as `\label`, citation backlinks, etc.

`\LWRsetnextfloat` is written with this and the `autoid` by the modified `\addcontentsline` just before each float's entry.

```
6910 \newcounter{LWR@currentautosecfloatpage}
```

```
6911 \setcounter{LWR@currentautosecfloatpage}{1}
```

Ctrl `LWR@previousautopagelabel` Remembers which `autopage` label was most recently generated. Used to avoid duplicates.

```
6912 \newcounter{LWR@previousautopagelabel}
```

```
6913 \setcounter{LWR@previousautopagelabel}{-1}
```



```
\LWR@newautopagelabel {<pagenumber counter>}
```

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
6914 \newcommand*{\LWR@newautopagelabel}[1]{%
```

No action if this autopage label has already been defined:

```
6915 \ifnumequal{\value{\LWR@previousautopagelabel}}{\value{page}}%
6916 {}}%
```

If the PDF page has changed, create a label using the desired counter.

If the counter is LWR@currentautosecpage, that was the page number when the section generation began, but the current PDF page may be different by now if the section name had an SVG image, such as SVG math. To allow the cross-reference to point just after the section heading, the label must be made after the section heading is complete, which may have generated a new PDF page. Thus, the label is made with the given counter, which may be the PDF page number where the section heading began, then if the PDF page number has changed, another label is made for the current page number.

```
6917 {%
6918 \label{\BaseJobname-autopage-\csuse{the#1}}%
```

If there are intervening pages, such as an SVG image, define another label for the new page:

```
6919 \ifnumequal{\value{#1}}{\value{page}}%
6920 {}}%
6921 {\label{\BaseJobname-autopage-\csuse{thepage}}}%
```

Remember the latest autopage label:

```
6922 \setcounter{\LWR@previousautopagelabel}{\value{page}}%
6923 }%
6924 }
```

```
\LWR@null@newautopagelabel {<pagenumber counter>}
```

Inside a footnote, the page numbers will be incorrect, so this is nullified.

```
6925 \newcommand*{\LWR@null@newautopagelabel}[1]{}
```

## 63 Splitting HTML files

- Files are split according to FileDepth and CombineHigherDepths.
- Filenames are sanitized by \LWR@filenamenoblanks.

- `\LWR@newhtmlfile` finishes an HTML page, adds a comment to tell where and how to split the file, then starts a new HTML page.

**for HTML & PRINT:** 6926 `\begin{warpall}`

`Ctr FileDepth` `{\section depth}` determines how deeply to break into new HTML files, similar to `tocdepth`. The default of `-5` produces one large HTML file.

```
6927 \newcounter{FileDepth}
6928 \setcounter{FileDepth}{-5}
```

`Bool CombineHigherDepths` Combile higher-level sections together into one file?

```
6929 \newbool{CombineHigherDepths}
6930 \booltrue{CombineHigherDepths}
```

`\FilenameLimit` Maximum length of the generated filenames.

```
6931 \newcommand*{\FilenameLimit}{80}

6932 \end{warpall}
```

**for HTML output:** 6933 `\begin{warphTML}`

`\LWR@thisfilename` The currently-active filename or number. At first, this is the homepage.

```
6934 \AtBeginDocument{
6935 \ifbool{FileSectionNames}%
6936 {\newcommand*{\LWR@thisfilename}{\HomeHTMLFilename}}
6937 {\newcommand*{\LWR@thisfilename}{0}}
6938 }
```

`\LWR@thisnewfilename` The filename being sanitized.

```
6939 \newcommand*{\LWR@thisnewfilename}{}
```

`\LWR@simplifname` \* `{\expression}` Simplify `\LWR@thisnewfilename`.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```
6940 \NewDocumentCommand{\LWR@simplifname}{s m}{%
6941 \IfBooleanTF{#1}{%
6942 \StrSubstitute{\LWR@thisnewfilename}%
6943 {\detokenize{#2}}%
6944 {\detokenize{-}}[\LWR@thisnewfilename]%
6945 }{%
6946 \StrSubstitute{\LWR@thisnewfilename}%
6947 {#2}%
6948 {\detokenize{-}}[\LWR@thisnewfilename]%
6949 }
6950 }
```

`\LWR@simplifycustom` User-defined filename simplifications. Redefine with `\newcommand`.

```
6951 \newcommand*\LWR@simplifycustom{}
```

`\FilenameSimplify` \* `{<phrase>}` Assign a user-defined filename simplification. Appends to `\LWR@simplifycustom`.

```
6952 \NewDocumentCommand{\FilenameSimplify}{s m}{%
6953 \IfBooleanTF{#1}{%
6954 \appto{\LWR@simplifycustom}{%
6955 \LWR@simplifiname*{#2}%
6956 }%
6957 }{%
6958 \appto{\LWR@simplifycustom}{%
6959 \LWR@simplifiname{#2}%
6960 }%
6961 }%
6962 }
```

`\LWR@avoiiddupfilenames` Instructions for how to avoid duplicate filenames. This is used in a warning in `\LWR@filenamenoblanks`, and in an error in `\LWR@newhtmlfile`.

```
6963 \newcommand*\LWR@avoiiddupfilenames{%
6964 To avoid duplicate filenames, use the optional\MessageBreak
6965 short Table of Contents entry:\MessageBreak
6966 \space\space\protect\section[Unique name, no math]{Name with math}%
6967 \MessageBreak
6968 or use \protect\texorpdfstring, from the hyperref package:\MessageBreak
6969 \space\space%
6970 \protect\section{\MessageBreak
6971 \space\space\space\space\protect\texorpdfstring\MessageBreak
6972 \space\space\space\space\space\space%
6973 {Name with math}{Unique name, no math}\MessageBreak
6974 \space\space}
6975 }
```

`\LWR@filenamenoblanks` `{<filename>}`

Convert blanks into dashes, removes short words, store result in `\LWR@thisfilename`.

Also see `\LWR@nullfonts` for nullified macros.

```
6976 \newcommand*\LWR@filenamenoblanks}[1]{%
6977 \begingroup
```

Locally temporarily disable direct-formatting commands, not used in filenames:

```
6978 \LWR@nullfonts%
6979 \renewcommand*\LWR@htmltagc}[1]{%
6980 \edef\LWR@thisnewfilename{#1}%
```

Replaces common macros with hyphens. (& is done by \LWR@nullfonts.)

```

6981 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%
6982 \LWR@simplifiname{_}
6983 \LWR@simplifiname{\#}
6984 \LWR@simplifiname{\textbackslash}
6985 \LWR@simplifiname{\protect}
6986 \LWR@simplifiname{\ }
6987 \LWR@simplifiname{\textless}
6988 \LWR@simplifiname{\textgreater}

6989 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%

```

Warn if there is dollar math in the section name:

```

6990 \ifbool{FileSectionNames}{%
6991 \IfSubStr{\LWR@thisnewfilename}{\LWRdollar}{%
6992 \PackageWarning{lwarp}
6993 {%
6994 This section name:\MessageBreak
6995 \space\space‘‘\detokenize\expandafter{#1}’’\MessageBreak
6996 at the line number listed below,\MessageBreak
6997 is using $dollar-delimited math$,
6998 which generates\MessageBreak
6999 complicated file names. It is better to use\MessageBreak
7000 \space\space%
7001 \protect\section{Name with \protect\(\parenthesis math\protect\)}%
7002 \MessageBreak
7003 The math then will be removed from the file name.\MessageBreak
7004 \MessageBreak
7005 \LWR@avoiddupfilenames%
7006 \MessageBreak
7007 This section is found before or%
7008 }
7009 }{}%
7010 }{}

7011 \LWR@traceinfo{\LWR@filenameno-blanks edef: !\LWR@thisnewfilename!}%
7012 \fullexpandarg%

```

Convert spaces into hyphens:

```
7013 \LWR@simplifiname*{ }
```

Convert punctutation into hyphens:

```

7014 \LWR@simplifiname*{*}
7015 \LWR@simplifiname*{(}
7016 \LWR@simplifiname*{)}
7017 \LWR@simplifiname*{.}
7018 \LWR@simplifiname*{!}
7019 \LWR@simplifiname*{,}
7020 \LWR@simplifiname*{'}
7021 \LWR@simplifiname*{+}

```

```

7022 \LWR@simplifynam*/}
7023 \LWR@simplifynam*{:}
7024 \LWR@simplifynam*{;}
7025 \LWR@simplifynam*{=}
7026 \LWR@simplifynam*{?}
7027 \LWR@simplifynam*{@}
7028 \LWR@simplifynam*{^}
7029 \LWR@simplifynam*{&}
7030 \LWR@simplifynam*{"}
7031 \LWR@simplifynam*{<}
7032 \LWR@simplifynam*{>}

```

```
7033 \LWR@simplifynam{\LWRbackslash}
```

Braces are removed entirely to avoid extra dashes in the result.

```

7034 \StrSubstitute{\LWR@thisnewfilename}%
7035 {\LWRleftbrace}{}\[\LWR@thisnewfilename]%
7036 \StrSubstitute{\LWR@thisnewfilename}%
7037 {\LWRrightbrace}{}\[\LWR@thisnewfilename]%

```

```

7038 \LWR@simplifynam{\LWRpercent}
7039 \LWR@simplifynam{\LWRdollar}

```

```

7040 \LWR@simplifynam*{[]}
7041 \LWR@simplifynam*{^}
7042 \LWR@simplifynam*{~}
7043 \LWR@simplifynam*{[]}
7044 \LWR@simplifynam*{[]]}
7045 \LWR@simplifynam*{'}

```

Convert short words:

```

7046 \LWR@simplifynam*{-s-}
7047 \LWR@simplifynam*{-S-}
7048 \LWR@simplifynam*{-a-}
7049 \LWR@simplifynam*{-A-}
7050 \LWR@simplifynam*{-an-}
7051 \LWR@simplifynam*{-AN-}
7052 \LWR@simplifynam*{-to-}
7053 \LWR@simplifynam*{-TO-}
7054 \LWR@simplifynam*{-by-}
7055 \LWR@simplifynam*{-BY-}
7056 \LWR@simplifynam*{-of-}
7057 \LWR@simplifynam*{-OF-}
7058 \LWR@simplifynam*{-and-}
7059 \LWR@simplifynam*{-AND-}
7060 \LWR@simplifynam*{-for-}
7061 \LWR@simplifynam*{-FOR-}
7062 \LWR@simplifynam*{-the-}
7063 \LWR@simplifynam*{-THE-}

```

Convert custom words:

```
7064 \LWR@simplifycustom%
```

If pdf<sub>LA</sub>TEX and not utf8 encoding, don't try to convert emdash, endash:

```
7065 \ifPDFTeX% pdflatex or dvi latex
7066 \ifdefstring{\inputencodingname}{utf8}{%
7067 \LWR@simplifiname*{-}
7068 % emdash
7069 \LWR@simplifiname*{-}
7070 % endash
7071 }{}%
7072 \else% not PDFTeX
7073 \LWR@simplifiname*{-}
7074 \LWR@simplifiname*{-}
7075 \fi%
```

Convert multiple hyphens:

```
7076 \LWR@simplifiname*{-----}
7077 \LWR@simplifiname*{----}
7078 \LWR@simplifiname*{---}
7079 \LWR@simplifiname*{--}
```

If starts with a dash, remove the leading dash:

```
7080 \IfBeginWith{\LWR@thisnewfilename}{\detokenize{-}}{%
7081 \StrGobbleLeft{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
7082 }{}%
```

If ends with a dash, remove the trailing dash:

```
7083 \IfEndWith{\LWR@thisnewfilename}{\detokenize{-}}{%
7084 \StrGobbleRight{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
7085 }{}%
```

Limits the length of the filename:

```
7086 \StrLeft{\LWR@thisnewfilename}{\FilenameLimit}[\LWR@thisnewfilename]%
```

Return the global result:

```
7087 \global\let\LWR@thisfilename\LWR@thisnewfilename%
7088 \endgroup%
7089 \LWR@traceinfo{LWR@filenamenooblanks: result is \LWR@thisfilename}%
7090 }
```

### 63.1 Sanitizing expressions for HTML

Math expressions are converted to lateximages, and some math environments may contain &, <, or >, which should not be allowed inside an HTML <alt> tag, so must convert them to HTML entities.

`\LWR@replacestrings`  $\{\langle search \rangle\} \{\langle replace \rangle\}$

Replaces strings inside `\tmpb`.

Modified from the original, by PETR OLSAK, from the `opmac` package.

```

7091 \bgroup
7092 \catcode'\!=3 \catcode'\?=3
7093
7094 \long\gdef\LWR@replacestrings@addto#1#2{%
7095 \expandafter\def\expandafter#1\expandafter{#1#2}%
7096 }
7097
7098 \gdef\LWR@replacestrings#1#2{%
7099 \long\def\LWR@replacestringsA##1#1{\def\tmpb{##1}\LWR@replacestringsB}%
7100 \long\def\LWR@replacestringsB##1#1{%
7101 \ifx!##1\relax \else\LWR@replacestrings@addto\tmpb{##1}%
7102 \expandafter\LWR@replacestringsB\fi
7103 }%
7104 \expandafter\LWR@replacestringsA\tmpb?#1!#1% from pysyntax.tex by Petr Krajnik
7105 \long\def\LWR@replacestringsA##1?{%
7106 \def\tmpb{##1}%
7107 }\expandafter\LWR@replacestringsA\tmpb%
7108 }
7109 \egroup

```

`Bool` `LWR@MathJax@silentquotes` If true, double quotes (`\` and `"`) are removed (used for `mathspec`). This unfortunately includes double quotes used inside `\text` with `MATHJAX`. If false, double quotes are escaped.

```

7110 \newbool{LWR@MathJax@silentquotes}
7111 \boolfalse{LWR@MathJax@silentquotes}

```

`\LWR@subHTMLsanitize` `\LWR@strresult` must first be set by `\LWR@HTMLsanitize`, `\LWR@HTMLsanitizeexpand`, or `\CustomizeMathJax`.

```

7112 \catcode'\#=12
7113 \catcode'\&=12
7114 \newcommand{\LWR@subHTMLsanitize}{%

```

The `&`, `<`, and `>` may be interpreted by the browser:

```

7115 \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
7116 \LWR@replacestrings{&}{&}%
7117 \LWR@replacestrings{<}{<}%
7118 \LWR@replacestrings{>}{>}%

```

The quotes occasionally causes problems. For `mathspec`, also allow neutralization of `\` and the `"` character.

```

7119 \ifbool{LWR@MathJax@silentquotes}
7120 {%

```

```

7121 \expandafter\LWR@replacestrings\expandafter{\LWRbackslash"}{}%
7122 \LWR@replacestrings{""}{}%
7123 }%
7124 {\LWR@replacestrings{"}{"}}%
7125 \LWR@replacestrings{'}{'}}%
7126 \LWR@replacestrings{'}{`}}%

```

MATHJAX allows expressions to be defined with `\newcommand`. These expressions would appear with `##` for each argument, and each must be changed to a single `#`. This must be done after all the above changes. Attempting another conversion after this causes an error upon further expansion.

```

7127 \LWR@replacestrings{##}{#}%
7128 \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
7129 }
7130 \catcode'\#=6
7131 \catcode'\&=4

```

`\LWR@HTMLsanitize`  $\{ \langle text \rangle \}$

```
7132 \newrobustcmd{\LWR@HTMLsanitize}[1]{%
```

Cancel French babel character handling, and fully expand the strings:

```

7133 \begingroup%
7134 \LWR@hook@processingtags%
7135 \edef\LWR@strresult{\detokenize{#1}}%
7136 \LWR@subHTMLsanitize%
7137 \LWR@strresult%
7138 \endgroup%
7139 }

```

`\LWR@HTMLsanitizeexpand`  $\{ \langle text \rangle \}$

This version expands the argument before sanitizing it. This is only used for adding math to MATHJAX expressions or `lateximage alt` tags.

```

7140 \edef\LWR@beginspaceleftbrace{begin \LWRleftbrace}
7141 \edef\LWR@beginspaceleftbrace{\detokenize\expandafter{\LWR@beginspaceleftbrace}}
7142 \edef\LWR@beginleftbrace{begin\LWRleftbrace}
7143 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
7144
7145 \edef\LWR@endspacerightbrace{end \LWRrightbrace}
7146 \edef\LWR@endspacerightbrace{\detokenize\expandafter{\LWR@endspacerightbrace}}
7147 \edef\LWR@endrightbrace{end\LWRrightbrace}
7148 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
7149
7150 \newrobustcmd{\LWR@HTMLsanitizeexpand}[1]{%

```

Cancel French babel character handling, and fully expand the strings:

```

7151 \begingroup%
7152 \LWR@hook@processingtags%

```



The difference between this and `\LWR@HTMLsanitize` (without “expand”) is the following `\expandafter`:

```
7153 \edef\LWR@strresult{\detokenize\expandafter{#1}}%
```

The math expression may include spaces between tokens, but MATHJAX does not want a space between `\begin` or `\end` and the following brace. This space is removed here.

```
7154 \protect\StrSubstitute{\LWR@strresult}%
7155 {\LWR@beginspaceleftbrace}{\LWR@beginleftbrace}[\LWR@strresult]%
7156 \protect\StrSubstitute{\LWR@strresult}%
7157 {\LWR@endspacerightbrace}{\LWR@endrightbrace}[\LWR@strresult]%

7158 \LWR@subHTMLsanitize%
7159 \LWR@strresult%
7160 \endgroup%
7161 }
```

## 63.2 Customizing MATHJAX

`\LWR@customizedMathJax` Additional MATHJAX definitions to be added to the start of each HTML page.

```
7162 \newcommand*{\LWR@customizedMathJax}{}%
```

`Bool` Used to issue only one warning about using a `\CustomizeMathJax` per macro.

`LWR@warnedcustomizemathjax`

```
7163 \newbool{LWR@warnedcustomizemathjax}
7164 \boolfalse{LWR@warnedcustomizemathjax}
```

`\LWR@subcustomizedmathjax` *{(macro definition)}*

```
7165 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
7166 \begingroup%
7167 \LWR@hook@processingtags%
7168 \edef\LWR@strresult{\detokenize{#1}}%
7169 \LWR@subHTMLsanitize%
7170 \xdef\LWR@customizedMathJax{%
7171 \LWR@customizedMathJax%
7172 \LWR@strresult%
7173 }%
7174 \endgroup%
7175 }
7176 \@onlypreamble\LWR@subcustomizedmathjax
```

`\CustomizeMathJax` *{(macro definition)}*

A warning is issued if a very long argument is given.

```
7177 \newcommand*{\CustomizeMathJax}[1]{%
```

```

7178 \ifbool{LWR@warnedcustomizemathjax}{}{%
7179 \StrLen{\detokenize{#1}}[\LWR@tempone]%
7180 \ifnumgreater{\LWR@tempone}{350}{%
7181 \AtEndDocument{%
7182 \PackageWarningNoLine{lwarp}{%
7183 To ensure faster MathJax compilation, place each\MessageBreak
7184 custom macro in its own \protect\CustomizeMathJax.\MessageBreak
7185 See the Lwarp documentation regarding customizing\MessageBreak
7186 MathJax%
7187 }%
7188 }%
7189 \booltrue{LWR@warnedcustomizemathjax}%
7190 }{}%
7191 }%
7192 \appto\LWR@customizedMathJax{\LWRbackslash}%
7193 \LWR@subcustomizedmathjax{#1}%
7194 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
7195 }
7196 \@onlypreamble\CustomizeMathJax

```

`\LWR@infoprocessingmathjax` {*(package name)*}

```

7197 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
7198 \typeout{---}
7199 \typeout{Package lwarp: Processing MathJax customizations for #1.}
7200 \typeout{\space\space This may take a moment.}
7201 \typeout{---}
7202 }

```

#### defaults Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the L<sup>A</sup>T<sub>E</sub>X math is generated inside the HTML comment. For other math environments, the `\footnotemark`/`\footnotetext` method must be used. See section 8.5.4 regarding `\footnotemark`.



`\footnotemark`

For footnotes, `\footnotename` is used in most cases, however for equation the footnote is picked up from L<sup>A</sup>T<sub>E</sub>X in `\LWR@doendequation`.

First, `\footnotename` for MATHJAX is copied from L<sup>A</sup>T<sub>E</sub>X.

```

7203 \providecommand{\footnotename}{footnote}
7204
7205 % due to warpMathJax:
7206 \end{warpHTML}
7207
7208 \begin{warpMathJax}
7209 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
7210 \LWRbackslash(%
7211 \LWRbackslash{}newcommand%
7212 \{\LWRbackslash{}footnotename\}%
7213 \{\footnotename\}%
7214 \LWRbackslash)\par%
7215 }

```

```
7216 \end{warpMathJax}
```

`\LWRfootnote` is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to `\footnotename`.

```
7217 \begin{warpMathJax}
7218 \CustomizeMathJax{\def\LWRfootnote{1}}
7219 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{\mathrm{#1}}}
7220 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{\mathrm{#1}}}
```

`\hspace` is modified to accept and ignore a star:

```
7221 \CustomizeMathJax{\let\LWRrighspace\hspace}
7222 \CustomizeMathJax{\renewcommand{\hspace}{\ifstar\LWRrighspace\LWRrighspace}}
```

Various other customizations:

```
7223 \CustomizeMathJax{\newcommand{\mathnormal}[1]{#1}}
7224 \CustomizeMathJax{\newcommand\ensuremath[1]{#1}}
7225 \CustomizeMathJax{% absorb two optional arguments
7226 \newcommand{\LWRframebox}[2][\fbox{#2}}
7227 \newcommand{\framebox}[1][\LWRframebox}
7228 }
7229 \CustomizeMathJax{\newcommand{\setlength}[2]{}}
7230 \CustomizeMathJax{\newcommand{\addtolength}[2]{}}
7231 \CustomizeMathJax{\newcommand{\setcounter}[2]{}}
7232 \CustomizeMathJax{\newcommand{\addtocounter}[2]{}}
7233 \CustomizeMathJax{\newcommand{\arabic}[1]{}}
7234 \CustomizeMathJax{\newcommand{\number}[1]{}}
7235 \CustomizeMathJax{\newcommand{\noalign}[1]{\text{#1}\notag \}}
7236 \CustomizeMathJax{\newcommand{\cline}[1]{}}
7237 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
7238 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}
```

`\protect`, `\mathchar`, and `\delimiter` are silently discarded; and `\mathcode` and `\delcode` are ignored.

```
7239 \CustomizeMathJax{\newcommand{\protect}{}}
7240 \CustomizeMathJax{\def\LWRabsorbnumber#1 {}}
7241 \CustomizeMathJax{\def\LWRabsorbquotenumber"#1 {}}
7242 \CustomizeMathJax{\newcommand{\LWRabsorboption}[1][{}]}
7243 \CustomizeMathJax{\newcommand{\LWRabsorbtwooptions}[1][\LWRabsorboption]}
7244 \CustomizeMathJax{\def\mathchar{\ifnextchar"\LWRabsorbquotenumber\LWRabsorbnumber}}
7245 \CustomizeMathJax{\def\mathcode#1={\mathchar}}
7246 \CustomizeMathJax{\let\delcode\mathcode}
7247 \CustomizeMathJax{\let\delimiter\mathchar}
7248 \end{warpMathJax}
7249
7250 \begin{warpHTML}% due to warpMathJax
```

`\LWR@customizeMathJax` Prints MATHJAX commands to the HTML output.

```
7251 \newcommand{\LWR@customizeMathJax}{%
7252 \ifbool{mathjax}{
```

```

7253 \LWR@stoppars
7254 \LWR@htmlcomment{MathJax customizations:}
7255
7256 \begin{BlockClass}{hidden}
7257 \LWR@stoppars

```

Avoid ligatures while printing MATHJAX customizations:

```

7258 {
7259 \LWR@print@ttfamily
7260 \LWR@customizedMathJax
7261 }
7262 \LWR@startpars
7263 \end{BlockClass}
7264
7265 \LWR@startpars
7266 }{}
7267 }

7268 \end{warppHTML}

```

**for PRINT output:** 7269 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```
7270 \newcommand*{\CustomizeMathJax}[1]{}

```

\FilenameSimplify \*  $\langle expression \rangle$

```

7271 \NewDocumentCommand{\FilenameSimplify}{s m}{}
7272 \end{warpprint}

```

**for HTML output:** 7273 \begin{warppHTML}

\LWR@createfooter If specified, create the first or later web page footer.

```

7274 \newcommand*{\LWR@createfooter}{%
7275 \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{%
7276 \ifdefempty{\LWR@firstpagebottom}{%
7277 \LWR@html@element{footer}
7278 }
7279 \LWR@firstpagebottom
7280 }
7281 \LWR@html@elementend{footer}
7282 }%
7283 }{}
7284 \ifdefempty{\LWR@pagebottom}{%
7285 \LWR@html@element{footer}
7286 }
7287 \LWR@pagebottom
7288

```

```

7289 \LWR@htmlElementend{footer}
7290 }%
7291 }%
7292 }

```

`\LWR@newhtmlfile {<section name>}`

Finishes the current HTML page with footnotes, footer, navigation, then starts a new HTML page with an HTML comment telling where to split the page and what the new filename and CSS are, then adds navigation, side TOC, header, and starts the text body.

```

7293 \newcommand*\LWR@newhtmlfile}[1]{
7294 \LWR@traceinfo{\LWR@newhtmlfile}

```

At the bottom of the ending file:

```

7295 \LWR@htmlElementclassend{section}{textbody}
7296 \LWR@htmlElementclassend{main}{bodycontainer}
7297 \LWR@htmlElementclassend{div}{bodyandsidetoc}
7298
7299 \LWR@printpendingfootnotes
7300

```

No footer between files if EPUB:

```

7301 \ifbool{FormatEpub}{\LWR@createfooter}

```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```

7302 \ifthenelse{\boolean{FormatEpub}\OR\boolean{FormatWP}}
7303 {}
7304 {\ifnumcomp{\value{\LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}}

```

End of this HTML file:

```

7305 \LWR@stoppars
7306 \LWR@htmltag{/body}\LWR@orignewline
7307 \LWR@htmltag{/html}\LWR@orignewline
7308 \LWR@traceinfo{\LWR@newhtmlfile: about to LWR@orignewpage}
7309 \LWR@maybe@orignewpage

```

```

7310 \addtocounter{\LWR@htmlfilenumber}{1}%
7311 \addtocounter{\LWR@htmlseqfilenumber}{1}%

```

If using a filename based on section name, create a version without blanks. The filename without blanks will be placed into `\LWR@thisfilename`. Duplicates will be detected using MD5 hashes.

If not using a filename, the file number will be used instead.

```

7312 \ifbool{FileSectionNames}%
7313 {}%

```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in `\LWR@thisfilename`.

```
7314 \LWR@filenamenoblanks{#1}%
```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```
7315 \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%
```

If the macro name is not yet defined, this filename is unique.

```
7316 \ifcsundef\LWR@filename\LWR@hashedname}{%
```

If the filename is unique, create a macro using the hashed name, to be used to test for additional duplicates in the future.

```
7317 \csdef\LWR@filename\LWR@hashedname}{%
7318 }{%
```

If the filename is not unique, create an error.

```
7319 \PackageError{lwarp}%
7320 {%
7321 The section name:\MessageBreak
7322 ‘‘#1’’,\MessageBreak
7323 at the line number listed below,\MessageBreak
7324 generates the filename\MessageBreak
7325 ‘‘\LWR@thisfilename’’,\MessageBreak
7326 which appears to be a duplicate. There is a\MessageBreak
7327 previous section with an identical or similar name.\MessageBreak
7328 While generating file names, Lwarp sanitizes math,\MessageBreak
7329 most symbols, and a few common short words,\MessageBreak
7330 and this may cause a conflict.\MessageBreak
7331 Enter ‘H’ for possible solutions%
7332 }%
7333 {%
7334 \LWR@avoiddupfilenames%
7335 }%
7336 }%
7337 }%
```

If using file numbers instead of names, the name is set to the next file number.

```
7338 {\renewcommand*{\LWR@thisfilename}{\arabic{\LWR@htmlfilenumber}}}
```

Include an HTML comment to instruct `lwarpmk` where to split the files apart. Uses pipe-separated fields for `split_html.gawk`. Uses monospaced font with ligatures disabled for everything except the title.

```
7339 \LWR@traceinfo{\LWR@newhtmlfile: about to print start file}%
```

`\LWR@nullfonts` to allow math in a section name.

```

7340 \begingroup%
7341 \LWR@nullfonts%
7342 \LWR@htmlblockcomment{%
7343 |Start file|%
7344 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
7345 }
7346 \endgroup%

```

At the top of the starting file:

```

7347 \LWR@stoppars
7348

```

Start a new file with the given section name:

```

7349 \LWR@filestart[#1]
7350

```

Track the PDF page numbers of the HTML output. This is updated more frequently than LWR@currentautosecpage.

```

7351 \setcounter{\LWR@currentautosecfloatpage}{\value{page}}%
7352 \LWR@newautopagelabel{\LWR@currentautosecfloatpage}%

```

No navigation between files if formatting for an EPUB or word processor:

```

7353 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7354 {}
7355 {\LWR@topnavigation}
7356

```

No header if between files if formatting for an EPUB or word processor:

```

7357 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7358 {}
7359 {
7360 \ifdefempty{\LWR@pagetop}{}{
7361 \LWR@htmlElement{header}
7362 }
7363 \LWR@pagetop
7364 \LWR@htmlElementend{header}
7365 }
7366 }
7367 }
7368

```

The container for the sidetoc and text body:

```

7369 \LWR@htmlElementclass{div}{bodyandsidetoc}

```

No sideroc if formatting for an EPUB or word processor:

```

7370 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7371 {}
7372 {\LWR@sidetoc}
7373

```

Start of the <textbody>:

```

7374 \LWR@htmlElementclass{main}{bodycontainer}
7375 \LWR@htmlElementclass{section}{textbody}

```

Not yet found a new section in this file. Once one is found, a label will be placed for previous/next links.

```

7376 \boolfalse{LWR@setseqfilelabel}

```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```

7377 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
7378 {}%
7379 {%
7380 \ifcvoid{thetitle}{}{%
7381 \LWR@printthetitle%
7382 }%
7383 }%

```

Keep paragraph tags disabled for now:

```

7384 \LWR@stoppars
7385

```

If using MATHJAX, print the customizations here.

```

7386 \LWR@customizeMathJax

```

```

7387 \LWR@traceinfo{LWR@newhtmlfile: done}
7388 }

```

```

7389 \end{warpHTML}

```

## 64 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing L<sup>A</sup>T<sub>E</sub>X code and packages. Formatting is handled by css, so the emulated code has much less work to do than the print versions.

### Unicode

#### accents in filenames

Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdflatex* to generate characters and *pdftotext* to read them. If extra symbols appear in the text, it may be that *pdflatex* is actually producing a symbol over or under a character, resulting in *pdftotext* picking up the accent symbol separately.



X<sub>Y</sub>LaTeX and LuaLaTeX directly support accented section and file names, but it may be necessary to use LaTeX accents instead of native Unicode accents. LaTeX accents will have the accents stripped when creating file names, whereas using Unicode accents will create filenames which include accents, which may cause issues with some operating systems.

**for HTML output:** 7390 \begin{warpHTML}

## 64.1 User-level starred section commands

`\ForceHTMLPage` For HTML output, forces the next section to be on its own HTML page, if `FileDepth` allows, even if starred. For use with `\printindex` and others which generate a starred section which should be on its own HTML page. Also see `\ForceHTMLTOC`.

For print output, no effect.

```
7391 \newbool{LWR@forcinghtmlpage}
7392 \boolfalse{LWR@forcinghtmlpage}
7393
7394 \newcommand*{\ForceHTMLPage}{%
7395 \global\booltrue{LWR@forcinghtmlpage}%
7396 }
```

`\ForceHTMLTOC` For HTML output, forces the next section to have a TOC entry, even if starred. For use with `\printindex` and others which generate a starred section which should be in the TOC so that it may be accessed via HTML. Not necessary if used with `tocbibind`. Also see `\ForceHTMLPage`.

For print output, no effect.

```
7397 \newbool{LWR@forcinghtmltoc}
7398 \boolfalse{LWR@forcinghtmltoc}
7399
7400 \newcommand*{\ForceHTMLTOC}{%
7401 \global\booltrue{LWR@forcinghtmltoc}%
7402 }
```

```
7403 \end{warpHTML}
```

**for PRINT output:** 7404 \begin{warpprint}  
7405 \newcommand\*{\ForceHTMLPage}{}  
7406 \newcommand\*{\ForceHTMLTOC}{}  
7407 \end{warpprint}

**for HTML output:** 7408 \begin{warpHTML}

## 64.2 Book class commands

`\mainmatter` Declare the main matter section of the document. Does not reset the page number, which must be consecutive arabic numbers for the HTML conversion.



```

7409 \newbool{LWR@mainmatter}
7410 \DeclareDocumentCommand{\mainmatter}{}{}{%
7411 \booltrue{LWR@mainmatter}%
7412 }

```

`\frontmatter` Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```

7413 \DeclareDocumentCommand{\frontmatter}{}{}{%
7414 \boolfalse{LWR@mainmatter}%
7415 }

```

`\backmatter` Declare the back matter section of the document. Does not reset the page number.

```

7416 \DeclareDocumentCommand{\backmatter}{}{}{%
7417 \boolfalse{LWR@mainmatter}
7418 }

```

### 64.3 Sectioning support macros

`\LWR@sectionnumber` {<*section type*>}

Typeset a section number and its trailing space with css formatting:

```

7419 \newcommand*{\LWR@sectionnumber}[1]{%
7420 \InlineClass{sectionnumber}{#1}%
7421 }

```

`autosec` A tag used by the toc and index.

`\LWR@createautosec` {<*section type*>}

Create an autosection tag.

The use of `\textquotedbl` instead of " provides improved compatibility with xeCJK.

```

7422 \newcommand*{\LWR@createautosec}[1]{%
7423 \LWR@htmltag{%
7424 #1 % space
7425 id=\textquotedbl\LWR@print@mbx{autosec-\arabic{page}}\textquotedbl%
7426 }%
7427 }

```

`\LWR@pushoneclose` {<*sectiontype*>} Stacks the new sectioning level's closing tag, to be used when this section is closed some time later.



`\LWR@stoppars` must be executed first.

```

7428 \NewDocumentCommand{\LWR@pushoneclose}{m}{%

```

```
7429 \LWR@traceinfo{LWR@pushoneclose #1}%
7430 \LWR@pushclose{#1}%
7431 }
```

`\LWR@startnewdepth` {<*sectiontype*>}

Closes currently stacked tags of a lesser level, then opens the new nesting level by saving this new sectioning level's closing tag for later use.



`\LWR@stoppars` must be executed first.

```
7432 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
```

Close any stacked sections up to this new one.

```
7433 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
7434 \LWR@pushoneclose{#1}%
7435 }
```

`\LWR@prevFileDepth` Remembers the previous `\LWR@FileDepth`.

Initialized to a deep level so that any section will trigger a new HTML page after the home page.

```
7436 \newcounter{\LWR@prevFileDepth}
7437 \setcounter{\LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

`\@secntformat` {<*sectiontype*>}

```
7438 \def\@secntformat#1{\csname the#1\endcsname\quad}
```

`\simplechapterdelim` Used by `\tocbibind` and `\anonchap`.

```
7439 \newcommand*\simplechapterdelim{}
```

`\@chapcntformat` {<*sectiontype*>}

`\let` to `\@secntformat` by default, but may be redefined by `\simplechapter` and `\restorechapter` from `\tocbibind` or `\anonchap`.

```
7440 \let\@chapcntformat\@secntformat
```

`\@partcntformat` {<*sectiontype*>}

`\let` to `\@secntformat` by default, but may be redefined by `\cTeX`.

```
7441 \let\@partcntformat\@secntformat
```

`\@partnameformat` Prints “Part” for part sections.

Nullified by `ctex`.

```
7442 \newcommand*{\@partnameformat}{\LWR@isolate{\partname}~}%
```

`\LWR@printchaptername` Print `\chaptername` in most cases, but this is nullified for `ctexbook`, `komascript`, `ujt*` classes.

```
7443 \newcommand*{\LWR@printchaptername}{%
7444 \ifdefvoid{\chaptername}{\chaptername~}%
7445 }
```

`\LWR@section` \* [`<TOC name>`] {`<name>`} {`<sectiontype>`}

The common actions for the high-level sectioning commands.

```
7446 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
7447 \IfValueTF{#2}%
7448 {\LWR@traceinfo{\LWR@section: starting #4 #2}}%
7449 {\LWR@traceinfo{\LWR@section: starting #4 #3}}%
```

Warn if starting a section inside a `<span>`:

```
7450 \LWR@spanwarninvalid{section}%

7451 \LWR@maybeprintpendingfootnotes{\csuse{\LWR@depth#4}}%
7452 \LWR@stoppars%
7453 \LWR@startnewdepth{#4}%
```

Cancel special minipage horizontal space interaction:

```
7454 \global\boolfalse{\LWR@minipagethispar}%
```

Start a new HTML file unless starred, and if is a shallow sectioning depth.

Exception: Also start a new HTML file for `\part*`, for `appendix`.

Generate a new L<sup>A</sup>T<sub>E</sub>X page so that TOC and index page number points to the section:

```
7455 \LWR@traceinfo{\LWR@section: testing whether to start a new HTML file}%
7456 \IfBooleanT{#1}{\LWR@traceinfo{\LWR@section: starred}}%
7457 \ifbool{\LWR@forcinghtmlpage}{\LWR@traceinfo{\LWR@section: forcinghtmlpage}}{}%
7458 \ifthenelse{%
7459 \(%
7460 \(\NOT\equal{#1}{\BooleanTrue})\)\OR%
7461 \(\cnttest{\@nameuse{\LWR@depth#4}}{=}{\LWR@depthpart})\)\OR%
7462 \(\boolean{\LWR@forcinghtmlpage})\)%
7463 \)%
7464 \AND%
7465 \cnttest{\@nameuse{\LWR@depth#4}}{<=}{\value{FileDepth}}%
7466 \AND%
7467 \(%
```

```

7468 \NOT\boolean{CombineHigherDepths}\OR%
7469 \cntttest{\@nameuse{LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
7470 \)%
7471 \AND%

7472 \(% phantomsection
7473 \NOT\isempty{#3}%
7474 \OR%
7475 \(\NOT\equal{#1}{\BooleanTrue})\)%
7476 \)%
7477]%

```

If so: start a new HTML file:

```

7478 {% new file
7479 \LWR@traceinfo{LWR@section: new HTML file}%

```

See if there was an optional toc name entry:

```

7480 \IfNoValueTF{#2}%

```

If no optional entry

```

7481 {\LWR@newhtmlfile{#3}}%

```

If yes an optional entry

```

7482 {\LWR@newhtmlfile{#2}}%
7483]% new file

```

Else: No new HTML file:

```

7484 {% not new file

```

Generate a new L<sup>A</sup>T<sub>E</sub>X page so that toc and index page number points to the section:

```

7485 \LWR@traceinfo{LWR@section: not a new HTML file, about to LWR@orignewpage}%
7486 \LWR@maybe@orignewpage%
7487]% not new file
7488

```

Remember this section's name for \nameref:

```

7489 \IfValueT{#3}{%
7490 \LWR@traceinfo{LWR@section: about to LWR@setlatestname}%
7491 \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
7492]%

```

Print an opening comment with the level and the name; ex: “section” “Introduction”  
Footnotes may be used in section names, which would also appear in the HTML section opening comments, so the short toc entry is used if possible, and a limited opening comment is made if the sectional unit is starred.

```

7493 \ifbool{HTMLDebugComments}{%
7494 \begingroup%
7495 \LWR@nullfonts%
7496 \IfBooleanTF{#1}% starred
7497 {\LWR@htmlcomment{Opening #4*}}%
7498 {%
7499 \IfNoValueTF{#2}% short TOC
7500 {\LWR@htmlcomment{Opening #4 ‘#3’}}%
7501 {\LWR@htmlcomment{Opening #4 ‘#2’}}%
7502 }\LWR@orignewLine%
7503 \endgroup%
7504 }{}

```

For inline sections paragraph and subparagraph, start a new paragraph now:

```

7505 \ifthenelse{%
7506 \cntttest{\@nameuse{LWR@depth#4}}{>}{\LWR@depthparagraph}%
7507 }%
7508 {\LWR@startpars}%
7509 }%

```

Create the opening tag with an autosec:

```

7510 \LWR@traceinfo{LWR@section: about to LWR@createautosec}%
7511 \LWR@createautosec{\@nameuse{LWR>tag#4}}%

7512 \setcounter{LWR@currentautosecpage}{\value{page}}%

```

Check if starred:

```

7513 \IfBooleanTF{#1}%
7514 {%
7515 \LWR@traceinfo{LWR@section: starred}%

```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```

7516 \ifbool{LWR@forcinghtmltoc}%
7517 {%
7518 \addcontentsline{toc}{#4}{%
7519 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7520 }%
7521 }%
7522 }%
7523 }% starred

```

Not starred, so step counter and add to TOC:

```

7524 {% not starred

```

Only add a numbered TOC entry if section number is not too deep:

```

7525 \ifthenelse{%
7526 \cntttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%

```

```
7527 }%
7528 {% if secnumdepth
```

If in the main matter, step the counter and add the toc entry. For article class, `lwarp` assumes that all is mainmatter.

```
7529 \LWR@traceinfo{LWR@section: about to test main matter}%
7530 \ifbool{LWR@mainmatter}%
7531 {%
7532 \LWR@traceinfo{LWR@section: yes mainmatter}%
7533 \refstepcounter{#4}%
```

Add main matter numbered toc entry with the toc name or the regular name:

```
7534 \LWR@traceinfo{LWR@section: about to addcontentsline}%
7535 \addcontentsline{toc}{#4}%
7536 {%
7537 \protect\numberline{%
7538 \@nameuse{pre#4name}%
7539 \@nameuse{the#4name}%
7540 \@nameuse{post#4name}%
7541 }%
7542 {%
7543 \ignorespaces%
7544 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
7545 }%
7546 }%
7547 \LWR@traceinfo{LWR@section: finished addcontentsline}%
7548 }% end of if main matter
```

If not main matter, add unnumbered toc name or regular name:

```
7549 {% not main matter
7550 \LWR@traceinfo{LWR@section: no main matter}%
7551 \addcontentsline{toc}{#4}%
7552 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7553 }%
7554 }% end of not main matter
7555 }% end of secnumdepth
```

Deeper than `secnumdepth`, so add an unnumbered toc entry:

```
7556 {%
7557 \addcontentsline{toc}{#4}%
7558 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7559 }%
7560 }%
```

For part, print “Part”:

```
7561 \ifbool{LWR@mainmatter}%
7562 {%
7563 \ifthenelse{%
7564 \(\cnttest{\@nameuse{LWR@depth#4}}{<=}%
```

```

7565 {\value{secnumdepth}}\) \AND%
7566 \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)%
7567]%
7568 {\@partnameformat}%
7569 {}%

```

Print the section number:

```

7570 \LWR@traceinfo{LWR@section: about to print section number}%
7571 \ifthenelse{%
7572 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7573 }%
7574 {%
7575 \ifstrequal{#4}{part}%
7576 {\protect\LWR@sectionnumber{\@partcntformat{#4}}}%
7577 {%
7578 \ifstrequal{#4}{chapter}%
7579 {%
7580 \LWR@printchaptername%
7581 \protect\LWR@sectionnumber{\@chapcntformat{#4}}%
7582 }%
7583 {\protect\LWR@sectionnumber{\@secntformat{#4}}}%
7584 }%
7585 }%
7586 {}%
7587 \LWR@traceinfo{LWR@section: finished print section number}%
7588 }{}%
7589 }% not starred

```

Print the section name:

```

7590 \LWR@traceinfo{LWR@section: about to print the section name}%
7591 \LWR@isolate{#3}%

```

Close the heading tag, such as /H2:

```

7592 \LWR@traceinfo{LWR@section: about to close the heading tag}%
7593 \LWR@htmltag{\@nameuse{LWR>tag#4end}}%
7594 \LWR@orignewline%

```

Generate a  $\LaTeX$  label.

Track the PDF page numbers of the HTML output. A new autopage label may be generated for `LWR@currentautosecpage` for the start of the section, and also for the current page if it is different due to an SVG image in the section name. Also, the final page after the section has been created is updated in `LWR@currentautosecfloatpage`.

```

7595 \LWR@traceinfo{LWR@section: about to create the LaTeX label}%
7596 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7597 \LWR@newautopagelabel{LWR@currentautosecpage}\LWR@orignewline%

```

If this is the first section found in this file, create a label for previous/next links:



```

7598 \ifbool{LWR@setseqfilelabel}{}%
7599 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
7600 \booltrue{LWR@setseqfilelabel}%
7601 }%

```

Start paragraph handing unless is an inline paragraph or subparagraph:

```

7602 \ifthenelse{%
7603 \cnttest{\@nameuse{LWR@depth#4}}{<}{\LWR@depthparagraph}%
7604 }%
7605 {\LWR@startpars}%
7606 {}%

```

If not starred, remember the previous depth to possibly trigger a new HTML page.

HOWEVER, allow a `\part*` to start a new HTML page. This is used by appendix.

A starred section does not trigger a new HTML page at the beginning of this macro, so it should not affect it here at the end either. This became an issue when a `\listoftables` was tested in the middle of the document. The `\chapter*` for the list was not allowing a new HTML page for the section following it while `CombineHigherDepths` was true.

```

7607 \ifthenelse{%
7608 \NOT\equal{#1}{\BooleanTrue}\OR%
7609 \cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}%
7610 }%
7611 {% not starred
7612 \setcounter{LWR@prevFileDepth}{\@nameuse{LWR@depth#4}}%
7613 }% not starred
7614 {}%

```

Reset to defaults if not a phantomsection:

```

7615 \ifstrempy{#3}%
7616 {}%
7617 {%
7618 \global\boolfalse{LWR@forcinghtmlpage}%
7619 \global\boolfalse{LWR@forcinghtmltoc}%
7620 }%
7621 %
7622 \LWR@traceinfo{LWR@section: done}%
7623 }

```

## 64.4 Pre- and post- sectioning names

`\prebookname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postbookname`

```
7624 \providecommand*\prebookname{}
```

```
7625 \providecommand*\postbookname{}
```

`\prepartname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postpartname`

```
7626 \providecommand*\prepartname{}
7627 \providecommand*\postpartname{}
```

`\prechaptername` Usually null, but is used by `uj*` and `ut*` Japanese classes.  
`\postchaptername`

```
7628 \providecommand*\prechaptername{}
7629 \providecommand*\postchaptername{}
```

`\presectionname` Always null, but provided here for algorithmic simplicity in `\LWR@section`.  
`\postsectionname`

```
7630 \providecommand*\presectionname{}
7631 \let\postsectionname\presectionname
7632
7633 \let\presubsectionname\presectionname
7634 \let\postsubsectionname\postsectionname
7635
7636 \let\presubsubsectionname\presectionname
7637 \let\postsubsubsectionname\postsectionname
7638
7639 \let\preparagraphname\presectionname
7640 \let\postparagraphname\postsectionname
7641
7642 \let\presubparagraphname\presectionname
7643 \let\postsubparagraphname\postsectionname
```

## 64.5 `\section` and friends

For `memoir`, a second optional argument is allowed.

For `hybpbmsec`, a second optional argument or either parenthesis argument is allowed.

Each of these additional arguments are for headers or PDF bookmarks, and are ignored for HTML output.

```
\part * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}
```

```
7644 \newcommand{\part@preamble}{}% for koma-script
7645
7646 \DeclareDocumentCommand{\part}{s d() o o d() m}{%
7647 \LWR@section{#1}{#3}{#6}{part}%
7648
7649 \part@preamble% for koma-script
7650 \renewcommand{\part@preamble}{}%
7651 }
```

```
\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}
```

```
7652 \let\@printcites\relax% for quotchap package
7653
7654 \newcommand{\chapter@preamble}{}% for koma-script
```

```

7655
7656 \@ifundefined{chapter}
7657 {}
7658 {%
7659 \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
7660 \LWR@section{#1}{#3}{#6}{chapter}%
7661
7662 \@printcites% for quotchap package
7663
7664 \chapter@preamble% for koma-script
7665 \renewcommand{\chapter@preamble}{}%
7666 }
7667 }

```

`\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7668 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
7669 \LWR@section{#1}{#3}{#6}{section}%
7670 }

```

`\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7671 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
7672 \LWR@section{#1}{#3}{#6}{subsection}%
7673 }

```

`\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7674 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
7675 \LWR@section{#1}{#3}{#6}{subsubsection}%
7676 }

```

`\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7677 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
7678 \LWR@section{#1}{#3}{#6}{paragraph}%
7679 }

```

`\subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7680 \DeclareDocumentCommand{\subparagraph}{s d() o o d() m}{%
7681 \LWR@section{#1}{#3}{#6}{subparagraph}%
7682 }

```

```

7683 \end{warpHTML}

```

## 65 Starting a new file

**for HTML & PRINT:** 7684 \begin{warpall}

`\HTMLLanguage` Default language for the HTML lang tag.

```
7685 \newcommand*\LWR@currentHTMLLanguage}{en-US}
7686
7687 \newcommand*\HTMLLanguage}[1]{%
7688 \renewcommand*\LWR@currentHTMLLanguage}{#1}%
7689 }
```

`\theHTMLTitleSeparator` May be used inside `\theHTMLTitleSection` to separate the website's overall HTML title and the particular page's section name.

```
7690 \ifPDFTeX% pdflatex or dvi latex
7691 \ifdefstring{\inputencodingname}{utf8}{%
7692 \newcommand*\theHTMLTitleSeparator}{ -\ }% EMDash
7693 }{%
7694 \newcommand*\theHTMLTitleSeparator}{ -\ }% hyphen
7695 }%
7696 \else%
7697 \ifpTeX
7698 \newcommand*\theHTMLTitleSeparator}{ -\ }% hyphen
7699 \else
7700 \newcommand*\theHTMLTitleSeparator}{ -\ }% EMDash
7701 \fi%
7702 \fi%
```

`\HTMLTitleBeforeSection` Sets the HTML page's meta title tag to show the website title before the section name.

```
7703 \newcommand*\HTMLTitleBeforeSection}{%
7704 \def\theHTMLTitleSection{%
7705 \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7706 }%
7707 }
```

`\HTMLTitleAfterSection` Sets the HTML page's meta title tag to show the section name before the website title.

```
7708 \newcommand*\HTMLTitleAfterSection}{%
7709 \def\theHTMLTitleSection{%
7710 \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7711 }%
7712 }
```

`\theHTMLTitleSection` Forms the HTML page's meta title tag. The default is to show the website title before the section name.

```
7713 \HTMLTitleBeforeSection
```

`\theHTMLSection` The section name is passed to `\LWR@filestart`, which then sets `\theHTMLSection` for use inside `\theHTMLTitleSection` to create an HTML meta title tag.

```
7714 \newcommand*\theHTMLSection}{}
```

```
7715 \end{warpall}
```

**for HTML output:** 7716 \begin{warpHTML}

\LWR@filestart [*<section name>*] Creates the opening HTML tags.

```
7717 \newcommand*\LWR@filestart[1][]{%
7718 \LWR@traceinfo{\LWR@filestart !#1!}%
```

Locally temporarily disable direct-formatting commands:

```
7719 \begingroup%
7720 \LWR@nullfonts%
```

Save the section name for use while creating the HTML meta title tag:

```
7721 \edef\theHTMLSection{#1}%
```

Remove extra material:

```
7722 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]%
7723 \StrSubstitute{\theHTMLSection}{\detokenize{-----}}{\detokenize{-}}[\theHTMLSection]%
7724 \StrSubstitute{\theHTMLSection}{\detokenize{----}}{\detokenize{-}}[\theHTMLSection]%
7725 \StrSubstitute{\theHTMLSection}{\detokenize{---}}{\detokenize{-}}[\theHTMLSection]%
7726 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]%
```

If starts with a dash, remove the leading dash:

```
7727 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
7728 \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
7729 }{%}
```

Create the page's HTML header:

```
7730 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline
```

The language is user-adjustable:

NOTE: \LWR@orig@textquotedbl is used here because \textquotedbl is nullified by \LWR@nullfonts while starting the new file.

```
7731 \LWR@htmltag{%
7732 html lang=\LWR@orig@textquotedbl\LWR@currentHTMLLanguage\LWR@orig@textquotedbl%
7733 }\LWR@orignewline
```

Start of the meta data:

```
7734 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
7735 \LWR@htmltag{%
```

```
7736 meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl\ /%
7737 }\LWR@orignewLine
```

#### Author:

```
7738 \ifthenelse{\equal{\theHTMLAuthor}{}}%
7739 {}%
7740 {%
7741 \LWR@htmltag{%
7742 meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
7743 content=\LWR@orig@textquotedbl\theHTMLAuthor\LWR@orig@textquotedbl\ /%
7744 }\LWR@orignewLine%
7745 }%
```

#### lwarp is the generator:

```
7746 \LWR@htmltag{%
7747 meta % space
7748 name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
7749 content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl\ /%
7750 }\LWR@orignewLine%
```

#### If there is a description, add it now:

```
7751 \ifdefempty{\LWR@currentHTMLDescription}{}%
7752 \LWR@htmltag{%
7753 meta name=\LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
7754 content=\LWR@orig@textquotedbl\LWR@currentHTMLDescription\LWR@orig@textquotedbl\ /%
7755 }\LWR@orignewLine
7756 }%
```

#### Mobile-friendly viewport:

```
7757 \LWR@htmltag{%
7758 meta % space
7759 name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl\ % space
7760 content=\LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl\ /%
7761 }\LWR@orignewLine
```

#### IE patch:

```
7762 \LWR@htmltag{!-\/-[if lt IE 9]}\LWR@orignewLine
7763 \LWR@htmltag{%
7764 script % space
7765 src=\LWR@orig@textquotedbl{}%
7766 http://html5shiv.googlecode.com/svn/trunk/html5.js%
7767 \LWR@orig@textquotedbl%
7768 }%
7769 \LWR@htmltag{/script}\LWR@orignewLine
7770 \LWR@htmltag![endif]-\/-}\LWR@orignewLine
```

#### The page's title, if there is one. A section name is also added if given.

```
7771 \ifthenelse{\equal{\theHTMLTitle}{}}%
```

```

7772 {}%
7773 {%
7774 \LWR@htmltag{title}%
7775 \ifdefempty{\theHTMLSection}%
7776 {\theHTMLTitle}%
7777 {\theHTMLTitleSection}%
7778 \LWR@htmltag{/title}\LWR@orignewline%
7779 }%

```

The page's stylesheet:

```

7780 \LWR@htmltag{%
7781 link % space
7782 rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
7783 type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
7784 href=\LWR@orig@textquotedbl\LWR@currentcss\LWR@orig@textquotedbl\ /%
7785 }%
7786 \LWR@orignewline

```

Optional MATHJAX support. The HTML tags must be turned off during the verbatim input, and the paragraph handling which was turned on at the end of verbatim input must be immediately turned off again.

```

7787 \ifbool{mathjax}%
7788 {%
7789 \begingroup%
7790 \LWR@restoreoriglists%
7791 \boolfalse{LWR@verbtags}%

7792 \IfFileExists{\LWR@mathjaxfilename}%
7793 {\verbatiminput{\LWR@mathjaxfilename}}%
7794 {%
7795 \PackageError{lwarp}%
7796 {%
7797 \protect\MathJaxFilename\space specified the file\MessageBreak
7798 \space\space\LWR@mathjaxfilename\MessageBreak
7799 which does not exist%
7800 }%
7801 {Specify an existing file, or remove \protect\MathJaxFilename.}%
7802 }%

7803 \booltrue{LWR@verbtags}%
7804 \endgroup%
7805 \LWR@stoppars%
7806 }% end of mathjax
7807 }%

```

End of the header:

```
7808 \LWR@htmltag{/head}\LWR@orignewline
```

Start of the body:

```
7809 \LWR@htmltag{body}\LWR@orignewline
```

```

7810 \endgroup%
7811 \LWR@traceinfo{LWR@filestart: done}%
7812 }

7813 \end{warpHTML}

```

## 66 Starting HTML output

**for HTML output:** 7814 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```

7815 \catcode'\$=\active
7816 \newcommand*\LWR@LwarpStart}
7817 {%
7818 \LWR@traceinfo{LWR@lwarpStart}

```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```

7819 \ifbool{FormatWP}{%
7820 \setcounter{FileDepth}{-5}%
7821 \boolfalse{HTMLDebugComments}%
7822 }{}

```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```

7823 \edef\LWR@strresult{\HomeHTMLFilename}
7824 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
7825 \edef\LWR@strresult{\HTMLFilename}
7826 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}

```

Force onecolumn and empty page style:

```

7827 \LWR@origonecolumn%
7828 \LWR@origpagestyle{empty}%

```

No black box for overfull lines:

```

7829 \overfullrule=0pt

```

Reduce chance of line overflow when HTML tags are added:

```

7830 \LWR@print@footnotesize%

```

In PDF output, don't allow line breaks to interfere with HTML tags:

```

7831 \LWR@print@raggedright%
7832 \LetLtxMacro{\}{\LWR@endofline}%

```



Spread the lines for *pdftotext* to read them well:

```
7833 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
7834 \setlength{\parindent}{0pt}
```

```
7835 \setlength{\parskip}{2ex}
```

For the `lateximage` record file:

```
7836 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
7837 \setlength{\belowcaptionskip}{0ex}
```

```
7838 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
7839 \renewcommand{\ps@plain}{}
```

Plug in some new actions. This is done just before the document start so that they won't be over-written by some other package.

Float captions:

```
7840 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
7841 \global\boolfalse{LWR@doingapar}
```

```
7842 \global\boolfalse{LWR@doingstartpars}
```

Document and page settings:

```
7843 \mainmatter
```

```
7844 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
7845 \LWR@traceinfo{LWR@lwarpStart: Starting new file.}
```

```
7846 \LWR@filestart%
```

Tell *lwarpmk* that the *lwarp* package is in use. This allows *lwarpmk* to warn if `usepackage{lwarp}` was somehow disabled.

```
7847 \begingroup%
```

```
7848 \LWR@nullfonts%
```

```
7849 \LWR@htmlblockcomment{%
```

```
7850 |Using lwarp|%
```

```
7851 \LWR@htmlsectionfilename{\LWR@thisfilename}}|%
```

```
7852 }
```

```
7853 \endgroup%
```

```

7854 \LWR@traceinfo{LWR@lwarpStart: Generating first header.}
7855 \ifdefempty{\LWR@firstpagetop}{}%
7856 \LWR@htmltag{header}\LWR@orignewline
7857 \LWR@startpars
7858 \LWR@firstpagetop
7859 \LWR@stoppars
7860 \LWR@htmltag{/header}\LWR@orignewline
7861 }%

```

```

7862 \LWR@htmlclass{div}{bodywithoutsidetoc}
7863 \LWR@htmlclass{main}{bodycontainer}
7864 \LWR@traceinfo{LWR@lwarpStart: Generating textbody.}
7865 \LWR@htmlclass{section}{textbody}

```

Create a label for previous/next links, and remember it has been done:

```

7866 \booltrue{LWR@setseqfilelabel}%
7867 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}

```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native  $\LaTeX$  environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```

7868 \LWR@patchlists

```

Ensure that math mode is active to call lwarp's patches:

```

7869 \catcode'\$=\active

```

Required for `\nameref` to work with SVG math:

```

7870 \immediate\write\@mainaux{\catcode'\string\$\active}%
7871 \LetLtxMacro\LWR@syntaxhighlightone balance for editor syntax highlighting

```

Allow HTML paragraphs to begin:

```

7872 \LWR@startpars

```

If using `MATHJAX`, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```

7873 \ifbool{mathjax}{
7874 \typeout{---}
7875 \typeout{Package lwarp:}
7876 \typeout{Processing MathJax customizations for the first HTML page.}
7877 \typeout{Later HTML pages will take the same amount of time.}
7878 \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}
7879 }{}
7880
7881 \LWR@customizeMathJax
7882
7883 \ifbool{mathjax}{
7884 \typeout{Done.}

```

```
7885 \typeout{---}
7886 }{}
```

First autpage label in case a figure occurs early before the first section: A new autpage label may be generated for LWR@currentautosecpage for the start of the section, and also for the current page if it is different due to an svg image in the section name. Also, the final page after the section has been created is updated in LWR@currentautosecfloatpage.

```
7887 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7888 \LWR@newautopagelabel{LWR@currentautosecpage}%

7889 \LWR@traceinfo{LWR@lwarpStart: done}
7890 }
7891 \catcode'\$=3% math shift until lwarp starts

7892 \end{warpHTML}
```

## 67 Ending HTML output

**for HTML output:** 7893 \begin{warpHTML}

\LWR@requesttoc {<boolean>} {<suffix>} Requests that a TOC, LOF, or LOTbe generated.

```
7894 \newcommand*{\LWR@requesttoc}[2]{%
7895 \ifbool{#1}
7896 {
7897 \expandafter\newwrite\@nameuse{tf@#2}
7898 \immediate\openout \@nameuse{tf@#2} \jobname.#2\relax
7899 }{ }
7900 }
```

\LWR@LwarpEnd Final stop of all HTML output:

```
7901 \newcommand*{\LWR@LwarpEnd}
7902 {
7903 \LWR@stoppars
7904 \LWR@closeprevious{finished}
```

At the bottom of the ending file:

Print any pending footnotes:

```
7905 \LWR@printpendingfootnotes
```

Close the textbody:

```
7906 \label{\BaseJobname-autofile-last}
7907 \LWR@htmlElementclassend{section}{textbody}
7908 \LWR@htmlElementclassend{main}{bodycontainer}
7909 \LWR@htmlElementclassend{div}{bodyandsidetoc}
```

Create the footer if not EPUB

```
7910 \ifbool{FormatEPUB}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page, or if formatting for an EPUB or word processor.

Presumably has a table-of-contents.

```
7911 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7912 {}
7913 {
7914 \ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{
7915 }
```

```
7916 \LWR@stoppars% final stop of all paragraphs
```

Finish the HTML file:

```
7917 \LWR@htmltag{/body}\LWR@orignewline
7918 \LWR@htmltag{/html}\LWR@orignewline
```

Seems to be required sometimes:

```
7919 \LWR@maybe@orignewpage
7920 }
```

`\enddocument` If labels have not changed, mark successful completion of the `lateximages.txt` file. Executed as everything is being shut down.

For the newer kernel hooks, see `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

```
7921 \ifdef{\AddToHook}{% newer kernel
7922 \AddToHook{enddocument/info}{%
7923 \if@filesw
7924 \ifx \@multiplelabels \relax
7925 \if@tempswa
```

This is where warnings of duplicate labels would appear.

```
7926 \else
```

No duplicate labels, so safe to create images.

```
7927 \immediate\write\LWR@lateximagesfile{%
7928 |end|end|end|}%
7929 }%
7930 \fi
7931 \fi\fi
7932 }
7933 }% newer kernel
7934 {% older kernel
7935 \xpatchcmd{\enddocument}
```

```

7936 {%
7937 \if@tempswa
7938 \@latex@warning@no@line{Label(s) may have changed.
7939 Rerun to get cross-references right}%
7940 \fi
7941 }
7942 {%
7943 \if@tempswa
7944 \@latex@warning@no@line{Label(s) may have changed.
7945 Rerun to get cross-references right}%
7946 \else

```

No duplicate labels, so safe to create images.

```

7947 \immediate\write\LWR@lateximagesfile{%
7948 |end|end|end|%
7949 }%
7950 \fi
7951 }
7952 {}
7953 {
7954 \AtEndDocument{
7955 \PackageWarningNoLine{lwarp}
7956 {%
7957 Could not patch \protect\enddocument.\MessageBreak
7958 If labels have changed, be sure to recompile before\MessageBreak
7959 creating lateximages with\MessageBreak
7960 \space\space lwarpmk limages,\MessageBreak
7961 or the images may be corrupt%
7962 }
7963 }
7964 }
7965 }% older kernel

```

## 68 Nullifying foreground/background hooks

See `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

```

7966 \ifdef{\RemoveFromHook}{
7967 \AfterEndPreamble{
7968 \IfHookEmptyTF{shipout/background}{}{
7969 \PackageInfo{lwarp}{Removing background hook}
7970 \RemoveFromHook{shipout/background}[*]
7971 }
7972 \IfHookEmptyTF{shipout/foreground}{}{
7973 \PackageInfo{lwarp}{Removing foreground hook}
7974 \RemoveFromHook{shipout/foreground}[*]
7975 }
7976 }
7977 }{}
7978 \end{warpHTML}

```

## 69 Title page

**package support** lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

**△ load order**

**\published and \subtitle** If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 69.8.

**affiliation** lwarp provides for the \author macro an additional \affiliation macro to provide an affiliation and other additional information for each author in the title page. The affiliation information is removed when using titlingpage's \theauthor in the main text.

**reusing titlepage information** The titling package maintains the definitions of \thetitle, \theauthor, etc., after the title has been typeset. These commands are to be used to refer to the document's title and author, etc., in the main text. These definitions have the \thanks and \affiliation removed, and for \author the \and is replaced to generate a simple inline list of authors separated by commas. Note: \theauthor does not work well with authblk unless the traditional L<sup>A</sup>T<sub>E</sub>X syntax is used.

**△ \theauthor, authblk**

**custom titlepages** \printtitle, \printauthor, etc., are provided for use inside a custom titlepage or titlingpage environment, and these retain the \thanks and \affiliation.

**\printthanks** \printthanks has been added to force the printing of thanks inside a titlingpage environment when \maketitle is not used.

**△ \thanks** Inside a \titlepage or \titlingpage environment, use \thanks instead of \footnote for acknowledgements, etc.

### 69.1 Setting the title, etc.

The following provide setting commands for both HTML and print outputs.

**\author** `{\author}` While using \maketitle and print mode, the author is treated as a single-column tabular and the \and feature finishes the current tabular then starts a new one for the next author. Each author thus is placed into its own tabular, and an affiliation may be placed on its own line such as

**\and**

```
\author{Name \ Affiliation \and Second Name \ Second Affiliation}
```

For HTML, the entire author block is placed inside a <div> of class author, and each individual author is inside a <div> of class oneauthor.

**\@title** \@title, \@author, and \@date store the values as originally assigned, including any  
**\@author** \thanks, \and, or \affiliation. These are low-level macros intended to be used by  
**\@date** other macros only inside a titlepage or titlingpage, and are used by \maketitle. The author is printed inside a single-column tabular, which becomes multiple single-column tabulars if multiples authors are included. For HTML, these tabulars become side-by-side <div>s of class oneauthor, all of which are combined into one <div> of class author.

`\printtitle`, `\printauthor`, and `\printdate` are user-level macros intended to be used in custom `titlepage` or `titlingpage` environments in cases where `\maketitle` is not desired. These commands preserve the `\thanks`, etc., and should not be used in the main text.

`\thetitle`, `\theauthor`, and `\thedata` are available if `titling` has been loaded, and are sanitized user-level versions from which have been removed the `\thanks` and `\affiliation`, and `\and` is changed for inline text usage. The author is printed inline without `\affiliation` or `\thanks`, with `\and` placing commas between multiple authors. Thus, these commands are to be used in the main text whenever the user wishes to refer to the document's title and such. One practical use for this is to place the authors at the bottom of each HTML page, such as:

```
\HTMLPageBottom{
 \begin{center}\textcopyright~20xx \theauthor\end{center}
}
```

⚠ `\theauthor`, `authblk` `\theauthor` does not work well if `authblk` is used. If `\theauthor` is important, it is recommended to use the standard L<sup>A</sup>T<sub>E</sub>X syntax for `\author`, optionally with `lwarp's` `\affiliation` macro as well.

⚠ `affiliations` After `\maketitle` has completed, `\theauthor` retains the definition of the author, but `\and` is changed to become a comma and a space, intending to print the authors names separated by spaces. This fails when affiliations are included on their own table rows.

`\affiliation` A solution, provide here, is to define a macro `\affiliation` which, during `\maketitle`, starts a new row and adds the affiliation, but after `\maketitle` is finished `\affiliation` is re-defined to discard its argument, thus printing only the author names when `\author` is later used inline.

## 69.2 \if@titlepage

**for HTML & PRINT:** 7979 `\begin{warpall}`

`\if@titlepage` Some classes do not provide `\if@titlepage`. In this case, provide it and force it false.

```
7980 \ifcvoid{@titlepagefalse}{
7981 \newif\if@titlepage
7982 \@titlepagefalse
7983 }{}

7984 \end{warpall}
```

## 69.3 Changes for \affiliation

`\affiliation` `{\text}`

Adds the affiliation to the author for use in `\maketitle`.

Inside `titlepage`, this macro prints its argument. Outside, it is null.

**for HTML & PRINT:** 7985 \begin{warpall}  
 7986 \providerobustcmd{\affiliation}[1]{}  
 7987 \end{warpall}

**for PRINT output:** 7988 \begin{warpprint}  
  
 7989 \AtBeginEnvironment{titlepage}{  
 7990 \renewrobustcmd{\affiliation}[1]{\ \textsc{\small#1}}  
 7991 }  
 7992  
 7993 \AtBeginDocument{  
 7994 \@ifpackageloaded{titling}{  
 7995 \AtBeginEnvironment{titlingpage}{  
 7996 \renewrobustcmd{\affiliation}[1]{\ \textsc{\small#1}}  
 7997 }  
 7998 }{}% titling loaded  
 7999 }% AtBeginDocument  
  
 8000 \end{warpprint}

**for HTML output:** 8001 \begin{warpHTML}

Env titlepage Sets up a <div> of class titlepage. Provided even for memoir class, since it is used by \maketitle.

```
8002 \DeclareDocumentEnvironment{titlepage}{}
8003 {
8004 \renewrobustcmd{\affiliation}[1]{\ \InlineClass{affiliation}{##1}}
8005 \LWR@printpendingfootnotes
8006 \LWR@forcenewpage
8007 \BlockClass{titlepage}
8008 }
8009 {
8010 \endBlockClass
8011 \LWR@printpendingfootnotes
8012 }

8013 \end{warpHTML}
```

## 69.4 Printing the thanks

\printthanks Forces the \thanks to be printed. This is necessary in a titlingpage environment when \maketitle was not used.

**for PRINT output:** 8014 \begin{warpprint}  
 8015 \newcommand\*{\printthanks}{\@thanks}  
 8016 \end{warpprint}

**for HTML output:** 8017 \begin{warpHTML}  
 8018 \newcommand\*{\printthanks}{\LWR@stoppars\@thanks\LWR@startpars}  
 8019 \end{warpHTML}



## 69.5 Printing the title, etc. in HTML

The following are for printing the title, etc. in a titlepage or a titlingpage in HTML:

**for HTML output:** 8020 `\begin{warpHTML}`

`\printtitle`

```
8021 \newcommand*{\printtitle}
8022 {%
8023 \LWR@stoppars%
8024 \LWR@htmltag{\LWR@tagtitle}%
8025 \@title%
8026 \LWR@htmltag{\LWR@tagtitleend}%
8027 \LWR@startpars%
8028 }
```

`\LWR@printthetitle` A private version which prints the title without footnotes, used to title each HTML page.

```
8029 \newcommand*{\LWR@printthetitle}
8030 {%
8031 \LWR@stoppars%
8032 \LWR@htmltag{\LWR@tagtitle}%
8033 \thetitle%
8034 \LWR@htmltag{\LWR@tagtitleend}%
8035 \LWR@startpars%
8036 }
```

`\printauthor` HTML version.

```
8037 \newcommand*{\printauthor}{
```

The entire author block is contained in a `<div>` named `author`:

```
8038 \begin{BlockClass}{author}
```

`\and` finishes one author and starts the next:

```
8039 \renewcommand{\and}{%
8040 \end{BlockClass}
8041 \begin{BlockClass}{oneauthor}
8042 }
```

Individual authors are contained in a `<div>` named `oneauthor`:

```
8043 \begin{BlockClass}{oneauthor}
8044 \@author
8045 \end{BlockClass}
8046 \end{BlockClass}
8047 }
```

`\printdate`

```
8048 \newcommand*{\printdate}{%
8049 \begin{BlockClass}{titledate}
8050 \@date
8051 \end{BlockClass}
8052 }

8053 \end{warpHTML}
```

## 69.6 Printing the title, etc. in print form

The following are for printing the title, etc. in a titlepage or a titlingpage in print form:

**for PRINT output:** `8054 \begin{warpprint}`

`\printtitle`

```
8055 \newcommand*{\printtitle}{{\Huge\@title}}
```

`\printauthor` Print mode.

```
8056 \newcommand*{\printauthor}
8057 {{{\large\begin{tabular}[t]{c}\@author\end{tabular}}}}
```

`\printdate`

```
8058 \newcommand*{\printdate}{{\small\textit{\@date}}}

8059 \end{warpprint}
```

## 69.7 \maketitle for HTML output

An HTML `<div>` of class `titlepage` is used.

`\thanks` are a form of footnotes used in the title page. See section 60 for other kinds of footnotes.

See `\thanksmarkseries{series}`, below, to set the style of the footnote marks.

**for HTML output:** `8060 \begin{warpHTML}`

```
8061 \@ifclassloaded{memoir}
8062 {
8063 \newcommand{\LWR@setfootnoteseries}{%
8064 \renewcommand\thefootnote{\@arabic\c@footnote}%
8065 }
```

```

8066 }{% not memoir
8067 \if@titlepage
8068 \newcommand{\LWR@setfootnoteseries}{%
8069 \renewcommand\thefootnote{\@arabic\c@footnote}%
8070 }
8071 \else
8072 \newcommand{\LWR@setfootnoteseries}{%
8073 \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
8074 }
8075 \fi
8076 }{% not memoir

```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```

8077 \newcommand*\LWR@maketitlesetup{%

```

Redefine the footnote mark:

```

8078 \LWR@setfootnoteseries%
8079 \def\@makefnmark{%
8080 \thefootnote%
8081 }

```

`\thefootnote` ⇒ `\nameuse{arabic}{footnote}`, or  
`\thefootnote` ⇒ `\nameuse{fnsymbol}{footnote}`

Redefine the footnote text:

```

8082 \long\def\@makefntext##1{%

```

Make the footnote mark and some extra horizontal space for the tags:

```

8083 \@thefnmark~%

```

`\makethanksmark` ⇒ `\thanksfootmark` ⇒ `\tamark` ⇒  
`\@thefnmark` ⇒ `\itshape a` (or similar)

Print the text:

```

8084 ##1%
8085 }%
8086 }

```

`\@fnsymbol` {*counter*}

Re-defined to use an HTML entity for the double vertical bar symbol. The original definition used `\|` which was not being seen by *pdftotext*.

```

8087 \def\LWR@HTML@\@fnsymbol#1{%
8088 \ifcase#1\or *\or

```

```

8089 \HTMLentity{dagger}\or
8090 \HTMLentity{Dagger}\or
8091 \HTMLentity{sect}\or
8092 \HTMLentity{para}\or
8093 \HTMLunicode{2016}\or
8094 **\or
8095 \HTMLentity{dagger}\HTMLentity{dagger} \or
8096 \HTMLentity{Dagger}\HTMLentity{Dagger} \else
8097 \@ctrerr\fi%
8098 }
8099 \LWR@formatted{@fnsymbol}

```

`\maketitle` HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the titling package is adapted, simplified, and modified for HTML output.

```
8100 \renewcommand*{\maketitle}{%
```

An HTML titlepage <div> is used for all classes.

```
8101 \begin{titlepage}
```

Set up special patches:

```
8102 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8103 \@maketitle
```

Immediately generate any \thanks footnotes:

```
8104 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div and cleanup:

```

8105 \end{titlepage}
8106 \setcounter{footnote}{0}%
8107 \global\let\thanks\relax
8108 \global\let\maketitle\relax
8109 \global\let\@maketitle\relax
8110 \global\let\@thanks\@empty
8111 \global\let\@author\@empty
8112 \global\let\@date\@empty
8113 \global\let\@title\@empty
8114 \global\let\title\relax
8115 \global\let\author\relax
8116 \global\let\date\relax
8117 \global\let\and\relax
8118 }

```

`\@maketitle` HTML mode. Typesets the title, etc.:

```

8119 \DeclareDocumentCommand{\@maketitle}{}{%
8120 \LWR@stoppars%
8121 \LWR@htmltag{\LWR@tagtitle}%
8122 \@title%
8123 \LWR@htmltag{\LWR@tagtitleend}%
8124 \LWR@startpars%
8125 \begin{BlockClass}{author}%

```

For IEEEtran class:

```

8126 \renewcommand*\cr{}%
8127 \renewcommand*\crrc{}%
8128 \renewcommand*\noalign{}%

8129 \renewcommand{\and}{%
8130 \end{BlockClass}%
8131 \begin{BlockClass}{oneauthor}%
8132 }%
8133 \begin{BlockClass}{oneauthor}%
8134 \@author%
8135 \end{BlockClass}%
8136 \end{BlockClass}%
8137 \begin{BlockClass}{titledate}%
8138 \@date%
8139 \end{BlockClass}%
8140 }

```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```
8141 \newcommand*\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
8142 \LWR@stoppars\@thanks\LWR@startpars
```

Set up special patches:

```
8143 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8144 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
8145 \LWR@stoppars\@thanks\LWR@startpars
8146 }
```


```
8147 \end{warpHTML}
```

## 69.8 `\published` and `\subtitle`

`\subtitle` and `\published` To add `\subtitle` and `\published` to the titlepage, load the titling package and use `\AddSubtitlePublished` in the preamble.

The default `lwarp.css` has definitions for the `published` and `subtitle` classes.

If `titling` is loaded, `\AddSubtitlePublished` creates a number of additional macros, and also assigns some of the `titling` hooks. If `titling` is not loaded, `\AddSubtitlePublished` creates null macros.

 **titling hooks** Do not use `\AddSubtitlePublished` if the user has patched the `titling` hooks for some other reason. Portions are marked `\warpprintonly` to reduce extra tags in HTML. Similarly, `BlockClass` has no effect in print mode. Thus, the following may be marked `warpall`.

**for HTML & PRINT:** 8148 `\begin{warpall}`

`\AddSubtitlePublished` Adds `\published` and `\subtitle`, and related.

```

8149 \newcommand*{\AddSubtitlePublished}{%
8150 \ifpackageloaded{titling}{% yes titling package
8151 \newcommand{\@published}{}%
8152 \newcommand{\published}[1]{\gdef\@published{##1}}%
8153 \renewcommand*{\maketitlehooka}{\printpublished}%
8154 \newcommand*{\printpublished}{%
8155 \warpprintonly{\begin{center}\unskip}%
8156 \begin{BlockClass}{published}%
8157 \warpprintonly{\Large\itshape}%
8158 \@published%
8159 \end{BlockClass}%
8160 \warpprintonly{\end{center}}%
8161 }%
8162 \newcommand{\@subtitle}{}%
8163 \newcommand{\subtitle}[1]{\gdef\@subtitle{##1}}%
8164 \renewcommand*{\maketitlehookb}{\printsubtitle}%
8165 \newcommand*{\printsubtitle}{%
8166 \warpprintonly{\begin{center}\unskip}%
8167 \begin{BlockClass}{subtitle}%
8168 \warpprintonly{\Large\itshape}%
8169 \@subtitle%
8170 \end{BlockClass}%
8171 \warpprintonly{\end{center}}%
8172 }%
8173 }% yes titling package
8174 {% no titling package

8175 \def\@published{}%
8176 \DeclareDocumentCommand{\published}{m}{\gdef\@published{##1}}%
8177 \DeclareDocumentCommand{\printpublished}{}{}%
8178 \def\@subtitle{}%
8179 \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{##1}}%
8180 \DeclareDocumentCommand{\printsubtitle}{}{}%
```

```
8181 }% no titling package
8182 }% \AddSubtitlePublished

8183 \end{warpall}
```

## 70 Abstract

The following code replaces the L<sup>A</sup>T<sub>E</sub>X default, and will itself be replaced later if the abstract package is loaded.

**for HTML output:** 8184 \begin{warpHTML}

`\abstractname` User-redefinable title for the abstract.

Also over-written by the babel package.

```
8185 \providecommand*{\abstractname}{Abstract}
```

Some classes allow an optional name, so it is allowed here.

Env abstract

```
8186 \DeclareDocumentEnvironment{abstract}{0{\abstractname}}
8187 {
8188 \LWR@forcenewpage
8189 \BlockClass{abstract}
8190 \BlockClassSingle{abstracttitle}{#1}
8191 }
8192 {
8193 \endBlockClass
8194 }

8195 \end{warpHTML}
```

## 71 Quote and verse

### 71.1 Attributions

`\attribution`  $\{ \langle name \rangle \}$

For use with quote, quotation, verse:

Ex: "A quotation." \attribution{\textsc{Author Name}}\textsl{Book Title}}

**for HTML & PRINT:** 8196 \begin{warpall}  
8197 \newcommand{\attribution}[1]{  
8198 \begin{flushright}

```

8199 \unskip
8200 #1
8201 \end{flushright}%
8202 }
8203 \end{warpall}

```

```

for HTML output: 8204 \begin{warpHTML}
8205 \newcommand{\LWR@HTML@attribution}[1]{%
8206 \LWR@stoppars%
8207 \begin{BlockClass}{attribution}
8208 #1
8209 \end{BlockClass}
8210 \LWR@startpars%
8211 }
8212 \LWR@formatted{attribution}
8213 \end{warpHTML}

```

## 71.2 Quotes, quotations

```

for HTML output: 8214 \begin{warpHTML}

```

Env quote

```

8215 \newenvironment*{\LWR@HTML@quote}
8216 {
8217 \LWR@forcenewpage
8218 \LWR@htmlblocktag{blockquote}
8219 }
8220 {\LWR@htmlblocktag{/blockquote}}
8221
8222 \LWR@formattedenv{quote}

```

Env quotation

```

8223 \newenvironment*{\LWR@HTML@quotation}
8224 {
8225 \LWR@forcenewpage
8226 \LWR@htmlblocktag{blockquote}
8227 }
8228 {\LWR@htmlblocktag{/blockquote}}
8229
8230 \LWR@formattedenv{quotation}

8231 \end{warpHTML}

```

## 71.3 Verse

When using `verse` or `memoir`, always place a `\\` after each line.

`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib`



command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>Len \vleftskip Len \vleftmargini Len \HTMLvleftskip Len \HTMLleftmargini</pre> | <p>These lengths are used by <code>verse</code> and <code>memoir</code> to control the left margin, and they may already be set by the user for print output. New lengths <code>\HTMLvleftskip</code> and <code>\HTMLleftmargini</code> are provided to control the margins in HTML output. These new lengths may be set by the user before any <code>verse</code> environment, and persist until they are manually changed again. One reason to change <code>\HTMLleftmargini</code> is if there is a wide <code>\flagverse</code> in use, such as the word “Chorus”, in which case the value of <code>\HTMLleftmargini</code> should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.</p> |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- ⚠ **spacing** Horizontal spacing relies on *pdftotext*'s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.
- ⚠ **verse margin**

### 71.3.1 L<sup>A</sup>T<sub>E</sub>X core verse environment

**for HTML output:** 8232 `\begin{warpHTML}`

Env `verse`

```
8233 \newenvironment{LWR@HTML@verse}
8234 {\let\\newline% lwarp
8235 \list{}{\itemsep \z@
8236 \itemindent -1.5em%
8237 \listparindent\itemindent
8238 \rightmargin \leftmargin
8239 \advance\leftmargin 1.5em}%
8240 \item\relax}
8241 {\endlist}
8242
8243 \LWR@formattedenv{verse}

8244 \end{warpHTML}
```

**for HTML & PRINT:** 8245 `\begin{warpall}`

### 71.3.2 verse and memoir

The following lengths are used by `verse` and `memoir`. They may be set in either print or HTML output, but are only used in HTML. This allows the user to set `\leftskip` and `\leftmargini` for print output, and optionally select different values for HTML.

Len `\HTMLvleftskip` Sets `\leftskip` inside a verse environment in HTML.

```
8246 \newlength{\HTMLvleftskip}
8247 \setlength{\HTMLvleftskip}{1em}
```

Len `\HTMLleftmargini` Sets `\leftmargini` inside a verse environment in HTML.

```
8248 \newlength{\HTMLleftmargini}
8249 \setlength{\HTMLleftmargini}{4.5em}
```

```
8250 \end{warpall}
```

## 72 Verbatim and tabbing

**for HTML & PRINT:** 8251 `\begin{warpall}`

Len `\VerbatimHTMLWidth` Width to use in HTML Verbatim environment.

This width is used when placing line numbers to the right. Ignored during print output.

```
8252 \newlength{\VerbatimHTMLWidth}
8253 \setlength{\VerbatimHTMLWidth}{4in}
8254 \end{warpall}
```

**for HTML output:** 8255 `\begin{warpHTML}`

Bool `LWR@verbtags` Used to temporarily turn off verbatim tags while doing `\verbatiminput` in the HTML head.

```
8256 \newbool{LWR@verbtags}
8257 \booltrue{LWR@verbtags}
```

`\verb` Patched to encapsulate the verbatim text inside span with a class of `texttt`.

```
8258 \LetLtxMacro\LWR@orig@verb@egroup\verb@egroup
8259
8260 \def\LWR@verb@egroup@endspan{%
8261 \LWR@orig@verb@egroup%
8262 \LWR@htmltag{/span}%
8263 \endgroup%
8264 }
```

```
8265 \xpretocmd{\verb}
```

```

8266 {%
8267 \begingroup%
8268 \LWR@htmltag{span class=\textquotedbl{}texttt\textquotedbl}%
8269 \let\verb@egroup\LWR@verb@egroup@endspan%
8270 }
8271 {}
8272 {\LWR@patcherror{LaTeX}{verb}}

```

```
\LWR@atbeginverbatim [1: style] {2: class}
```

Encloses a verbatim environment with the given css class.

The use of `\textquotedbl` instead of `"` improves compatibility with x<sub>e</sub>CJK.

```

8273 \newcommand*{\LWR@atbeginverbatim}[2][{}
8274 {%

```

Stop generating HTML paragraph tags:

```
8275 \LWR@stoppars%
```

Avoid excessive space between lines:

```

8276 \setlength{\parskip}{0ex}%
8277 \setlength{\topsep}{0pt}%
8278 \setlength{\partopsep}{0pt}%

```

Inside the verbatim, temporarily prevent underfull `\hbox` warnings.

```
8279 \hbadness=10000\relax%
```

Create a new pre of the given class. The tags may temporarily be turned off for internal use, such as loading the MATHJAX script.

```

8280 \ifbool{LWR@verbtags}{%
8281 \LWR@htmltag{pre class=\textquotedbl#2\textquotedbl%
8282 \ifthenelse{\equal{#1}{}}{}{ style=\textquotedbl#1\textquotedbl}%
8283 }%
8284 \par%
8285 }{}%

```

Use a mono-spaced font to preserve horizontal positioning. If horizontal alignment is important for the user, use a mono-spaced font in the css for the verse class.

```
8286 \begingroup%
```

```

8287 \LWR@print@normalfont%
8288 \LWR@origttfamily%
8289 \LWR@print@scriptsize%

```

Since inside a `<pre>`, restore the original list processing:

```
8290 \LWR@restoreoriglists%
```

Turn off babel-french extra space before punctuation:

```
8291 \LWR@hook@processingtags%
```

Do not produce HTML tags for \hspace inside a verse par. Restore plain L<sup>A</sup>T<sub>E</sub>X \hspace functionality:

```
8292 \LWR@select@print@hspace%
8293 }
```

`\LWR@afterendverbatim` Finishes enclosing a verbatim environment.

```
8294 \newcommand*{\LWR@afterendverbatim}{%
8295 \endgroup%
8296 \par%
```

At the end of the environment, close the pre:

```
8297 \ifbool{LWR@verbtags}{%
8298 \noindent\LWR@htmltag{/pre}\par% pre
8299 }{ }%
```

Resume regular paragraph handling:

```
8300 \LWR@startpars%
8301 }
```

`\verbatiminput`  $\{ \langle filename \rangle \}$

Patch `\verbatiminput` to add HTML tags:

```
8302 \newcommand{\LWR@HTML@verbatim@input}[2]{%
8303 \ifbool{LWR@verbtags}{\LWR@forcenewpage}{ }%
8304 \LWR@atbeginverbatim{Verbatim}%
8305 \LWR@print@verbatim@input{#1}{#2}%
8306 \LWR@afterendverbatim%
8307 }
8308
8309 \LWR@formatted{verbatim@input}
```

Env `verbatim`

```
8310 \AfterEndPreamble{
8311 \LWR@traceinfo{Patching verbatim.}
8312 \AtBeginEnvironment{verbatim}{%
8313 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8314 {}%
8315 {%
8316 \LWR@forcenewpage%
8317 \LWR@atbeginverbatim{verbatim}%
8318 }%
8319 }
```

```

8320 \AfterEndEnvironment{verbatim}{%
8321 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8322 {}%
8323 {%
8324 \LWR@afterendverbatim%
8325 }%
8326 }
8327 }

```

Env `tabbing` The `tabbing` environment works, except that `svg math` and `lateximages` do not yet work inside the environment.

 **math in tabbing** If math is used inside `tabbing`, place `tabbing` inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

```

8328 \newcommand*{\LWR@HTML@tabbing}{%
8329 \LWR@forcenewpage%
8330 \LWR@atbeginverbatim{tabbing}%
8331 \let\enskip\LWR@origenskip%
8332 \let\quad\LWR@origquad%
8333 \let\qquad\LWR@origqquad%
8334 \let~\LWR@origtilde%
8335 \let\,\LWR@origcomma%
8336 \let\thinspace\LWR@origthinspace%
8337 \let\negthinspace\LWR@orignegthinspace%
8338 \LWR@print@tabbing%
8339 }
8340
8341 \newcommand*{\LWR@HTML@endtabbing}{%
8342 \LWR@print@endtabbing%
8343 \LWR@afterendverbatim%
8344 }
8345
8346 \LWR@formatted{tabbing}
8347 \LWR@formatted{endtabbing}

8348 \end{warpHTML}

```

## 73 Theorems

`\newtheorem`  $\{\langle text \rangle\}$  [ $\langle counter \rangle$ ] — or — [ $\langle oldname \rangle$ ]  $\{\langle text \rangle\}$

A few minor changes are made to supply HTML tags.

- The entire theorem is placed into a `<div>` of class `theoremcontents`.
- The label for each theorem is placed inside a `<span>` of class `theoremlabel`.
- The contents are placed inside a `<div>` of class `theoremcontents`.

for HTML output: `8349 \begin{warpHTML}`

```
\@begintheorem {<name>} {<number>}
```

```
8350 \renewcommand{\@begintheorem}[2]{%
8351 \LWR@forcenewpage
```

```
8352 \LWR@printpendingfootnotes% lwarp
```

```
8353 \BlockClass{theoremcontents}
8354 \trivlist
8355 \item[\InlineClass{theoremlabel}{#1\ #2\ }]\itshape
8356 }
```

```
\@opargbegintheorem {<name>} {<number>} {<oparg>}
```

$\LaTeX$  defines this, but `amsthm` relaxes it, so it will not be defined if `amsthm` is loaded before `lwarp`.

```
8357 \ifundef{\@opargbegintheorem}{%
8358 \renewcommand{\@opargbegintheorem}[3]{%
8359 \LWR@forcenewpage
8360 \BlockClass{theoremcontents}
8361 \trivlist
8362 \item[\InlineClass{theoremlabel}{#1\ #2\ (#3)\ }]\itshape
8363 }
8364 }
```

```
\@endtheorem
```

```
8365 \renewcommand*\@endtheorem{%
8366 \endtrivlist
```

```
8367 \LWR@printpendingfootnotes% lwarp
```

```
8368 \endBlockClass% theoremcontents
8369 }
```

```
8370 \end{warpHTML}
```

## 74 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard  $\LaTeX$  environments, as well as those of `enumerate`, `enumitem`, and `paralist`, and at least the French version of `babel`. Additional patches are done on a package-specific basis.

The  $\LaTeX$  source for `itemize` and `enumerate` are found in `source2e`, but the source for `description` is found in `article.cls`, etc.

**empty item** To have an empty item, use `\mbox{}` or a trailing backslash. This forces a new line in print output, matching the new line which will appear in HTML output. Ex:



```

8387 % \if@minipage\else
8388 % \@tempskipa\lastskip
8389 % \vskip -\lastskip
8390 % \advance\@tempskipa\@outerparskip
8391 % \advance\@tempskipa -\parskip
8392 % \vskip\@tempskipa
8393 % \fi
8394 }

```

`\@item` Modified for HTML output by replacing T<sub>E</sub>X boxes with plain text. Also removes PDF spacing.

```

8395 \def\LWR@HTML@item[#1]{%
8396 \LWR@traceinfo{@item}%
8397 \if@noparitem
8398 \@donoparitem
8399 \else
8400 % \if@inlabel
8401 % \indent
8402 % \par
8403 % \fi
8404 \ifhmode
8405 % \unskip\unskip
8406 % \par
8407 \fi
8408 \if@newlist
8409 \if@nobreak
8410 \@nbitem
8411 \else
8412 % \addpenalty\@beginparpenalty
8413 % \addvspace\@topsep
8414 % \addvspace{-\parskip}%
8415 % \fi
8416 \else
8417 % \addpenalty\@itempenalty
8418 % \addvspace\itemsep
8419 \fi
8420 \global\@inlabeltrue
8421 \fi
8422 % \everypar{%
8423 % \@minipagefalse
8424 \global\@newlistfalse

8425 % \if@inlabel
8426 % \global\@inlabelfalse

8427 % {\setbox\z@\lastbox
8428 % \ifvoid\z@
8429 % \kern-\itemindent
8430 % \fi}%

8431 % \box\@labels
8432 % \penalty\z@
8433 % \fi

```



```

8434 % \if@nobreak
8435 % \@nobreakfalse
8436 % \clubpenalty \@M
8437 % \else
8438 % \clubpenalty \@clubpenalty
8439 % \everypar{}%
8440 % \fi}%

8441 \if@noitemarg
8442 \@noitemargfalse
8443 \if@nmbulist

8444 \refstepcounter\@listctr
8445 \fi
8446 \fi

8447 \makelabel{#1} % extra space
8448 % \sbox\@tempboxa{\makelabel{#1}}%
8449 % \global\setbox\@labels\hbox{%
8450 % \unhbox\@labels
8451 % \hskip \itemindent
8452 % \hskip -\labelwidth
8453 % \hskip -\labelsep
8454 % \ifdim \wd\@tempboxa >\labelwidth
8455 % \box\@tempboxa

8456 % \else
8457 % \hbox to\labelwidth {\unhbox\@tempboxa}%
8458 % \fi
8459 % \hskip \labelsep}%
8460 \ignorespaces%
8461 }

```

\@nbitem

```

8462 \def\@nbitem{%
8463 % \@tempskipa\@outerparskip
8464 % \advance\@tempskipa -\parskip
8465 % \addvspace\@tempskipa
8466 }

```

\LWR@listitem [*<label>*]

Handles \item inside a list, itemize, or enumerate.

See \LWR@openparagraph where extra \hspace is used to leave room for the label while inside a list during paragraph construction.

```

8467 \newcommand*\LWR@listitem{%
8468 \LWR@stoppars%
8469 \LWR@startnewdepth{listitem}%
8470 \LWR@htmltag{li}%

```

```
8471 \LWR@startpars%
8472 \LWR@origitem%
8473 }
```

`\LWR@nulllistfills` Nullifies various T<sub>E</sub>X fill commands, in case they are used inside `\makeLabel`. Problems are caused when these are nullified all the time.

```
8474 \newcommand*\LWR@nulllistfills{%
8475 \renewcommand*\hss}{}%
8476 \renewcommand*\llap[1]{##1}%
8477 \renewcommand*\rlap[1]{##1}%
8478 \renewcommand*\hfil}{}%
8479 \renewcommand*\hfilneg}{}%
8480 \renewcommand*\hfill}{}%
8481 }
```

Env `list` `{<label>}{<commands>}`

```
8482 \newcommand*\LWR@liststart{%
8483 \LWR@traceinfo{LWR@liststart}%
8484 \LWR@stoppars%
8485 \LWR@pushoneclose{list}%
8486 \LWR@htmltag{\LWR@printopenlist}\LWR@orignewline%
8487 \LWR@startpars%
8488 \setlength{\topsep}{0pt}%
8489 \setlength{\partopsep}{0pt}%
8490 \setlength{\itemsep}{0pt}%
8491 \setlength{\parsep}{0pt}%
8492 \setlength{\leftmargin}{0pt}%
8493 \setlength{\rightmargin}{0pt}%
8494 \setlength{\listparindent}{0pt}%
8495 \setlength{\itemindent}{0pt}%
8496 \setlength{\labelsep}{1em}%
8497 \LWR@nulllistfills%
8498 }
```

```
8499 \newcommand*\LWR@listend{%
8500 \LWR@traceinfo{LWR@listend}%
8501 \LWR@stoppars%
8502 \LWR@closeprevious{list}%
8503 \LWR@startpars%
8504 }
```

## 74.2 Itemize

`\LWR@itemizeitem` [`<label>`]

Handles `\item` inside an `itemize` or `enumerate`.

See `\LWR@openparagraph` where extra `\hspace` is used to leave room for the label while inside a list during paragraph construction.

```

8505 \newcommand*\LWR@itemizeitem}{%
8506 \LWR@stoppars%
8507 \LWR@startnewdepth{listitem}%
8508 \LWR@htmltag{li}%
8509 \LWR@startpars%
8510 \LWR@origitem%
8511 }

```

Env `itemize` [*options*]

```

8512 \newcommand*\LWR@itemizestart}{%
8513 \renewcommand*\LWR@printcloseitemize}{\LWR@printcloseitemize}
8514 \renewcommand*\LWR@printopenlist}{%
8515 ul style=\textquotedbl\LWR@print@mbbox{list-style-type:none}\textquotedbl}%
8516 }
8517 \let\item\LWR@itemizeitem%
8518 \LWR@nulllistfills%
8519 }

```

### 74.3 Enumerate

An HTML unordered list is used with customized L<sup>A</sup>T<sub>E</sub>X-generated labels.

Env `enumerate` [*options*]

```

8520 \newcommand*\LWR@enumeratestart}{%
8521 \renewcommand*\LWR@printcloseitemize}{\LWR@printcloseitemize}
8522 \renewcommand*\LWR@printopenlist}{%
8523 ul style=\textquotedbl\LWR@print@mbbox{list-style-type:none}\textquotedbl}%
8524 }
8525 \let\item\LWR@itemizeitem%
8526 \LWR@nulllistfills%
8527 }

```

### 74.4 Description

`\LWR@descitem` [*label*] Handles an `\item` inside a description.

```

8528 \newcommand*\LWR@descitem}[1][{}]{%
8529 {%
8530 \LWR@stoppars%
8531 \LWR@setlatestname{#1}%
8532 \LWR@startnewdepth{descitem}%

```

While creating the label, encase it inside tags and disable `\hspace`, which is used by the standard classes to add space to the labels.

```

8533 \begingroup%
8534 \let\LWR@orig@desc@makeLabel\makeLabel

```

```

8535 \renewcommand*{\makeLabel}[1]{%
8536 \LWR@htmltag{dt}%
8537 \LWR@orig@desc@makeLabel{#1}%
8538 \LWR@htmltag{/dt}%
8539 }
8540 \LWR@select@html@nohspace%
8541 \LWR@origitem[#1]%
8542 \endgroup%
8543 \LWR@orignewline%
8544 \LWR@htmltag{dd}%
8545 \LWR@startpars%
8546 }

```

Env description [*(options)*]

Footnotes are modified to correctly parse optional arguments.

```

8547 \newcommand*{\LWR@descriptionstart}{%
8548 \renewcommand*{\LWR@printcloselist}{\LWR@printclosedescription}
8549 \renewcommand*{\LWR@printopenlist}{dl}
8550 \let\item\LWR@descitem%
8551 \LWR@nulllistfills%

```

Footnotes are redefined to process optional arguments inside the description label. A `\footnote` is dropped, as it is in print mode. Using the optional arguments does not work in print mode, but for some reason they must be accepted as done here to work correctly even without the optional arguments.

```

8552 \renewcommand{\footnote}[2][{}]{%
8553 \ifblank{##1}%
8554 {%
8555 \stepcounter\@mpfn
8556 \protected@xdef\@thefnmark{\thempfn}%
8557 \@footnotemark%\@footnotetext
8558 }%
8559 {%
8560 \begingroup
8561 \csname c@\@mpfn\endcsname ##1\relax
8562 \unrestored@protected@xdef\@thefnmark{\thempfn}%
8563 \endgroup
8564 \@footnotemark%\@footnotetext
8565 }%
8566 }%
8567 %
8568 \renewcommand{\footnotemark}[1][{}]{%
8569 \ifblank{##1}%
8570 {%
8571 \stepcounter{footnote}%
8572 \protected@xdef\@thefnmark{\thefootnote}%
8573 \@footnotemark%
8574 }%
8575 {%
8576 \begingroup%
8577 \c@footnote ##1\relax%
8578 \unrestored@protected@xdef\@thefnmark{\thefootnote}%

```

```

8579 \endgroup%
8580 \@footnotemark%
8581 }%
8582 }%
8583 }

```

## 74.5 Patching the lists

`\LWR@patchlists` Patches list environments.

`\LWR@patchlists` remembers `\item` as defined by whatever packages have been loaded, then patches the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native  $\text{\LaTeX}$  environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```

8584 \newcommand*\LWR@patchlists{%
8585 \LetLtxMacro\item\LWR@listitem%
8586 \LetLtxMacro\@item\LWR@HTML@item%
8587 \renewcommand*\@trivlist{%
8588 \LWR@traceinfo{@trivlist start}%
8589 \LWR@liststart%
8590 \LWR@orig@trivlist%
8591 \LWR@traceinfo{@trivlist done}%
8592 }%
8593 \renewcommand*\trivlist{%
8594 \LWR@traceinfo{trivlist}%
8595 \LWR@origtrivlist%
8596 }%
8597 \renewcommand*\endtrivlist{%
8598 \LWR@traceinfo{endtrivlist start}%
8599 \LWR@origendtrivlist\LWR@listend%
8600 \LWR@traceinfo{endtrivlist done}%
8601 }%
8602 \renewcommand*\itemize{%
8603 \LWR@itemizestart\LWR@origitemize%
8604 }%
8605 \renewcommand*\enumerate{%
8606 \LWR@enumeratestart\LWR@origenumerate%
8607 }%
8608 \renewcommand*\description{%
8609 \LWR@descriptionstart\LWR@origdescription%
8610 }%
8611 }

```

`\LWR@restoreoriglists` Restores the original `trivlist` environment.

```

8612 \newcommand*\LWR@restoreoriglists{%
8613 \LWR@traceinfo{\LWR@restoreoriglists}%
8614 \LetLtxMacro\item\LWR@origitem%
8615 \LetLtxMacro\@item\LWR@orig@item%
8616 \let\@trivlist\LWR@orig@trivlist%
8617 \let\trivlist\LWR@origtrivlist%

```

```

8618 \let\endtrivlist\LWR@origendtrivlist%
8619 \LetLtxMacro\itemize\LWR@origitemize%
8620 \LetLtxMacro\enditemize\LWR@endorigitemize%
8621 \LetLtxMacro\enumerate\LWR@origenumerate%
8622 \LetLtxMacro\endenumerate\LWR@endorigenumerate%
8623 \LetLtxMacro\description\LWR@origdescription%
8624 \LetLtxMacro\enddescription\LWR@endorigdescription%
8625 \let\@mklab\LWR@orig@mklab%
8626 \let\makeLabel\LWR@orig@makeLabel%
8627 \let\@donoparitem\LWR@orig@donoparitem%
8628 \let\@nbitem\LWR@orig@nbitem%
8629 }

8630 \end{warpHTML}

```

## 75 Tabular

This is arguably the most complicated part of the entire package. Numerous tricks are employed to handle the syntax of the  $\LaTeX$  core and the various tabular-related packages.

### 75.1 Limitations

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, siunitx  $S$  columns, or the packages multirow, longtable, supertabular, or xtab.

#### Defining macros and environments:

⚠ Misplaced alignment  
tab character &

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.

```

\StartDefiningTabulars
<define macros or environments using tabular and & here>
\StopDefiningTabulars

```

⚠ floatrow

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

⚠ tabular inside another  
environment

- When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted `HTML` rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```

\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
 \tabular{cc}
 left & right \\
}
{
 \TabularMacro\ResumeTabular
 left & right \\
 \endtabular
}
\StopDefiningTabulars

```

#### For developers:

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an HTML environment definition to automatically change the catcode of `&` before absorbing the arguments. Another environment may be embedded as well.

```

% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@subsomename}[2]{%
 . . .
 \otherenvironmentname [<args>] {<args>} % for example
}
% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename{%
 \StartDefiningTabulars
 \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
 . . .
 \endotherenvironmentname % for example
 \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}

```

#### Cell contents:

##### ⚠ macro in a table

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \\
```

#### Column specifiers:

##### ⚠ math

- Due to the way math is gathered for processing, column specifiers such as `>{$}c<{$}` do not work with lwarp. Instead, each cell must specify math mode individually.

##### @ and !

- Only one each of `@` and `!` is used at each column, and they are used in that order.

##### \multirow

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the HTML version.

⚠ `\newcolumn`

font and alignment

- If `\newcolumn` does not work for HTML, add a simplified column type using `\HTMLnewcolumn`.
  - `lwarp` detects each of the following, and sets HTML CSS appropriately:
    - `>\centering\arraybackslash`
    - `>\raggedright\arraybackslash`
    - `>\raggedleft\arraybackslash`
    - `>\itshape`
    - `>\bfseries`
    - `>\bfseries\itshape`
- These may be used with `\newcolumn`, such as:
- ```
\newcolumn{P}[1]{>\centering\arraybackslash}p{#1}}
```

Rules:

vertical rules

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

width and trim

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

combined rules

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:


```
\cmidrule{2-3} \[-2ex]
\bottomrule
```

 The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

⚠ `\warpprintonly`

⚠ Misplaced `\noalign`

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warppHTML` environment, if a “Misplaced `\noalign`” error occurs, change


```
This & That \endhead
```

 to


```
\warpprintonly{This & That \endhead}
```

 and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

Other:

longtable headings

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.
- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

⚠ S columns

- For S columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{ }` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:


```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\\}
\warppHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\\}
```


⚠ tabular inside a

- In L^AT_EX, a tabular may be placed inside a minipage, but in HTML a <table> may not be inside a . If this situation is detected, a warning is printed instructing the user to isolate the using \warpprintonly or the warpprint environment.

for HTML output: 8631 \begin{warpHTML}

75.2 Temporary package-related macros

These macros are temporary placeholders for macros defined by various packages. If the relevant package is not loaded, these placeholders are used instead.

75.2.1 arydshln

Emulated by the original L^AT_EX non-dashed versions.

```
8632 \LetLtxMacro\hdashline\hline
8633 \LetLtxMacro\cdashline\cline
8634 \LetLtxMacro\firsthdashline\hline
8635 \LetLtxMacro\lasthdashline\hline
```

75.3 Token lookahead

Used by \LWR@futurenonpacelet to look at the next token.

\LWR@mynexttoken

```
8636 \newcommand\LWR@mynexttoken\relax
```

\futurelet copies the next token then executes a function to analyze it.

\LWR@futurenonpacelet does the same, but ignores intervening white space

Based on the booktabs style:

\LWR@futurenonpacelet

```
8637 \def\LWR@futurenonpacelet#1{\def\LWR@cs{#1}%
8638 \afterassignment\LWR@fns lone\let\nexttoken= }
8639
8640 \def\LWR@fns lone{\expandafter\futurelet\LWR@cs\LWR@fns ltwo}
8641
8642 \def\LWR@fns ltwo{%
8643 \expandafter\ifx\LWR@cs\@sptoken\let\next=\LWR@fns lthree%
8644 \else\let\next=\nexttoken\fi\next}
8645
8646 \def\LWR@fns lthree{\afterassignment\LWR@fns lone\let\next= }
```

`\LWR@getmynexttoken` Looks ahead and copies the next token into `\LWR@mynexttoken`.

```
8647 \newcommand*{\LWR@getmynexttoken}{%
8648   \LWR@traceinfo{\LWR@getmynexttoken}%
8649 % nothing must follow this next line
8650   \LWR@futurenonospacelet\LWR@mynexttoken\LWR@tabledatacolumnstag
8651 }
```

75.4 Tabular variables

In order to support nested tabulars, each of these is used locally. For local counters, `etoolbox's` `\defcounter` and `lwarp's` new `\defaddtocomounter` are used.

`Bool LWR@startedrow` True if should print a row tag before this column.

```
8652 \newbool{LWR@startedrow}
8653 \boolfalse{LWR@startedrow}
```

`Bool LWR@tabularcelladded` True if have added a data cell for this position.

```
8654 \newbool{LWR@tabularcelladded}
8655 \boolfalse{LWR@tabularcelladded}
```

`Ctr LWR@hlines` Number of `\hlines` or `\midrules` above the next row.

```
8656 \newcounter{LWR@hlines}
```

`Ctr LWR@hdashedlines` Number of `\arydshln` dashed lines above the next row.

```
8657 \newcounter{LWR@hdashedlines}
```

`Bool LWR@doingtbrule` True if the next row will have a top/bottom rule above it.

```
8658 \newbool{LWR@doingtbrule}
8659 \boolfalse{LWR@doingtbrule}
```

`Bool LWR@doingcmidrule` True if the next row will have a `\cmidrule` above it.

This is used by `\LWR@tabularfinishrow` to force a final empty row to create the border for the `\cmidrule`.

```
8660 \newbool{LWR@doingcmidrule}
8661 \boolfalse{LWR@doingcmidrule}
```

`Bool LWR@tableparcell` True if are handling a paragraph inside a table cell, so must close the paragraph tag before moving on.

```
8662 \newbool{LWR@tableparcell}
```

`Bool LWR@skippingmrowcell` True if are doing an empty `\multirow` cell, and thus there is no data tag to close.

```
8663 \newbool{LWR@skippingmrowcell}
```

Bool LWR@skippingmcolrowcell	True if are doing an empty \multicolumnrow cell, and thus there is no data tag to close, and do not print @ and ! columns.
	8664 \newbool{LWR@skippingmcolrowcell}
Bool LWR@usedmultirow	Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.
	8665 \newbool{LWR@usedmultirow}
Bool LWR@foundmrowcell	Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.
	8666 \newbool{LWR@foundmrowcell}
Bool LWR@skipatbang	True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.
	8667 \newbool{LWR@skipatbang}
Bool LWR@emptyatbang	True if finishing a row and should print empty @ or ! column table data cells.
	8668 \newbool{LWR@emptyatbang}
Bool LWR@intabularmetadata	True if are in a tabular but not in a data cell. Used to prevent extra HTML breaks if not inside table data.
	8669 \newbool{LWR@intabularmetadata}
	8670 \boolfalse{LWR@intabularmetadata}
Bool LWR@exitingtabular	When \end is found, turns off the next opening data tag.
	8671 \newbool{LWR@exitingtabular}
Bool LWR@tabularmutemods	Mutes HTML output for @, !, < and >.
	This is used while printing the final row to generate \bottomrules.
	8672 \newbool{LWR@tabularmutemods}
Bool LWR@validtablecol	True if found a valid table column type.
	8673 \newbool{LWR@validtablecol}
Bool LWR@opttablecol	True if found a table column optional argument.
	8674 \newbool{LWR@opttablecol}
	Used to add a style to a table data cell:
	8675 \newbool{LWR@tdhavecellstyle}

- Ctrl LWR@tabularDepth Tracks whether & is being used inside a tabular.
- ```
8676 \newcounter{LWR@tabulardepth}
8677 \setcounter{LWR@tabulardepth}{0}
```
- Ctrl LWR@tabularpardepth Tracks whether should look ahead at the next token when encountering a \par while processing tabular contents.
- When LWR@tabularpardepth is deeper than LWR@tabulardepth then lwarp has started looking at the contents of the tabular, and thus any \pars encountered must be followed by another token lookahead.
- ```
8678 \newcounter{LWR@tabularpardepth}
8679 \setcounter{LWR@tabularpardepth}{0}
```
- ```
8680 \newcommand*{\LWR@colsresult}{}%temp storage for column format results
8681 \newcommand*{\LWR@pposition}{}
8682 \newcommand*{\LWR@pleft}{}
8683 \newcommand*{\LWR@pright}{}

```
- LWR@tablecolspec Holds the parsed column specification, of total width LWR@tabletotalLaTeXcols, not counting @ and ! columns.
- Will contain a string such as llrrccpc, exactly one letter per L<sup>A</sup>T<sub>E</sub>X table column, without @, !, >, <, or the vertical bar.
- \LWR@strresult Holds the result of Str functions.
- ```
8684 \providecommand*{\LWR@strresult}{}
8685 \providecommand*{\LWR@strresulttwo}{}

```
- \LWR@origcolspec Holds the original column specs given to tabular.
- ```
8686 \newcommand*{\LWR@origcolspec}{}

```
- Ctrl LWR@tablecolspecwidth Holds the number of tokens in the table columns specification.
- This includes one for each @, !, <, > column, and also one for each of the parameters of p, @, !, <, > columns, and three for each D column.
- (This is not the total # of L<sup>A</sup>T<sub>E</sub>X columns in the table.)
- ```
8687 \newcounter{LWR@tablecolspecwidth}
```
- Ctrl LWR@tablecolspecindex While parsing the L^AT_EX table column specification, starts at 1 and is incremented per token of the specification.
- ```
8688 \newcounter{LWR@tablecolspecindex}
```
- Ctrl LWR@tableLaTeXcolindex While producing the table, resets to 1 at the start of the table and also at each end of line, and is incremented by 1 by each ampersand.

8689 \newcounter{LWR@tableLaTeXcolindex}

Ctrl LWR@tabletotalLaTeXcols While parsing a table column specification, begins at 0 and increments by 1 per  $\LaTeX$  table column. Eventually holds the final number of  $\LaTeX$  table columns in each row, not counting @ and ! columns. (In HTML, @ and ! cells become their own columns, but are not included in LWR@tabletotalLaTeXcols.)

8690 \newcounter{LWR@tabletotalLaTeXcols}

Ctrl LWR@tabletotalLaTeXcolsnext Holds the next  $\LaTeX$  table column index while parsing, equal to one more than LWR@tabletotalLaTeXcols.

8691 \newcounter{LWR@tabletotalLaTeXcolsnext}

LWR@colatspec A data array of specifications for @ columns. The leftmost's index is leftedge, the others are counter values. See section 42.

LWR@colbangspec A data array of specifications for ! columns. The leftmost's index is leftedge, the others are counter values. See section 42.

LWR@colbefore-spec A data array of specifications for > columns.

LWR@colafterspec A data array of specifications for < columns.

LWR@colbarspec A data array of specifications for vertical rules.

LWR@coladdclass A data array of extra CSS class, as set by >.

Ctrl LWR@cellcolordepth Counts how many cell color <div>s were added to the current tabular data cell.

8692 \newcounter{LWR@cellcolordepth}

#### 75.4.1 Multicolumn variables

8693 \newcounter{LWR@tablemulticolwidth}

Indexes into the multicolumn specification:

8694 \newcounter{LWR@tablemulticolspos}

Remembers multicolumn vertical rules if found in the column spec.

8695 \newcounter{LWR@mccolvertbarsl}

8696 \newcounter{LWR@mccolvertbarsr}

8697 \newcounter{LWR@mccolvertbarsldash}

8698 \newcounter{LWR@mccolvertbarsrdash}

8699 \newbool{LWR@mccolvertbaronleft}

#### 75.4.2 Longtable variables

Bool LWR@starredlongtable Per the caption package, step the counter if longtable\*.

```
8700 \newbool{LWR@starredlongtable}
8701 \boolfalse{LWR@starredlongtable}
```

### 75.4.3 Midrule variables

Ctrl LWR@midrulecounter Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

```
8702 \newcounter{LWR@midrulecounter}
```

## 75.5 Handling &, @, !, and bar

For technical discussion regarding problems redefining \&, See:

<http://tex.stackexchange.com/questions/11638/>

[where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860](http://tex.stackexchange.com/questions/11638/where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860)

\LWR@insertatbangcols

```
8703 \newcommand*{\LWR@insertatbangcols}{%
8704 \ifbool{LWR@skipatbang}%
8705 {}%
8706 {%
8707 \LWR@printatbang[at]{\arabic{LWR@tableLaTeXcolindex}}%
8708 \LWR@printatbang[bang]{\arabic{LWR@tableLaTeXcolindex}}%
8709 }%
8710 }
```

\LWR@closetabledatcell If LWR@skippingmrowcell or LWR@skippingmcolrowcell then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```
8711 \newcommand*{\LWR@closetabledatcell}{%
8712 \booltrue{LWR@intabularmetadata}%
8713 \ifbool{LWR@exitingtabular}%
8714 {%
8715 \LWR@stoppars%
8716 }%
8717 {% not exiting tabular
8718 \ifboolexpr{bool{LWR@skippingmrowcell} or bool{LWR@skippingmcolrowcell}}%
8719 {%
8720 \LWR@stoppars%
```

If not skipping a \multicolumnrow cell, insert the @ and ! columns after this non-existent column.

```
8721 \ifbool{LWR@skippingmcolrowcell}%
8722 {}%
8723 {\LWR@insertatbangcols}%
```

```
8724 }%
8725 {% not skippingmrowcell
```

Insert any < then any @ and ! column contents, unless muted for the \bottomrule or a \multicolumn:

```
8726 \unskip%
8727 \ifboolexpr{%
8728 bool{LWR@tabularmutemods} or
8729 bool{LWR@skipatbang} or
8730 bool{LWR@emptyatbang}
8731 }%
8732 {}%
8733 {%
8734 \LWR@getexparray{LWR@colafterspec}%
8735 {\arabic{LWR@tableLaTeXcolindex}}%
8736 }%
```

Close paragraphs:

```
8737 \LWR@stoppars%
8738 \boolfalse{LWR@tableparcell}%
```

Close the table data cell.

Close any color <div>s.

```
8739 \whileboolexpr{test {\ifnumcomp{\value{LWR@cellcolordepth}}{>}{0}}}{%
8740 \LWR@htmltag{/div}\LWR@orignewline%
8741 \defaddtocounter{LWR@cellcolordepth}{-1}%
8742 }%
```

Skip the @ and ! cells if are closing a multicolumn cell.

```
8743 \leavevmode\unskip\LWR@htmltag{/td}\LWR@orignewline%
8744 \global\booltrue{LWR@tabularcelladded}%
8745 \LWR@insertatbangcols%
8746 }% not skipping mrowcell
8747 }% not exiting tabular
8748 \boolfalse{LWR@skippingmrowcell}%
8749 \boolfalse{LWR@skippingmcolrowcell}%
8750 \boolfalse{LWR@skipatbang}%
```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```
8751 \def\LWR@cellHTMLcolor{}%
8752 \def\LWR@columnHTMLcolor{}%
8753 \defcounter{LWR@cellcolordepth}{0}%
8754 }
```

When not used inside a tabular, & performs its original function as recorded here ( with catcode 4 ).

```
8755 \let\LWR@origampmacro&
```

```
8756 \end{warpHTML}
```

### 75.5.1 Handling &

**for HTML output:** 8757 \begin{warpHTML}

& Will behave depending on whether it is being used inside tabular.

& is redefined to test whether it is inside a tabular environment, in which case it performs special processing for HTML conversion. If not, it behaves normally.

```
8758 \newcommand*{\LWR@tabularampersand}{%
8759 \LWR@traceinfo{\LWR@tabularampersand}%
8760 \ifnumcomp{\value{\LWR@tabulardepth}}{>}{0}%
8761 {%
```

If not skipping a multirow cell, close the current data cell.

```
8762 \unskip%
8763 \LWR@closetabledatacell%
```

Move to the next column.

```
8764 \defaddtocounter{\LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8765 \global\boolfalse{\LWR@tabularcellladded}%
```

Look at the next token to decide multi or single column data tag.

```
8766 \LWR@getmynexttoken%
8767 }%
```

If not inside a tabular, performs the original action:

```
8768 {%
8769 \LWR@origampmacro%
8770 }%
8771 }
```

& is left with its original catcode for now.

tikz package seems to require & be left alone until after tikz has been loaded. Also, cleveref uses the ampersand in one of its options.

& is made active inside a tabular.

& is left alone when in math alignments.



## 75.6 Filling an unfinished row

`\LWR@tabularfinishrow` Adds empty table cells if necessary to finish the row.

At the end of the table, if any bottom rules are requested then an empty row must be generated to form the borders which show the rules.

```
8772 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
8773 \ifboolexpr{%
8774 not bool {LWR@exitingtabular} or%
8775 bool{LWR@doingtbrule} or%
8776 bool{LWR@doingcmidrule} or%
8777 test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
8778 test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
8779 bool{LWR@startedrow}%
8780 }{%
```

To temporarily turn off `LWR@exitingtabular` so that table data tags will still be generated:

If generating a final row for the `\bottomrule` borders, turn off the @, !, <, and > column output:

```
8781 \ifbool{LWR@exitingtabular}{%
8782 \booltrue{LWR@tabularmutemods}%
8783 }{%
8784 \boolfalse{LWR@tabularmutemods}%
8785 }%
```

Locally reenable the table data tags until finished with the final row:

```
8786 \boolfalse{LWR@exitingtabular}%
```

Generate table data tags and ampersands until the right edge:

```
8787 \whileboolexpr{%
8788 test {
8789 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8790 {\value{LWR@tabletotalLaTeXcols}}
8791 } or %
8792 (%
8793 bool{LWR@intabularmetadata} and%
8794 not bool{LWR@tabularcelladded} and%
8795 test {
8796 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}
8797 {\value{LWR@tabletotalLaTeXcols}}
8798 }%
8799)%
8800 }%
8801 {%
8802 \LWR@tabledatasinglecolumnntag%
```

The following is essentially `\LWR@tabularampersand` with `LWR@emptyatbang` added to empty the following cells:

```
8803 \LWR@closetabledatacell%
8804 \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
8805 \global\boolfalse{LWR@tabularcellladded}%
8806 \booltrue{LWR@emptyatbang}%
```

Starts the next cell:

```
8807 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8808 {\value{LWR@tabletotalLaTeXcols}}%
8809 {\LWR@getmynexttoken}%
8810 {}%
8811 }%
```

Reenable the original `LWR@exitingtabular` to close the entire table:

```
8812 \ifbool{LWR@tabularmutemods}{%
8813 \booltrue{LWR@exitingtabular}%
8814 }{%
8815 \boolfalse{LWR@exitingtabular}%
8816 }%
8817 \boolfalse{LWR@tabularmutemods}%

8818 \boolfalse{LWR@emptyatbang}%
8819 }{}% ifboolexpr
8820 }
```

## 75.7 Handling `\`

Inside `tabular`, `\` is redefined to `\LWR@tabularendofline`

Throws away options `\\[dim]` or `\\*`

`\LWR@tabularendofline`

```
8821 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%
```

Finish the row:

```
8822 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8823 {\value{LWR@tabletotalLaTeXcols}}%
8824 {\LWR@tabularfinishrow}%
8825 {\LWR@closetabledatacell}%
8826 \LWR@htmltag{/tr}\LWR@orignewline%
```

`xcolor` row color support:

```
8827 \@rowc@lors%
```

No longer inside a data cell:

```
8828 \booltrue{LWR@intabularmetadata}%
```

Not yet started a table row:

```
8829 \boolfalse{LWR@startedrow}%
```

Additional setup:

```
8830 \defcounter{LWR@hlines}{0}%
8831 \defcounter{LWR@hdashedlines}{0}%
8832 \boolfalse{LWR@doingtbrule}%
8833 \boolfalse{LWR@doingcmidrule}%
8834 \LWR@clearmidrules%
```

```
8835 \def\LWR@rowHTMLcolor{}
```

Start at first column:

```
8836 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8837 \global\boolfalse{LWR@tabularcelladded}%
```

Allow TEX to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```
8838 \LWR@stoppars%
8839 \LWR@origpar%
```

Look at the next token to decide between single column data tag or a special case:

```
8840 \LWR@getmynexttoken%
8841 }
```

## 75.8 Looking ahead in the column specifications

`\LWR@columnspeclookahead`  $\langle offset \rangle$

Looks `offset` tokens ahead in the column specification, setting `\LWR@strresulttwo`.

The `w` column alignment will be seen as a single unit such as `{c}`.

```
8842 \newcommand*{\LWR@columnspeclookahead}[1]{%
8843 \setcounter{LWR@tempcountone}{\value{LWR@tablecolspecindex}}%
8844 \addtocounter{LWR@tempcountone}{#1}%
8845 \fullexpandarg%
8846 \StrChar{\LWR@origcolspec}{\arabic{LWR@tempcountone}}[\LWR@strresulttwo]%
```

Get the contents of the first group in `\LWR@strresulttwo`:

```
8847 \exploregroups%
8848 \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
8849 \noexploregroups%
8850 }
```

## 75.9 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
8851 \newcommand*{\LWR@colparameter}{}
```

```
\LWR@parseatcolumn {<this column type>}
```

Handles @{text} columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
8852 \newcommand*{\LWR@parseatcolumn}[1]{%
```

Move to the next token after the '@':

```
8853 \LWR@traceinfo{at column}%
8854 \defaddtocounter{\LWR@tablecolspecindex}{1}%
```

Read the next token into `\LWR@colparameter`, expanding once:

```
8855 \LWR@traceinfo{about to read the next token:}%
8856 \expandarg%
8857 \StrChar{\LWR@origcolspec}%
8858 {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
8859 \fullexpandarg%
```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```
8860 \LWR@traceinfo{have now read the next token}%
8861 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8862 {% left edge of the table:
8863 \LWR@traceinfo{at the left edge}%
8864 \LWR@setexparray{\LWR@colatspec}%
8865 {leftedge}%
8866 {\expandafter\@firstofone\LWR@colparameter}%
8867 \LWR@traceinfo{at the left edge: %
8868 \LWR@getexparray{\LWR@colatspec}{leftedge}}%
8869 }%
8870 {% not at the left edge:
8871 \LWR@traceinfo{not at the left edge}%
8872 \LWR@setexparray{\LWR@colatspec}%
8873 {\arabic{\LWR@tabletotalLaTeXcols}}%
8874 {\expandafter\@firstofone\LWR@colparameter}%
8875 \LWR@traceinfo{at \arabic{\LWR@tabletotalLaTeXcols}%
```

```

8876 : % space
8877 \LWR@getexparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcols}}}%
8878]%
8879 \let\LWR@colparameter\relax%
8880 \booltrue{LWR@validtablecol}%
8881 }

```

`\LWR@parsebangcolumn`  $\langle\langle$ *this column type* $\rangle\rangle$  Handles  $\langle$ *text* $\rangle$  columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
8882 \newcommand*{\LWR@parsebangcolumn}[1]{%
```

Move to the next token after the '!':

```

8883 \LWR@traceinfo{bang column}%
8884 \defaddtocounter{LWR@tablecolspecindex}{1}%

```

Read the next token into `\LWR@colparameter`, expanding once:

```

8885 \LWR@traceinfo{about to read the next token:}%
8886 \expandarg%
8887 \StrChar{\LWR@origcolspec}%
8888 {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
8889 \fullexpandarg%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

8890 \LWR@traceinfo{have now read the next token}%
8891 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8892 {% left edge of the table:
8893 \LWR@traceinfo{at the left edge}%
8894 \LWR@setexparray{LWR@colbangspec}%
8895 {leftedge}%
8896 {\expandafter\@firstofone\LWR@colparameter}%
8897 }%
8898 {% not at the left edge:
8899 \LWR@traceinfo{not at the left edge}%
8900 \LWR@setexparray{LWR@colbangspec}%
8901 {\arabic{LWR@tabletotalLaTeXcols}}%
8902 {\expandafter\@firstofone\LWR@colparameter}%
8903 \LWR@traceinfo{bang \arabic{LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
8904 }%
8905 \let\LWR@colparameter\relax%
8906 \booltrue{LWR@validtablecol}%
8907 }

```

`\LWR@checkbeforeaddclass`  $\langle\langle$ *compared csname* $\rangle\rangle$   $\langle$ *css class to add* $\rangle$

```

8908 \newcommand*{\LWR@checkbeforeaddclass}[2]{%
8909 \ifcsstrequal{LWR@tempone}{#1}%
8910 {%
8911 \LWR@setexparray{LWR@coladdclass}%

```

```

8912 {\arabic{LWR@tabletotalLaTeXcolsnext}}%
8913 { #2}% space is intentional
8914 }{}%
8915 }

```

`\LWR@checkmathcolpar` Error if using math in column parameters.

```

8916 \newcommand*{\LWR@checkmathcolpar}{%
8917 \IfSubStr{\detokenize\expandafter{\LWR@colparameter}}{\LWRdollar}%
8918 {%
8919 \PackageError{lwarp}%
8920 {%
8921 Lwarp does not support '$' in column specifiers.\MessageBreak
8922 Specify '$' math for each cell in the column.\MessageBreak
8923 Enter 'h' for more info%
8924 }%
8925 }%
8926 For example, replace '>{$}c<{$}' with 'c', and then\MessageBreak
8927 use '$cell contents$' for each cell in the column.%
8928 }%
8929 }{}%
8930 }

```

`\LWR@parsebeforecolumn`  $\langle$ *this column type* $\rangle$

Handles  $\rangle$ {text} columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

8931 \newcommand*{\LWR@parsebeforecolumn}[1]{%

```

Move to the next token after the ' $\rangle$ ':

```

8932 \defaddtocounter{LWR@tablecolspecindex}{1}%

```

Read the next token, expanding once into `\LWR@colparameter`:

```

8933 \expandarg%
8934 \StrChar{\LWR@origcolspec}%
8935 {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
8936 \fullexpandarg%

```

Error if using  $\rangle$ { $\$$ }, which is not supported by `lwarp`.

```

8937 \LWR@checkmathcolpar%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

8938 \LWR@setexparray{LWR@colbeforespec}%
8939 {\arabic{LWR@tabletotalLaTeXcolsnext}}%
8940 {\expandafter\@firstofone\LWR@colparameter}%
8941 %
8942 \edef\LWR@tempone{\expandafter\@firstofone\LWR@colparameter}%

```

If detect  $\>\{\backslash\text{centering}\backslash\text{arraybackslash}\}$  or related, add a css class.

```

8943 \LWR@checkbeforeaddclass{LWR@detect@centeringarraybackslash}{tdcenter}
8944 \LWR@checkbeforeaddclass{LWR@detect@raggedrightarraybackslash}{tdleft}
8945 \LWR@checkbeforeaddclass{LWR@detect@raggedleftarraybackslash}{tdright}
8946 \LWR@checkbeforeaddclass{LWR@detect@itshape}{tditshape}
8947 \LWR@checkbeforeaddclass{LWR@detect@bfseries}{tdbfseries}
8948 \LWR@checkbeforeaddclass{LWR@detect@bfit}{tdbfit}

8949 \let\LWR@colparameter\relax%
8950 \booltrue{LWR@validtablecol}%
8951 }

```

$\backslash\text{LWR@parseaftercolumn}$   $\{ \langle \textit{this column type} \rangle \}$

Handles  $\langle \text{text} \rangle$  columns.

The argument is ignored, but provided for compatibility with  $\backslash\text{LWR@parsenormalcolumn}$ .

```
8952 \newcommand*{\LWR@parseaftercolumn}[1]{%
```

Move to the next token after the ' $\langle$ ':

```
8953 \defaddtocounter{LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into  $\backslash\text{LWR@colparameter}$ :

```

8954 \expandarg%
8955 \StrChar{\LWR@origcolspec}%
8956 {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
8957 \fullexpandarg%

```

Error if using  $\>\{\$\}$ , which is not supported by lwarp.

```
8958 \LWR@checkmathcolpar%
```

Store the result into a data array, expanding once out of  $\backslash\text{LWR@colparameter}$ :

```

8959 \LWR@setexparray{LWR@colafterspec}%
8960 {\arabic{LWR@tabletotalLaTeXcols}}%
8961 {\expandafter\@firstofone\LWR@colparameter}%
8962 \let\LWR@colparameter\relax%
8963 \booltrue{LWR@validtablecol}%
8964 }

```

$\backslash\text{LWR@parsebarcolumn}$   $\{ \langle \textit{this column type} \rangle \}$

Handles vertical rules.

The argument is ignored, but provided for compatibility with  $\backslash\text{LWR@parsenormalcolumn}$ .

```

8965 \newcommand*{\LWR@parsebarcolumn}[1]{%
8966 \LWR@traceinfo{LWR@parsebarcolumn}%

```

Remember the bar at this position:

```

8967 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8968 {% left edge of the table:
8969 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
8970 \ifdefstring{\LWR@tempone}{tvertbarl}%
8971 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldouble}}%
8972 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarl}}%
8973 }%
8974 {% not at the left edge:
8975 \edef\LWR@tempone{%
8976 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
8977 }%
8978 \ifdefstring{\LWR@tempone}{tvertbarr}%
8979 {%
8980 \LWR@setexparray{LWR@colbarspec}%
8981 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdouble}}%
8982 }%
8983 {%
8984 \LWR@setexparray{LWR@colbarspec}%
8985 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarr}}%
8986 }%
8987 }%
8988 \booltrue{LWR@validtablecol}%
8989 }

```

`\LWR@parsecoloncolumn` {*<this column type>*}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

8990 \newcommand*{\LWR@parsecoloncolumn}[1]{%
8991 \LWR@traceinfo{LWR@parsecoloncolumn}%

```

Remember the bar at this position:

```

8992 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8993 {% left edge of the table:
8994 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
8995 \ifdefstring{\LWR@tempone}{tvertbarldash}%
8996 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
8997 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldash}}%
8998 }%
8999 {% not at the left edge:
9000 \edef\LWR@tempone{%
9001 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
9002 }%
9003 \ifdefstring{\LWR@tempone}{tvertbarrdash}%
9004 {\LWR@setexparray{LWR@colbarspec}%
9005 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
9006 {\LWR@setexparray{LWR@colbarspec}%
9007 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
9008 }%

```



```
9009 \booltrue{LWR@validtablecol}%
9010 }
```

```
\LWR@parsesemicoloncolumn {<this column type>}
```

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

The arguments to the column type are absorbed by `\LWR@columnntype@<char>`, defined by `\LWR@modifycolumnntype`.

```
9011 \newcommand*{\LWR@parsesemicoloncolumn}[1]{%
```

Treat ; as a : column:

```
9012 \LWR@parsecoloncolumn{}%
9013 }
```

## 75.10 Parsing common column types

```
\LWR@parsenormalcolumn {<this column type>}
```

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

`\newcolumnntype` definitions use `\LWR@parsenormalcolumn`, so an HTML and print version are given so that they may work inside a `lateximage`.

The arguments to the column type are absorbed by `\LWR@columnntype@<char>`, defined by `\LWR@modifycolumnntype`.

```
9014 \newcommand*{\LWR@HTML@LWR@parsenormalcolumn}[1]{%
9015 \defaddtocounter{LWR@tabletotalLaTeXcols}{1}%
9016 \defaddtocounter{LWR@tabletotalLaTeXcolsnext}{1}%

9017 \LWR@setexparray{LWR@tablecolspec}{\arabic{LWR@tabletotalLaTeXcols}}{#1}%

9018 \LWR@traceinfo{normal column \arabic{LWR@tabletotalLaTeXcols}: #1}%
9019 \LWR@setexparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9020 \LWR@setexparray{LWR@colbangspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9021 \LWR@setexparray{LWR@colbeforespec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9022 \LWR@setexparray{LWR@colafterspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9023 \LWR@setexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9024 \LWR@setexparray{LWR@coladdclass}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9025 \booltrue{LWR@validtablecol}%
9026 }
9027
9028 \newcommand*{\LWR@print@LWR@parsenormalcolumn}[1]{%
9029
9030 \LWR@formatted{LWR@parsenormalcolumn}
```

### 75.11 Parsing ‘w’ columns

`\LWR@parsewcolumn`  $\{\langle\textit{this column type}\rangle\}$  The width will be ignored.

The arguments to the column type are absorbed by `\LWR@columnntype@<char>`, defined by `\LWR@modifycolumnntype`.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9031 \newcommand*{\LWR@parsewcolumn}[1]{%
9032 \LWR@columnspeclookahead{1}%
9033 \expandafter\LWR@parsenormalcolumn\expandafter{\LWR@strresulttwo}%
9034 }
```

### 75.12 Parsing ‘\*’ columns

`\LWR@parsestarcolumn`  $\{\langle\textit{this column type}\rangle\}$  Star columns should already have been expanded, so this should never be used.

The arguments to the column type are absorbed by `\LWR@columnntype@<char>`, defined by `\LWR@modifycolumnntype`.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9035 \newcommand*{\LWR@parsestarcolumn}[1]{}
```

### 75.13 Expanding the star column specifications

`\LWR@expandpreamble`  $\{\langle\textit{tabular preamble}\rangle\}$

From array `\@mkpream`.

The resulting expanded preamble is stored in `\the\@temptokena`. Assign as:

```
\edef\destination{\the\@temptokena}
```

```
9036 \newcommand*{\LWR@expandpreamble}[1]{%
9037 \edef\@tempa{\@temptokena={#1}}%
9038 \@tempa%
9039 \@tempswatruel%
9040 \@whilesw\if@tempswa\fi{%
9041 \@tempswafalse\the\NC@list%
9042 }%
9043 }
```

### 75.14 Parsing the column specifications


 **tabular baselines** HTML CSS cannot exactly match the L<sup>A</sup>T<sub>E</sub>X concept of a baseline for a table row. Table 13

Table 13: Tabular baseline

|   |     |     |     |   |
|---|-----|-----|-----|---|
| l | p   | m   | b   | r |
|   |     |     | bot |   |
|   |     | mid | bot |   |
| l | par | mid | bot | r |
|   | par | mid |     |   |
|   | par |     |     |   |

shows the  $\LaTeX$  results for various vertical-alignment choices, with the baseline of the first column drawn across all the columns for comparison. See the p column specification in table 14 for details.

Table 14 describes how each kind of column is converted to HTML.

Table 15 shows the various internal macros generated for each column type.

```
\LWR@modifycolumnntype <{1: column type letter}> <{2: number args to ignore}> <{3: csname of the cell action}>
<{4: csname of the multicolumn print type action}> <{5: csname of the multicolumn
print data action}>
```

Add HTML functionality to an existing print version column type.

```
9044 \newcommand*{\LWR@modifycolumnntype}[5]{%
9045 \LWR@traceinfo{\LWR@modifycolumnntype !#1!#2!#3!#4!#5!}%
9046 \LWR@traceinfo{\LWR@modifycolumnntype #1}%
9047 \edef\@tempa{%
9048 \noexpand\csdef{\LWR@columnntype@#1}{%
9049 \noexpand\@nameuse{#3}{#1}%
9050 \noexpand\defaddtocounter{\LWR@tablecolspecindex}{#2}%
9051 }%
9052 \noexpand\csdef{\LWR@columnntype@mctype@#1}{%
9053 \noexpand\@nameuse{#4}{#1}%
9054 }%
9055 \noexpand\csdef{\LWR@columnntype@mcddata@#1}{%
9056 \noexpand\@nameuse{#5}{#2}%
9057 }%
9058 }%
9059 \@tempa%
9060 \LWR@traceinfo{\LWR@modifycolumnntype done}%
9061 }
```

```
9062 \LWR@modifycolumnntype{l}{0}{\LWR@parsenormalcolumn}
9063 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}
9064
9065 \LWR@modifycolumnntype{c}{0}{\LWR@parsenormalcolumn}
9066 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}
9067
9068 \LWR@modifycolumnntype{r}{0}{\LWR@parsenormalcolumn}
9069 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}
```

Table 14: Tabular HTML column conversions

Each cell is given a css class of `td<column type>`.

---

- l, r, c:** Converted to table cells without paragraph tags.  
Uses css `vertical-align:middle` so that top or bottom-aligned cells may go above or below this cell.
- p:** Converted to table cells with paragraph tags. Ref: Table 13,  $\LaTeX$  places the top line of a parbox aligned with the rest of the text line, so css `vertical-align:bottom` is used to have the HTML result appear with the paragraph extending below the L, R, C cells at the middle, if possible. This may be confusing as a P cell may not top-align with an L,R,C cell in the HTML conversion, especially in the presence of a B cell, and two P cells side-by-side will be aligned at the bottom instead of the top. Some adjustment of the css may be desired, changing `td.tdp`, `td.tdP`, `td.tdprule`, and `td.tdPrule` to `vertical-align: middle`. Another possibility is to change L,R,C, and P to `vertical-align: top` and not worry about the alignment of B and M cells or trying to approximate  $\LaTeX$  baselines.
- m:** With paragraph tags, css `vertical-align:middle`.
- b:** With paragraph tags, css `vertical-align:top` so that the bottom of the text is closest to the middle of the text line.
- w and W:** Converted to `l`, `c`, or `r`. No paragraph tags.
- P, M, B:** Horizontally-centered versions.
- S:** Treated as 'c'. Ignores optional argument. From the `siunitx` package.
- D:** Treated as 'c'. From the `dcolumn` package.
- @, !, >, <:** One each, in that order.
- |:** Vertical rule.
- Unknown:** Converted to 'l'.
- \newcolumn type:** Expands to its replacement text.
- \HTMLnewcolumn type:** Provides simplified replacement text for HTML.
-

Table 15: HTML column type internal macros

---

**<coltype>:** The single-letter column type, such as c or X.

**Created by \LWR@modifycolumntype:** Used by lwarp to add HTML functionality to each built-in column type.

**\LWR@columntype@<coltype>:** Handles tabular columns depending on the type. Calls \LWR@parsenormalcolumn or related, then advances \LWR@tablecolspecindex.

**\LWR@columntype@mctype@<coltype>:** Generates the \multicolumn HTML cell css class. Calls \LWR@printmccoltype@normal or related.

**\LWR@columntype@mcd@<coltype>:** Generates the \multicolumn HTML cell data. Calls \LWR@printmccoldata@normal or related.

**Created by \newcolumntype:** From array.

**\NC@find@<coltype>:** Internally used to parse the column specifier.

**\NC@rewrite@<coltype>:** Stores the print-mode replacement text.

**Created by \HTMLnewcolumntype:** From lwarp.

**\LWR@print@NC@rewrite@<coltype>:** Copied from \NC@rewrite@<type>.

**\LWR@HTML@NC@rewrite@<coltype>:** Stores the HTML-mode replacement text.

**\NC@rewrite@<coltype>:** Redefined to use the print or HTML version.

---

```

9070 \LWR@modifycolumnntype{@}{0}{LWR@parseatcolumn}
9071 {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9072
9073 \LWR@modifycolumnntype{!}{0}{LWR@parsebangcolumn}
9074 {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9075
9076 \LWR@modifycolumnntype{>}{0}{LWR@parsebeforecolumn}
9077 {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9078
9079 \LWR@modifycolumnntype{<}{0}{LWR@parseaftercolumn}
9080 {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9081
9082 \LWR@modifycolumnntype{|}{0}{LWR@parsebarcolumn}
9083 {LWR@printmccoltype@vertbar}{LWR@printmccoldata@skip}
9084
9085 \LWR@modifycolumnntype{:}{0}{LWR@parsecoloncolumn}
9086 {LWR@printmccoltype@colon}{LWR@printmccoldata@skip}
9087
9088 \LWR@modifycolumnntype{;}{1}{LWR@parsesemicoloncolumn}
9089 {LWR@printmccoltype@semicolon}{LWR@printmccoldata@skip}

9090 \LWR@modifycolumnntype{p}{1}{LWR@parsenormalcolumn}
9091 {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}
9092
9093 \LWR@modifycolumnntype{m}{1}{LWR@parsenormalcolumn}
9094 {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}
9095
9096 \LWR@modifycolumnntype{b}{1}{LWR@parsenormalcolumn}
9097 {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}

9098 \LWR@modifycolumnntype{w}{2}{LWR@parsewcolumn}
9099 {LWR@printmccoltype@normal}{LWR@printmccoldata@normal}
9100
9101 \LWR@modifycolumnntype{W}{2}{LWR@parsewcolumn}
9102 {LWR@printmccoltype@normal}{LWR@printmccoldata@normal}

```

A star column:

```

9103 \LWR@modifycolumnntype{*}{2}{LWR@parsestarcolumn}
9104 {LWR@printmccoltype@ignore}{LWR@printmccoldata@skip}

```

`\HTMLnewcolumnntype {<col type>} [<num args>] {<replacement text>}`

A user-level macro to creates an HTML version of the replacement text for the column type.

This is the equivalent to:

```

\newcommand*{\LWR@HTML@NC@rewrite@<columnntype>}[<num args>]
 {\NC@find <replacement text>}
\LWR@formatted{NC@rewrite@<columnntype>}

```

```

9105 \NewDocumentCommand{\HTMLnewcolumnntype}{m O{0} m}{%
9106 \expandafter\newcommand\expandafter*%
9107 \csname LWR@HTML@NC@rewrite@#1\endcsname[#2]{\NC@find #3}%
9108 \LWR@formatted{NC@rewrite@#1}%
9109 }

```

```
9110 \end{warpHTML}
```

**for PRINT output:** 9111 \begin{warpprint}

```
9112 \NewDocumentCommand{\HTMLnewcolumnntype}{m O{0} m}{}
```

```
9113 \end{warpprint}
```

**for HTML output:** 9114 \begin{warpHTML}

`\LWR@parsetablecols` {*<colspecs>*}

Scans the column specification left to right.

Builds `\LWR@tablecolspec` with the final specification, one  $\LaTeX$  column per entry. The final number of  $\LaTeX$  columns in each row is stored in `LWR@tabletotalLaTeXcols`, which is the number of `&` and `\` in each line, but which does not include `@`, `!`, `<`, `>` specifications in the count.

```

9115 \newcommand*\LWR@parsetablecols}[1]{%
9116 \LWR@traceinfo{LWR@parsetablecols}%

```

Remember the original supplied column spec:

```
9117 \renewcommand*\LWR@origcolspec}{#1}%
```

Remove spaces:

```

9118 \expandarg%
9119 \StrSubstitute{\LWR@origcolspec}{ }{ }[\LWR@origcolspec]%

```

Expand any star columns:

```

9120 \LWR@expandpreamble{\LWR@origcolspec}%
9121 \edef\LWR@origcolspec{\the\@temptokena}%

```

The parsed column spec data array, `LWR@tablecolspec`, will be overwritten with new values.

Total number of columns found so far. Also pre-initialize the first several columns of specs:

```

9122 \defcounter{LWR@tabletotalLaTeXcols}{0}%
9123 \defcounter{LWR@tabletotalLaTeXcolsnext}{1}%
9124 \LWR@setexparray{LWR@colatspec}{leftedge}{}%
9125 \LWR@setexparray{LWR@colatspec}{1}{}%

```

```

9126 \LWR@setexparray{LWR@colatspec}{2}{}%
9127 \LWR@setexparray{LWR@colatspec}{3}{}%
9128 \LWR@setexparray{LWR@colbangspec}{leftedge}{}%
9129 \LWR@setexparray{LWR@colbangspec}{1}{}%
9130 \LWR@setexparray{LWR@colbangspec}{2}{}%
9131 \LWR@setexparray{LWR@colbangspec}{3}{}%
9132 \LWR@setexparray{LWR@colbeforespec}{1}{}%
9133 \LWR@setexparray{LWR@colbeforespec}{2}{}%
9134 \LWR@setexparray{LWR@colbeforespec}{3}{}%
9135 \LWR@setexparray{LWR@colafterspec}{1}{}%
9136 \LWR@setexparray{LWR@colafterspec}{2}{}%
9137 \LWR@setexparray{LWR@colafterspec}{3}{}%
9138 \LWR@setexparray{LWR@colbarspec}{leftedge}{}%
9139 \LWR@setexparray{LWR@colbarspec}{1}{}%
9140 \LWR@setexparray{LWR@colbarspec}{2}{}%
9141 \LWR@setexparray{LWR@colbarspec}{3}{}%
9142 \LWR@setexparray{LWR@coladdclass}{1}{}%
9143 \LWR@setexparray{LWR@coladdclass}{2}{}%
9144 \LWR@setexparray{LWR@coladdclass}{3}{}%

```

Starting at the first column specification:

```

9145 \defcounter{LWR@tablecolspecindex}{1}%

```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```

9146 \expandarg%
9147 \StrLen{\LWR@origcolspec}[\LWR@strresult]%
9148 \fullexpandarg%
9149 \LWR@traceinfo{original column spec length: \LWR@strresult}%
9150 \defcounter{LWR@tablecolspecwidth}{\LWR@strresult}%

```

Haven't seen any optional arguments so far

```

9151 \boolfalse{LWR@opttablecol}%

```

Scan through the column specifications:

```

9152 \whilebool{expr}{%
9153 not test{%
9154 \ifnumcomp{\value{LWR@tablecolspecindex}}{>}{%
9155 {\value{LWR@tablecolspecwidth}}%
9156 }%
9157 }%
9158 }%

```

Place the next single-character column type into `\LWR@strresult`:

```

9159 \expandarg%
9160 \StrChar{\LWR@origcolspec}{\arabic{LWR@tablecolspecindex}}[\LWR@strresult]%
9161 \LWR@traceinfo{position \arabic{LWR@tablecolspecindex}: \LWR@strresult}%
9162 \fullexpandarg%

```



Not yet found a valid column type:

```
9163 \boolfalse{LWR@validtablecol}%
```

Skip over any optional arguments, such as siunitx S column:

```
9164 \IfStrEq{LWR@strresult}{[]}{\booltrue{LWR@opttablecol}}{%
```

Throw away anything found inside the optional argument:

```
9165 \ifbool{LWR@opttablecol}%
9166 {}% inside an optional argument
9167 {% not an optional tabular argument
```

Not inside an optional argument, so consider the column type:

```
9168 \ifcndef{LWR@columnntype@LWR@strresult}%
9169 {\csuse{LWR@columnntype@LWR@strresult}}%
9170 {}%
```

If an unknown column type, use l:

```
9171 \ifbool{LWR@validtablecol}}{%
9172 \LWR@traceinfo{invalid column type: LWR@strresult}%
9173 \LWR@parsenormalcolumn{l}%
9174 }%
9175 }% not an optional column argument
```

If read the closing bracket, no longer inside the optional argument:

```
9176 \IfStrEq{LWR@strresult}{]}}{\boolfalse{LWR@opttablecol}}{%
```

Move to the next character:

```
9177 \defaddtocounter{LWR@tablecolspecindex}{1}%
9178 }% whiledo
9179 }%
```

## 75.15 colortbl and xcolor tabular color support

These macros provide a minimal emulation of some colortbl macros which might appear between table cells. If colortbl is loaded, these macros will be replaced with functional versions.

For each of the HTML colors below, the text for the HTML color is set if requested, but the macro is empty if none has been set.

`\rownum` Reserve a counter register.

```
9180 \@ifundefined{rownum}{\newcount\rownum}{}
```

`\@rowcolors` Emulated in case `xcolor` is not used.

9181 `\newcommand*\@rowcolors{}`

`\@rowc@lors` Emulated in case `xcolor` is not used.

9182 `\newcommand*\@rowc@lors{}`

`\LWR@xcolorrowHTMLcolor` Emulated `xcolor` row color.

9183 `\newcommand*\LWR@xcolorrowHTMLcolor{}`

`\LWR@columnHTMLcolor` HTMLstyle code for the column color.

9184 `\def\LWR@columnHTMLcolor{}`

`\LWR@rowHTMLcolor` HTMLstyle code for the row color.

9185 `\def\LWR@rowHTMLcolor{}`

`\LWR@cellHTMLcolor` HTMLstyle code for the cell color.

9186 `\def\LWR@cellHTMLcolor{}`

`\LWR@ruleHTMLcolor` HTMLstyle code for the rule color.

9187 `\newcommand*\LWR@ruleHTMLcolor{}`

`\rowcolor` [*model*] {*color*} [*left overhang*] [*right overhang*] Print version. The HTML version is in `lwarp-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

9188 `\newcommand*\rowcolor{\LWR@getmynexttoken}%`

`\arrayrulecolor` [*model*] {*color*}

`\arrayrulecolornexttoken` [*model*] {*color*}

Print versions for use outside and inside a tabular:

9189 `\newcommand{\arrayrulecolor}[2][named]{}`

9190 `\newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}`

`\doublerulesepcolor` [*model*] {*color*}

`\doublerulesepcolornexttoken` [*model*] {*color*}

Print versions for use inside and outside a tabular:

9191 `\newcommand{\doublerulesepcolor}[2][named]{}`

9192 `\newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}`

## 75.16 Starting a new row

`\LWR@maybenewtablerow` If have not yet started a new table row, begin one now. Creates a new row tag, adding a class for `hline` or `tbrule` if necessary.

```
9193 \newcommand*{\LWR@maybenewtablerow}
9194 {%
9195 \ifbool{LWR@startedrow}%
9196 {}% started the row
9197 {% not started the row
```

Remember that now have started the row:

```
9198 \booltrue{LWR@startedrow}%
```

Create the row tag, with a class if necessary.

```
9199 \booltrue{LWR@intabularmetadata}%
9200 \ifboolexpr{%
9201 test{\ifnumcomp{value{LWR@hlines}}{>}{0}} or%
9202 test{\ifnumcomp{value{LWR@hdashedlines}}{>}{0}}%
9203 }%
9204 {%
9205 \LWR@htmltag{tr class=\textquotedbl{}hline\textquotedbl }%
9206 \LWR@orignewline%
9207 }%
9208 {% not doing hline
9209 \ifbool{LWR@doingtbrule}%
9210 {%
9211 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9212 \LWR@htmltag{tr class=\textquotedbl{}tbrule\textquotedbl}%
9213 }{%
9214 \LWR@htmltag{%
9215 tr class=\textquotedbl{}tbrule\textquotedbl\ % space
9216 style=\textquotedbl{}border-top: 1px solid % space
9217 \LWR@origpound\LWR@ruleHTMLcolor \textquotedbl{}%
9218 }%
9219 }%
9220 \LWR@orignewline%
9221 }%
9222 {\LWR@htmltag{tr}\LWR@orignewline}%
9223 }% end of not doing hline
9224 }% end of not started the row
9225 }
```

## 75.17 Printing vertical bar tags

`\LWR@printbartag`  $\{ \langle index \rangle \}$

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```
9226 \newcommand*{\LWR@printbartag}[1]{%
```

```

9227 \LWR@traceinfo{LWR@printbartag !#1!}%
9228 \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
9229 {}% muting or empty
9230 {% not muting
9231 \edef\LWR@tempone{\LWR@getexpparray{LWR@colbarspec}{#1}}%
9232 \ifdefempty{\LWR@tempone}{\LWR@tempone}%
9233 }% not muting
9234 \LWR@traceinfo{LWR@printbartag done}%
9235 }

```

## 75.18 Printing @ or ! tags

`\LWR@printatbang` {<*at* — *or* — *bang*>} {<*index*>}

```
9236 \newcommand*{\LWR@printatbang}[2]{%
```

Fetch the column at or bang spec:

```

9237 \xdef\LWR@atbangspec{\LWR@getexpparray{LWR@col#1spec}{#2}}%
9238 \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

9239 \ifdefempty{\LWR@atbangspec}%
9240 {}%
9241 {% not empty
9242 \LWR@htmltag{%
9243 td class=\textquotedbl{}td#1%
9244 \LWR@subaddcmidruletrim{}}%
9245 \LWR@printbartag{#2}%
9246 \textquotedbl{}%
9247 \LWR@tdstartstyles%
9248 \LWR@addcmidrulewidth%
9249 \LWR@addcdashline%
9250 \LWR@addtabularrulecolors%
9251 \LWR@tdendstyles%
9252 }%

```

Create an empty cell if muting for the `\bottomrule`:

```

9253 \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
9254 {}%
9255 {\LWR@atbangspec}%
9256 %
9257 \LWR@htmltag{/td}\LWR@orignewline%
9258 \global\booltrue{LWR@tabularcellladded}%
9259 }% not empty
9260 }%

```

`\LWR@addleftmostbartag`

```

9261 \newcommand*\LWR@addleftmostbartag}{%
9262 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=} {1}{%
9263 \LWR@printbartag{leftedge}%
9264 }{}%
9265 }

```

`\LWR@tabularleftedge`

```

9266 \newcommand*\LWR@tabularleftedge}{%
9267 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=} {1}{%
9268 {%
9269 \LWR@printatbang{at}{leftedge}%
9270 \LWR@printatbang{bang}{leftedge}%
9271 }% left edge
9272 }{}% not left edge
9273 }

```

## 75.19 Cell opening tag

`\LWR@thiscolspec` Temporary storage.

```

9274 \newcommand*\LWR@thiscolspec}{%

```

`\LWR@tabledatasinglecolumn` Print a table data opening tag with style for alignment and color.

```

9275 \newcommand*\LWR@tabledatasinglecolumn}{%
9276 {%
9277 \LWR@traceinfo{LWR@tabledatasinglecolumn}%
9278 \LWR@maybenewtablerow%

```

Don't start a new paragraph tag if have already started one:

```

9279 \ifbool{LWR@intabularmetadata}%
9280 {%

```

If have found the end of tabular command, do not create the next data cell:

```

9281 \ifbool{LWR@exitingtabular}{%
9282 {% not exiting tabular

```

Print the @ and ! contents before first column:

```

9283 \LWR@tabularleftedge%

```

Fetch the current column's alignment character into `\LWR@strresult`:

```

9284 \xdef\LWR@strresult{%
9285 \LWR@getexparray{LWR@tablecolspec}{\arabic{LWR@tableLaTeXcolindex}}%
9286 }%

```

Print the start of a new table data cell:

```
9287 \LWR@traceinfo{LWR@tabledatasinglecolumnntag: about to print td tag}%
9288 \LWR@htmltag{%
9289 td class=\textquotedbl{}td%
```

Append this column's spec:

```
9290 \LWR@strresult%
```

If this column has a `cmidrule`, add “rule” to the end of the HTML class tag. Also add vertical bar tags.

```
9291 \LWR@addcmidruletrim%
9292 \LWR@addleftmostbartag%
9293 \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
```

Add any tabular > column text alignment or font control css:

```
9294 \LWR@getexparray{LWR@coladdclass}%
9295 {\arabic{LWR@tableLaTeXcolindex}}%
```

Close the class description:

```
9296 \textquotedbl{}%
```

Add styles for rules, alignment:

```
9297 \LWR@tdstartstyles%
9298 \LWR@addcmidrulewidth%
9299 \LWR@addcdashline%

9300 \xdef\LWR@thiscolspec{%
9301 \LWR@getexparray{LWR@tablecolspec}%
9302 {\arabic{LWR@tableLaTeXcolindex}}%
9303 }%
9304 \LWR@addformatwpaignment{\LWR@thiscolspec}%
```

Add styles for cell and rule colors:

```
9305 \LWR@addtabulararrowcolor%
9306 \LWR@addtabularrulecolors%

9307 \LWR@tdendstyles%
9308 }% HTML td
9309 \LWR@traceinfo{LWR@tabledatasinglecolumnntag: done printing td tag}%
```

If this is a p, m, b, or X column, allow paragraphs:

```
9310 \ifboolexpr{%
9311 test{ \ifdefstring{\LWR@strresult}{p} } or
9312 test{ \ifdefstring{\LWR@strresult}{m} } or
```

```

9313 test{ \ifdefstring{\LWR@strresult}{b} }
9314 }%
9315 {% allow pars
9316 \LWR@traceinfo{\LWR@tabledatasinglecolumnntag: about to LWR@startpars}%
9317 \booltrue{\LWR@tableparcell}%
9318 \LWR@startpars%
9319 \LWR@traceinfo{\LWR@tabledatasinglecolumnntag: done with LWR@startpars}%
9320 }% allow pars
9321 }% no pars

```

Print the > contents unless muted for the \bottomrule:

```

9322 \ifboolexpr{\bool{\LWR@tabularmutemods} or \bool{\LWR@emptyatbang}}%
9323 }%
9324 {%
9325 \LWR@getexparray{\LWR@colbeforeSpec}{\varabic{\LWR@tableLaTeXcolindex}}%
9326 }%
9327 \boolfalse{\LWR@intabularmetadata}%
9328 }% not exiting tabular
9329 }{}% in tabular metadata
9330 \LWR@traceinfo{\LWR@tabledatasinglecolumnntag: done}%
9331 }%

```

## 75.20 Midrules

**LWR@midrules** LWR@midrules is a data array (section 42) of columns each containing a non-zero width if a midrule should be created for this column.

**LWR@trimlrules** LWR@trimlrules is a data array (section 42) of columns containing l if a midrule should be left trimmed for each column.

**LWR@trimrrules** LWR@trimrrules is a data array (section 42) of columns containing r if a midrule should be right trimmed for each column.

**LWR@cdashlines** LWR@cdashlines is a data array (section 42) of columns each containing a Y if an arydshln package "cdashed line" should be created for this column.

Len \LWR@heavyrulewidth The default width of the rule.

```

9332 \newlength{\LWR@heavyrulewidth}
9333 \setlength{\LWR@heavyrulewidth}{.08em}

```

Len \LWR@lightrulewidth The default width of the rule.

```

9334 \newlength{\LWR@lightrulewidth}
9335 \setlength{\LWR@lightrulewidth}{.05em}

```

Len \LWR@cmidrulewidth The default width of the rule.

```

9336 \newlength{\LWR@cmidrulewidth}
9337 \setlength{\LWR@cmidrulewidth}{.03em}

```

Len \LWR@thiscmidrulewidth The width of the next rule, defaulting to \LWR@cmidrulewidth.

If not `\LWR@cmidrulewidth`, a style will be used to generate the custom width.

Assigned from the `LWR@midrules` array.

```
9338 \newlength{\LWR@thiscmidrulewidth}
9339 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}
```

`\LWR@clearmidrules` Start new midrules. Called at beginning of tabular and also at `\`.

Clears all `LWR@midrules` and `LWR@trimrules` markers for this line.

```
9340 \newcommand*{\LWR@clearmidrules}
9341 {%
9342 \defcounter{LWR@midrulecounter}{1}%
9343 \whileboolexpr{%
9344 not test{%
9345 \ifnumcomp{\value{LWR@midrulecounter}}{>}%
9346 {\value{LWR@tabletotalLaTeXcols}}%
9347 }%
9348 }%
9349 {%
9350 \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{0pt}%
9351 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9352 \LWR@setexparray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{%
9353 \LWR@setexparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{%
9354 \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
9355 \defaddtocounter{LWR@midrulecounter}{1}%
9356 }%
9357 }
```

`\LWR@subcmidrule`  $\langle width \rangle$   $\langle trim \rangle$   $\langle leftcolumn \rangle$   $\langle rightcolumn \rangle$

Marks `LWR@midrules` data array elements to be non-zero widths from left to right columns. Also marks trimming for the L and/or R columns.

`LWR@doingcmidrule` is set to force an empty row at the end of the tabular to create the rule.

```
9358 \newcommand*{\LWR@subcmidrule}[4]{%
9359 \defcounter{LWR@midrulecounter}{#3}%
9360 \whileboolexpr{%
9361 not test {%
9362 \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}%
9363 }%
9364 }%
9365 {%
9366 \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
9367 \defaddtocounter{LWR@midrulecounter}{1}%
9368 }% whiledo
9369 \IfSubStr{#2}{l}{\LWR@setexparray{LWR@trimlrules}{#3}{l}}{%
9370 \IfSubStr{#2}{r}{\LWR@setexparray{LWR@trimrrules}{#4}{r}}{%
9371 \booltrue{LWR@doingcmidrule}%
9372 }
```



`\LWR@docmidrule` [*<width>*] (*<trim>*) {*<leftcolumn-rightcolumn>*}

Marks `LWR@midrules` array elements to be a non-zero width from left to right columns. Also marks trimming for the L and/or R columns.

```
9373 \NewDocumentCommand{\LWR@docmidrule}
9374 {O{\LWR@cmidrulewidth} D(){} >{\SplitArgument{1}{-}}m}
9375 {\LWR@subcmidrule{#1}{#2}#3}
```

`\LWR@subcdashline` {*<leftcolumn>*} {*<rightcolumn>*}

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

`LWR@doingcmidrule` is set to force an empty row at the end of the tabular to create the rule.

```
9376 \newcommand*{\LWR@subcdashline}[2]{%
9377 \defcounter{LWR@midrulecounter}{#1}%
9378 \whileboolexpr{%
9379 not test {%
9380 \ifnumcomp{\value{LWR@midrulecounter}}{>}{#2}%
9381 }%
9382 }%
9383 {%
9384 \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{Y}%
9385 \defaddtocounter{LWR@midrulecounter}{1}%
9386 }% \whiledo
9387 \booltrue{LWR@doingcmidrule}%
9388 }
```

`\LWR@docdashline` {*<leftcolumn-rightcolumn>*}

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

```
9389 \NewDocumentCommand{\LWR@docdashline}
9390 {>{\SplitArgument{1}{-}}m}%
9391 {%
9392 \LWR@subcdashline#1%
9393 }
```

`\LWR@tdstartstyles` Begins possibly adding a table data cell style.

```
9394 \newcommand*{\LWR@tdstartstyles}{\boolfalse{LWR@tdhavecellstyle}}
```

`\LWR@tdaddstyle` Starts adding a table data cell style.

```
9395 \newcommand*{\LWR@tdaddstyle}{%
9396 \ifbool{LWR@tdhavecellstyle}%
9397 {; }%
9398 { style=\textquotedbl}%
9399 \booltrue{LWR@tdhavecellstyle}%
9400 }
```

`\LWR@tdendstyles` Finishes possibly adding a table data cell style. Prints the closing quote.

```

9401 \newcommand*\LWR@tdendstyles}{%
9402 \ifbool{\LWR@tdhavecellstyle}%
9403 {%
9404 \textquotedbl%
9405 \boolfalse{\LWR@tdhavecellstyle}%
9406 }{}%
9407 }
```

`\LWR@subaddcmidruletrim` `{\lefttrim}` `{\righttrim}` Adds a `\cmidrule` with optional trim.

```

9408 \newcommand*\LWR@subaddcmidruletrim[2]{%
9409 \setlength{\LWR@templengthone}{%
9410 \LWR@getexparray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}%
9411 }%
9412 \ifdimcomp{\LWR@templengthone}{>}{0pt}%
9413 {%
```

Print the class with left and right trim letters appended:

```
9414 \LWR@origtilde tdrule#1#2%
```

Remember the width of the rule:

```

9415 \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
9416 }%
9417 {%
9418 \setlength{\LWR@thiscmidrulewidth}{0pt}%
9419 }%
9420 }
```

`\LWR@addcmidruletrim` Adds left or right trim to a `\cmidrule`.

```

9421 \newcommand*\LWR@addcmidruletrim}{%
9422 \LWR@subaddcmidruletrim%
9423 {\LWR@getexparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9424 {\LWR@getexparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9425 }
```

`\LWR@addrulewidth` `{\thiswidth}` `{\defaultwidth}`

If not default width, add a custom style with width and color depending on `thiswidth`.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```
9426 \newcommand{\LWR@addrulewidth}[2]{%
```

Only add a custom width if `thiswidth` is different than the `defaultwidth`, or if a color is being used:

```

9427 \ifboolexpr{%
9428 test{\ifdimcomp{#1}{=}{0pt}} or
9429 (
9430 (test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP})
9431 and (test {\ifdefvoid{\LWR@ruleHTMLcolor}})
9432)
9433 }%
9434 {}% default width and color
9435 {}% custom width and/or color

```

Ensure that the width is wide enough to display in the browser:

```
9436 \LWR@forceminwidth{#1}%
```

Begin adding another style:

```
9437 \LWR@tdaddstyle%
```

The style itself:

```
9438 border-top:\LWR@printlength{\LWR@atleastonept} solid % space
```

If default gray, the darkness of the color depends on the thickness of the rule:

```

9439 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9440 \ifdimcomp{#1}{<}{\LWR@lightrulewidth}%
9441 {\LWR@origpound{ }A0A0A0}%
9442 {% lightrule or heavier
9443 \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}%
9444 {\LWR@origpound{ }808080}%
9445 {black}%
9446 }% lightrule or heavier
9447 }{%
9448 \LWR@origpound\LWR@ruleHTMLcolor%
9449 }%
9450 }% custom width and/or color
9451 }

```

`\LWR@addcmidrulewidth` Adds a style for the rule width.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9452 \newcommand{\LWR@addcmidrulewidth}{%
9453 \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9454 }

```

`\LWR@addcdashline` Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9455 \newcommand{\LWR@addcdashline}{%
9456 \edef\LWR@tempone{%
9457 \LWR@getexparray{\LWR@cdashlines}{\arabic{\LWR@tableLaTeXcolindex}}%
9458 }%
9459 \ifdefstring{\LWR@tempone}{Y}{%

```

```

9460 \LWR@tdaddstyle%
9461 border-top: 1pt dashed %
9462 \ifdefvoid{\LWR@ruleHTMLcolor}%
9463 {black}%
9464 {\LWR@origpound\LWR@ruleHTMLcolor}%
9465 }{}%
9466 }

```

`\LWR@WPcell` {<*text-align*>} {<*vertical-align*>}

```

9467 \newcommand*\LWR@WPcell}[2]{%
9468 \LWR@tdaddstyle%
9469 \LWR@print@mbbox{text-align:#1}; \LWR@print@mbbox{vertical-align:#2}%
9470 }

```

`\LWR@addformatwpalignment` {<*colspec*>}

If `FormatWP`, adds a style for the alignment.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9471 \newcommand*\LWR@addformatwpalignment}[1]{%
9472 \ifbool{FormatWP}{%
9473 \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{}%
9474 \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{}%
9475 \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{}%
9476 \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{}%
9477 \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{}%
9478 \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{}%
9479 }{}%
9480 }

```

## 75.21 Cell colors

`\LWR@addtabulararrowcolor` Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9481 \newcommand*\LWR@addtabulararrowcolor}{%
9482 \ifbool{LWR@tabularmutemods}{}%
9483 \ifdefvoid{\LWR@rowHTMLcolor}{%
9484 \ifdefvoid{\LWR@xcolorrowHTMLcolor}{}%
9485 {% xcolor row color
9486 \LWR@tdaddstyle%
9487 background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
9488 }%
9489 }%
9490 {% explicit row color
9491 \LWR@tdaddstyle%
9492 background:\LWR@origpound\LWR@rowHTMLcolor%
9493 }%
9494 }%
9495 }

```

`\LWR@addtabularhrulecolor` Adds a cell's horizontal rule color style, if needed.

```
9496 \newcommand*{\LWR@addtabularhrulecolor}{%
```

If either form of horizontal rule is requested:

```
9497 \ifboolexpr{%
9498 test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9499 test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
9500 bool{LWR@doingtbrule}%
9501 }{%
```

If there is a no custom color:

```
9502 \ifdefvoid{\LWR@ruleHTMLcolor}%
9503 {%
9504 \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9505 {%
9506 \LWR@tdaddstyle%
9507 border-top: 4px double%
9508 }{% else
9509 \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9510 {%
9511 \LWR@tdaddstyle%
9512 border-top: 2px dashed%
9513 }{% else
9514 \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9515 {%
9516 \LWR@tdaddstyle%
9517 border-top: 1px dashed%
9518 }{}}}%
```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```
9519 }%
```

If there is a custom color:

```
9520 {%
9521 \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9522 {%
9523 \LWR@tdaddstyle%
9524 border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
9525 }{% else
9526 \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9527 {%
9528 \LWR@tdaddstyle%
9529 border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9530 }{% else
9531 \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9532 {%
9533 \LWR@tdaddstyle%
9534 border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
```

```

9535 }{% else
9536 \LWR@tdaddstyle%
9537 border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
9538 }{%}%
9539 }{%
9540 }{%}%
9541 }

```

`\LWR@addtabularrulecolors` Adds a cell's rule color styles, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9542 \newcommand*{\LWR@addtabularrulecolors}{%

```

Custom horizontal rule color:

```

9543 \LWR@addtabularhrulecolor%

```

No vertical rules if finishing the tabular with a row of empty cells:

```

9544 \ifbool{\LWR@tabularmutemods}{%}%

```

If at the leftmost cell, possibly add a leftmost vertical rule:

```

9545 \ifnumequal{\value{\LWR@tableLaTeXcolindex}}{1}{%

```

Fetch the left edge's vertical bar specification:

```

9546 \edef\LWR@tempone{\LWR@getexparray{\LWR@colbarspec}{leftedge}}%

```

Add a custom style if a vertical bar was requested:

```

9547 \ifdefstring{\LWR@tempone}{tvertbarl}{%
9548 \LWR@tdaddstyle%
9549 border-left: 1px solid % space
9550 \LWR@vertruleHTMLcolor%
9551 }{%}%
9552 \ifdefstring{\LWR@tempone}{tvertbarldouble}{%
9553 \LWR@tdaddstyle%
9554 border-left: 4px double % space
9555 \LWR@vertruleHTMLcolor%
9556 }{%}%
9557 \ifdefstring{\LWR@tempone}{tvertbarldash}{%
9558 \LWR@tdaddstyle%
9559 border-left: 1px dashed % space
9560 \LWR@vertruleHTMLcolor%
9561 }{%}%
9562 \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
9563 \LWR@tdaddstyle%
9564 border-left: 2px dashed % space
9565 \LWR@vertruleHTMLcolor%
9566 }{%}%
9567 }{%}%

```

Possibly add a right vertical rule for this cell:

```

9568 \edef\LWR@tempone{%
9569 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tableLaTeXcolindex}}%
9570 }%
9571 \ifdefstring{\LWR@tempone}{tvertbarr}{%

```

Add a custom style if a vertical bar was requested:

```

9572 \LWR@tdaddstyle%
9573 border-right: 1px solid \LWR@vertruleHTMLcolor%
9574 }{}%
9575 \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
9576 \LWR@tdaddstyle%
9577 border-right: 4px double \LWR@vertruleHTMLcolor%
9578 }{}%
9579 \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
9580 \LWR@tdaddstyle%
9581 border-right: 1px dashed \LWR@vertruleHTMLcolor%
9582 }{}%
9583 \ifdefstring{\LWR@tempone}{tvertbarrdoubledash}{%
9584 \LWR@tdaddstyle%
9585 border-right: 2px dashed \LWR@vertruleHTMLcolor%
9586 }{}%
9587 }%
9588 }

```

`\LWR@subaddtabularcellcolor` *{<html color>}*

```

9589 \newcommand*\LWR@subaddtabularcellcolor[1]{%
9590 \LWR@htmltag{div class=\textquotedbl{}cellcolor\textquotedbl\ % space
9591 style=\textquotedbl{}%
9592 background:\LWR@origpound{#1} %
9593 \textquotedbl\ %
9594 }% space
9595 \defaddtocounter{LWR@cellcolordepth}{1}%
9596 }

```

`\LWR@addtabularcellcolor` Adds a cell color style, if needed.

```

9597 \newcommand*\LWR@addtabularcellcolor{%
9598 \ifdefvoid{\LWR@cellHTMLcolor}%
9599 {%
9600 \ifdefvoid{\LWR@rowHTMLcolor}%
9601 {%
9602 \ifdefvoid{\LWR@xcolorrowHTMLcolor}%
9603 {%
9604 \ifdefvoid{\LWR@columnHTMLcolor}%
9605 {}%
9606 {\LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}}%
9607 }%
9608 {\LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
9609 }%
9610 {\LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}}%

```

```

9611 }%
9612 {\LWR@subadddtabularcellcolor{\LWR@cellHTMLcolor}}%
9613 }

```

## 75.22 Multicolumns

### 75.22.1 Parsing multicolumns

`\LWR@printmccoltype@normal` {*col type*}

Prints the column type, and remembers that any vertical bars are no longer on the left edge.

```

9614 \newcommand*{\LWR@printmccoltype@normal}[1]{%
9615 #1%
9616 \boolfalse{\LWR@mcolvertbaronleft}%
9617 }

```

`\LWR@printmccoltype@ignore` {*col type*}

This type does not print a multi-column data cell.

```

9618 \newcommand*{\LWR@printmccoltype@ignore}[1]{%

```

`\LWR@printmccoltype@vertbar` {*col type*}

Adds a left or right vertical bar.

```

9619 \newcommand*{\LWR@printmccoltype@vertbar}[1]{%
9620 \ifbool{\LWR@mcolvertbaronleft}%
9621 {\defaddtocounter{\LWR@mcolvertbarsl}{1}}% left edge
9622 {\defaddtocounter{\LWR@mcolvertbarsr}{1}}% not left edge
9623 }

```

`\LWR@printmccoltype@colon` {*col type*}

Adds a left or right vertical bar.

```

9624 \newcommand*{\LWR@printmccoltype@colon}[1]{%
9625 \ifbool{\LWR@mcolvertbaronleft}%
9626 {\defaddtocounter{\LWR@mcolvertbarsldash}{1}}% left edge
9627 {\defaddtocounter{\LWR@mcolvertbarsrdash}{1}}% not left edge
9628 }

```

`\LWR@printmccoltype@semicolon` {*col type*}

Adds a left or right vertical bar.

```

9629 \let\LWR@printmccoltype@semicolon\LWR@printmccoltype@colon

```



`\LWR@printmccoltype`  $\langle colspec \rangle$  Print any valid column type found. Does not print @, !, >, or < columns or their associated tokens.

This is printed as part of the table data tag's class.

`\LWR@column@type@mctype@<type>` is defined by `\LWR@modifycolumn@type`.

```
9630 \newcommand*\LWR@printmccoltype}[1]{%
9631 \LWR@traceinfo{lwr@printmccoltype -#1-}%
```

Get one token of the column spec:

```
9632 \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
```

Detokenize to avoid problems with special characters:

```
9633 \edef\LWR@strresult{\detokenize\expandafter{\LWR@strresult}}%
```

Add to the HTML tag depending on which column type is found:

```
9634 \ifcsdef{LWR@column@type@mctype@\LWR@strresult}%
9635 {\csuse{LWR@column@type@mctype@\LWR@strresult}}%
9636 {\boolfalse{LWR@colvertbaronleft}}%
9637 \LWR@traceinfo{lwr@printmccoltype done}%
9638 }
```

`\LWR@printmccoldata@other`  $\langle num\ args\ to\ skip \rangle$   $\langle entire\ colspec \rangle$

For @, !, >, <, print the next token without paragraph tags:

```
9639 \newcommand*\LWR@printmccoldata@other}[2]{%
9640 \defaddtocounter{LWR@tablemulticolspos}{1}%
9641 \StrChar{#2}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9642 \LWR@strresult%
```

A valid column data type was found:

```
9643 \booltrue{LWR@validtablecol}%
9644 }
```

`\LWR@printmccoldata@skip`  $\langle num\ args\ to\ skip \rangle$   $\langle entire\ colspec \rangle$

Nothing to print for this column type.

```
9645 \newcommand*\LWR@printmccoldata@skip}[2]{%
9646 \defaddtocounter{LWR@tablemulticolspos}{#1}%
```

A valid column data type was found:

```
9647 \booltrue{LWR@validtablecol}%
9648 }
```

For `\LWR@printmccoldata@...>`, `{<num args to skip>}` is provided by `\LWR@columnntype@mcdata@<col type>` when it was defined by `\LWR@modifycolumnntype`. `\entire colspec` is provided by `\LWR@printmccoldata` when it uses `\LWR@columnntype@mcdata@<col type>`.

`\LWR@printmccoldata@normal` `{<num args to skip>}` `{<entire colspec>}`

```
9649 \newcommand*{\LWR@printmccoldata@normal}[2]{%
9650 \LWR@multicoltext%
9651 \defaddtocounter{LWR@tablemulticolspos}{#1}%
9652 }
```

`\LWR@printmccoldata@paragraph` `{<num args to skip>}` `{<entire colspec>}`

```
9653 \newcommand*{\LWR@printmccoldata@paragraph}[2]{%
9654 \LWR@startpars%
9655 \LWR@multicoltext%
9656 \defaddtocounter{LWR@tablemulticolspos}{#1}%
9657 \LWR@stoppars%
9658 }
```

`\LWR@printmccoldata` `{<entire colspec>}`

Print the data for any valid column type found.

```
9659 \newcommand*{\LWR@printmccoldata}[1]{%
9660 \LWR@traceinfo{lwr@printmccoldata -#1}%
```

Not yet found a valid column type:

```
9661 \boolfalse{LWR@validtablecol}%
```

Get one token of the column spec, into a local copy in case nested.

```
9662 \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9663 \edef\LWR@printmccoldataatoken{\LWR@strresult}%
```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```
9664 \ifcsdef{LWR@columnntype@mcdata@\LWR@printmccoldataatoken}%
9665 {\csuse{LWR@columnntype@mcdata@\LWR@printmccoldataatoken}{#1}}%
9666 {}%
```

If an unknown column type, print the text:

```
9667 \ifbool{LWR@validtablecol}{\LWR@multicoltext{}}%
```

Tracing:

```
9668 \LWR@traceinfo{lwr@printmccoldata done}%
9669 }
```

```
\parsemulticolumnalignment {<1: colspec>} {<2: printresults csname>}
```

Scan the multicolumn specification and execute the printfunction for each entry.

Note that the spec for a p{spec} column, or @, >, <, is a token list which will NOT match l, c, r, or p.

```
9670 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
9671 \defcounter{LWR@tablemulticolspos}{1}%
9672 \StrLen{#1}[\LWR@strresult]%
9673 \defcounter{LWR@tablemulticolwidth}{\LWR@strresult}%
```

Scan across the tokens in the column spec:

```
9674 \whileboolexpr{%
9675 not test {%
9676 \ifnumcomp{\value{LWR@tablemulticolspos}}{>}%
9677 {\value{LWR@tablemulticolwidth}}%
9678 }%
9679 }%
9680 {%
```

Execute the assigned print function for each token in the column spec:

```
9681 \csuse{#2}{#1}%
```

Move to the next token in the column spec:

```
9682 \defaddtocounter{LWR@tablemulticolspos}{1}%
9683 }%
9684 }
```

### 75.22.2 Multicolumn factored code

```
\LWR@addmulticolvertrulecolor
```

```
9685 \newcommand*{\LWR@addmulticolvertrulecolor}{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9686 \ifbool{LWR@tabularmutemods}{}{%
```

Left side:

```
9687 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
9688 \LWR@tdaddstyle%
9689 border-left: 1px solid \LWR@vertruleHTMLcolor%
9690 }{}%
9691 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{%
9692 \LWR@tdaddstyle%
9693 border-left: 4px double \LWR@vertruleHTMLcolor%
9694 }{}%
```

```

9695 \ifnumcomp{\value{LWR@mcolvertbodydash}}{=} {1}{%
9696 \LWR@tdaddstyle%
9697 border-left: 1px dashed \LWR@vertruleHTMLcolor%
9698 }{}%
9699 \ifnumcomp{\value{LWR@mcolvertbodydash}}{>} {1}{%
9700 \LWR@tdaddstyle%
9701 border-left: 2px dashed \LWR@vertruleHTMLcolor%
9702 }{}%

```

Right side:

```

9703 \ifnumcomp{\value{LWR@mcolvertbodyr}}{=} {1}{%
9704 \LWR@tdaddstyle%
9705 border-right: 1px solid \LWR@vertruleHTMLcolor%
9706 }{}%
9707 \ifnumcomp{\value{LWR@mcolvertbodyr}}{>} {1}{%
9708 \LWR@tdaddstyle%
9709 border-right: 4px double \LWR@vertruleHTMLcolor%
9710 }{}%
9711 \ifnumcomp{\value{LWR@mcolvertbodyrdash}}{=} {1}{%
9712 \LWR@tdaddstyle%
9713 border-right: 1px dashed \LWR@vertruleHTMLcolor%
9714 }{}%
9715 \ifnumcomp{\value{LWR@mcolvertbodyrdash}}{>} {1}{%
9716 \LWR@tdaddstyle%
9717 border-right: 2px dashed \LWR@vertruleHTMLcolor%
9718 }{}%
9719 }%
9720 }

```

```

9721 \newcommand{\LWR@multicoltext}{}

```

To find multicolumn right trim:

```

9722 \newcounter{LWR@lastmulticolumn}

```

```

\LWR@domulticolumn [1: vpos] [2: #rows] {3: numLaTeXcols} {4: numHTMLcols} {5: colspec}
{6: text}

```

```

9723 \NewDocumentCommand{\LWR@domulticolumn}{o o m m +m}{%
9724 \LWR@traceinfo{\LWR@domulticolumn -#1- -#2- -#4- -#5-}%

```

Remember the text to be inserted, and when used remember that a valid column type was found:

```

9725 \renewcommand{\LWR@multicoltext}{%
9726 #6%
9727 \booltrue{\LWR@validtablecol}%
9728 }%

```

Expand the preamble and save it.

```

9729 \LWR@expandpreamble{#5}%
9730 \edef\LWR@origmcolspec{\the\@temptokena}%

```

Compute the rightmost column to be included. This is used to create the right trim.

```
9731 \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
9732 \defaddtocounter{LWR@lastmulticolumn}{#3}%
9733 \defaddtocounter{LWR@lastmulticolumn}{-1}%
```

Row processing:

```
9734 \LWR@maybenewtablerow%
```

Begin the opening table data tag:

```
9735 \LWR@htmltag{%
9736 td colspan=\textquotedbl#4\textquotedbl\ %

9737 \IfValueT{#2}{ % rows?
9738 rowspan=\textquotedbl#2\textquotedbl\ %
9739 }%

9740 class=\textquotedbl{}td%
```

Print the column type and vertical bars:

```
9741 \defcounter{LWR@mcolvertbarsl}{0}%
9742 \defcounter{LWR@mcolvertbarsr}{0}%
9743 \defcounter{LWR@mcolvertbarsldash}{0}%
9744 \defcounter{LWR@mcolvertbarsrdash}{0}%
9745 \booltrue{LWR@mcolvertbaronleft}%
9746 \LWR@parsemulticolalignment{\LWR@origmccolspec}{LWR@printmccoltype}%
```

If this column has a `cmidrule`, add “rule” to the end of the HTML class tag.

If this position had a “Y” then add “rule” for a horizontal rule:

```
9747 \LWR@subaddcmidruletrim%
9748 {%
9749 \LWR@getexparray{LWR@trimlrules}%
9750 {\arabic{LWR@tableLaTeXcolindex}}%
9751 }%
9752 {%
9753 \LWR@getexparray{LWR@trimrrules}%
9754 {\arabic{LWR@lastmulticolumn}}%
9755 }%
```

Also add vertical bar class.

```
9756 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}%
9757 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbardouble}{}%
9758 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}%
9759 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}%
9760 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{}%
9761 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}%
9762 { tvertbarldoubledash}{}%
```

```

9763 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{ tvertbarrdash}{}%
9764 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}%
9765 { tvertbarrdoubledash}{}%

```

Close the class tag's opening quote:

```

9766 \textquotedbl{}%

9767 \LWR@tdstartstyles%

```

Style for vertical position:

```

9768 \IfValueT{#1}{% vpos?
9769 \ifstrequal{#1}{b}%
9770 {%
9771 \LWR@tdaddstyle%
9772 \LWR@print@mbbox{vertical-align:bottom}%
9773 }{}%
9774 \ifstrequal{#1}{t}%
9775 {%
9776 \LWR@tdaddstyle%
9777 \LWR@print@mbbox{vertical-align:top}%
9778 }{}%
9779 }% vpos?

```

Style for row colors:

```

9780 \LWR@addtabulararrowcolor%

```

Other styles:

```

9781 \LWR@addcmidrulewidth%
9782 \LWR@addcdashline%
9783 \LWR@addtabularhrulecolor%
9784 \LWR@addmulticolvertrulecolor%
9785 \LWR@addformatwppalignment{\LWR@origmccolspec}%
9786 \LWR@tdendstyles%
9787 }% end of the opening table data tag
9788 \boolfalse{LWR@intabularmetadata}%
9789 \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{LWR@printmccoldata}%
9790 }

```

### 75.22.3 Multicolumn

```
\LWR@htmlmulticolumn {<numcols>} {<alignment>} {<text>}
```

```

9791 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
9792 {%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```

9793 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}%

```

Create the multicolumn tag:

```
9794 \LWR@domulticolumn{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#3}%
```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
9795 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
9796 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
9797 \booltrue{LWR@skipatbang}%
9798 }
```

#### 75.22.4 Longtable captions

longtable captions use \multicolumn.

Per the caption package. User-redefinable float type.

```
9799 \providecommand*{\LTcaptype}{table}
```

```
\LWR@longtabledatacaptiontag * [(<toc entry>)] {(<caption>)}
```

```
9800 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}
9801 {%
```

Remember the latest name for \nameref:

```
9802 \IfValueTF{#2}{% optional given?
9803 \ifblank{#2}{% optional empty?
9804 {\LWR@setlatestname{#3}}}% empty
9805 {\LWR@setlatestname{#2}}}% given and non-empty
9806 }% optional given
9807 {\LWR@setlatestname{#3}}}% no optional
```

Create a multicolumn across all the columns:

Figure out how many extra HTML columns to add for @ and ! columns found between the first and the last column:

```
9808 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag. The caption will be centered by the css caption class.

```
9809 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
9810 {\arabic{LWR@tabhtmlcoltotal}}%
9811 {p}%
9812 {% \LWR@domulticolumn
9813 \IfBooleanTF{#1}% star?
```

Star version, show a caption but do not make a LOT entry:

```

9814 {% yes star
9815 \LWR@figcaption%
9816 \LWR@isolate{#3}%
9817 \endLWR@figcaption%
9818 }%
9819 {% No star:

```

Not the star version:

Don't step the counter if \caption[] {A caption.}

```

9820 \ifbool{LWR@starredlongtable}%
9821 {%
9822 \ifblank{#2}% TOC entry
9823 {}%
9824 {%
9825 \refstepcounter{\LTcaption}%
9826 \protected@edef\@currentLabel{%
9827 \@nameuse{p@\LTcaption}\@nameuse{the\LTcaption}%
9828 }%
9829 }%
9830 }{}%

```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```

9831 \LWR@figcaption%
9832 \LWR@isolate{\@nameuse{fnum@\LTcaption}}%
9833 \CaptionSeparator%
9834 \LWR@isolate{#3}%
9835 \endLWR@figcaption%

```

See if an optional caption was given:

```

9836 \ifblank{#2}% TOC entry empty

```

if the optional caption was given, but empty, do not form a TOC entry

```

9837 {}%

```

If the optional caption was given, but might only be []:

```

9838 {% TOC entry not empty
9839 \IfNoValueTF{#2}% No TOC entry?

```

The optional caption is []:

```

9840 {% No TOC entry
9841 \addcontentsline%
9842 {\@nameuse{ext@\LTcaption}}%
9843 {\LTcaption}%
9844 {%
9845 \protect\numberline%

```



```

9846 {\LWR@isolate{\@nameuse{p@LTcapttype}}\@nameuse{theLTcapttype}}%
9847 {\ignorespaces \LWR@isolate{#3}\protect\relax}%
9848 }%
9849 }% end of No TOC entry

```

The optional caption has text enclosed:

```

9850 {% yes TOC entry
9851 \addcontentsline%
9852 {\@nameuse{ext@LTcapttype}}%
9853 {\LTcapttype}%
9854 {%
9855 \protect\numberline%
9856 {\LWR@isolate{\@nameuse{p@LTcapttype}}\@nameuse{theLTcapttype}}%
9857 {\ignorespaces \LWR@isolate{#2}\protect\relax}%
9858 }%
9859 }% end of yes TOC entry
9860 }% end of TOC entry not empty
9861 }% end of no star

```

Skip any trailing @ or ! columns for this cell:

```

9862 \booltrue{LWR@skipatbang}%
9863 }% end of \LWR@domulticolumn
9864 \defaddtocounter{LWR@tableLaTeXcolindex}{\value{LWR@tabletotalLaTeXcols}}%
9865 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}
9866
9867 }

```

### 75.22.5 Counting HTML tabular columns

The  $\LaTeX$  specification for a table includes a number of columns separated by the & character. These columns differ in content from line to line. Additional virtual columns may be specified by the special @ and ! columns. These columns are identical from line to line, but may be skipped during a multicolumn cell.

For HTML output, @ and ! columns are placed into their own tabular columns. Thus, a  $\LaTeX$  `\multicolumn` command may span several additional @ and ! columns in HTML output. These additional columns must be added to the total number of columns spanned by an HTML multi-column data cell.

```

9868 \newcounter{LWR@tabhtmlcolindex}
9869 \newcounter{LWR@tabhtmlcolend}
9870 \newcounter{LWR@tabhtmlcoltotal}

```

```
\LWR@subtabularhtmlcolumns {<index>}
```

Factored from `\LWR@tabularhtmlcolumns`, which follows.

```

9871 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%

```

Temporarily define a macro equal to the @ specification for this column:

```
9872 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colatspec}{#1}}%
```

If the @ specification is not empty, add to the count:

```
9873 \ifdefempty{\LWR@atbangspec}%
9874 {}%
9875 {\defaddtocounter{\LWR@tabhtmlcoltotal}{1}}%
```

Likewise for the ! columns:

```
9876 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colbangspec}{#1}}%
9877 \ifdefempty{\LWR@atbangspec}%
9878 {}%
9879 {\defaddtocounter{\LWR@tabhtmlcoltotal}{1}}%
9880 }
```

```
\LWR@tabularhtmlcolumns {<starting LATEX column>} {<number LATEX columns>}
```

Compute the total number of HTML columns being spanned, considering the starting L<sup>A</sup>T<sub>E</sub>X table column and the number of L<sup>A</sup>T<sub>E</sub>X tabular columns being spanned. Any @ and ! columns within this span are included in the total count. The resulting number of HTML columns is returned in the counter LWR@tabhtmlcoltotal.

```
9881 \newcommand*{\LWR@tabularhtmlcolumns}[2]{%
```

Count the starting index, compute ending index, and begin with the count being the L<sup>A</sup>T<sub>E</sub>X span, to which additional @ and ! columns may be added:

```
9882 \defcounter{\LWR@tabhtmlcolindex}{#1}%
9883 \defcounter{\LWR@tabhtmlcoltotal}{#2}%
9884 \defcounter{\LWR@tabhtmlcolend}{#1}%
9885 \defaddtocounter{\LWR@tabhtmlcolend}{#2}%
```

If at the left edge, add the at/bang columns for the left edge:

```
9886 \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{=}{1}{%
9887 \LWR@subtabularhtmlcolumns{leftedge}%
9888 }{ }%
```

Walk across the L<sup>A</sup>T<sub>E</sub>X columns looking for @ and ! columns:

```
9889 \whileboolexpr{%
9890 test {%
9891 \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{<}{\value{\LWR@tabhtmlcolend}}%
9892 }%
9893 }%
9894 {%
9895 \LWR@subtabularhtmlcolumns{\arabic{\LWR@tabhtmlcolindex}}%
9896 \defaddtocounter{\LWR@tabhtmlcolindex}{1}%
9897 }% whiledo
9898 }
```

```
9899 \end{warpHTML}
```

### 75.23 Multirow if not loaded

A default definition in case `multirow` is not loaded. This is used during table parsing.

```
9900 \begin{warpHTML}
9901 \newcommand{\multirow}[2][c]{}
9902 \end{warpHTML}
```

### 75.24 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a `lateximage`.

See section [427](#) for the HTML versions.

**for HTML & PRINT:** 9903 \begin{warpall}

```
\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}
```

For discussion of the use of `\DeclareExpandableDocumentCommand`, see:

<https://tex.stackexchange.com/questions/168434/problem-with-abbreviation-of-multirow-and-multicolumn-latex>

`\AtBeginDocument` to adjust after the user may have loaded `multirow`, which requires several tests to determine which version is loaded and thus which options are available.

```
9904 \AtBeginDocument{
```

`\@ifundefined{@xmultirow}` determines if `multirow` was never loaded.

Null action if not loaded:

```
9905 \@ifundefined{@xmultirow}
9906 {
9907 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9908 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9909 {}%
9910 }% no version of multirow was loaded
9911 {% \@xmultirow defined, so some version of multirow was loaded
```

`\@ifpackageloaded{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The print version:

```
9912 \@ifpackageloaded{multirow}{% v2.0 or newer
9913 \@ifpackagelater{multirow}{2016/09/01}% 2016/09/27 for v2.0
```

```

9914 {% v2.0+:
9915 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9916 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9917 {\multicolumn{#1}{#2}{\@xmultirow[#3][#4][#5][#6][#7][#8]}}%
9918 }
9919 {% loaded but older, probably not executed:
9920 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9921 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9922 {\multicolumn{#1}{#2}{\@xmultirow{#4}[#5][#6][#7][#8]}}%
9923 }
9924 }% packageloaded{multirow}

```

If not `\ifpackageloaded{multirow}` but `\@xmultirow` is defined, then this must be v1.6 or earlier, which did not `\ProvidesPackage{multirow}`, and did not have the `vposn` option.

```

9925 {% v1.6 or older did not \ProvidePackage
9926 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9927 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9928 {\multicolumn{#1}{#2}{\@xmultirow{#4}[#5][#6][#7][#8]}}%
9929 }
9930
9931 }% \@ifundefined{@xmultirow}
9932
9933 \providecommand*{\multicolumnrow}{\LWR@print@multicolumnrow}
9934
9935 }% AtBeginDocument

9936 \end{warpall}

```

## 75.25 Utility macros inside a table

**for HTML output:** 9937 `\begin{warpHTML}`

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
9938 \newcommand*{\LWR@donothing}{}
```

In case `array` is not loaded:

```

9939 \let\firstline\relax
9940 \let\lastline\relax
9941 \newcommand*{\firstline}{}
9942 \newcommand*{\lastline}{}

```

In case `bigdelim` is not loaded:

```

9943 \newcommand*{\ldelim}{}
9944 \newcommand*{\rdelim}{}

```

```
9945 \end{warpHTML}
```

## 75.26 Special-case tabular markers


**for HTML & PRINT:** 9946 `\begin{warpall}`

`\TabularMacro` Place this just before inserting a custom macro in a table data cell. Doing so tells `lwarp` not to automatically start a new HTML table data cell yet. See section 8.10.1.

9947 `\newcommand*{\TabularMacro}{}`

9948 `\end{warpall}`

`\ResumeTabular` Used to resume tabular entries after resuming an environment.

 **tabular inside another environment** When creating a new environment which contains a tabular environment, `lwarp`'s emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```

\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
 \tabular{cc}
 left & right \\
}
{
 \TabularMacro\ResumeTabular
 left & right \\
 \endtabular
}
\StopDefiningTabulars

```

**for HTML output:** 9949 `\begin{warpHTML}`

```

9950 \newcommand*{\ResumeTabular}{%
9951 \boolfalse{LWR@exitingtabular}%
9952 \boolfalse{LWR@tabularmutemods}%
9953 \LWR@getmynexttoken%
9954 }

```

9955 `\end{warpHTML}`

**for PRINT output:** 9956 `\begin{warpprint}`

9957 `\newcommand*{\ResumeTabular}{}`

9958 `\end{warpprint}`

## 75.27 Checking for a new table cell

for HTML output: 9959 \begin{warHTML}

\LWR@tabledatacolumnstag Open a new HTML table cell unless the next token is for a macro which does not create data, such as \hline, \toprule, etc:

```
9960 \newcommand*{\LWR@tabledatacolumnstag}%
9961 {%
9962 \LWR@traceinfo{\LWR@tabledatacolumnstag}%
```

\show\LWR@mynexttoken to see what tokens to look for

If not any of the below, start a new table cell:

```
9963 \global\let\LWR@mynextaction\LWR@tabledatasinglecolumnstag%
```

If exiting the tabular:

```
9964 \ifdefequal{\LWR@mynexttoken}{\end}%
9965 {\booltrue{\LWR@exitingtabular}}{}
```

longtable can have a caption in a cell

```
9966 \ifdefequal{\LWR@mynexttoken}{\caption}%
9967 {\global\let\LWR@mynextaction\LWR@doanything}}{}
```

Look for other things which would not start a table cell:

```
9968 \ifdefequal{\LWR@mynexttoken}{\multicolumn}%
9969 {\global\let\LWR@mynextaction\LWR@doanything}}{}%
9970 \ifdefequal{\LWR@mynexttoken}{\multirow}%
9971 {\global\let\LWR@mynextaction\LWR@doanything}}{}%
9972 \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}%
9973 {\global\let\LWR@mynextaction\LWR@doanything}}{}%
9974 \ifdefequal{\LWR@mynexttoken}{\noalign}%
9975 {\global\let\LWR@mynextaction\LWR@doanything}}{}
```

If an \mrowcell, this is a cell to be skipped over:

```
9976 \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
9977 {\global\let\LWR@mynextaction\LWR@doanything}}{}
```

If an \mcolrowcell, this is a cell to be skipped over:

```
9978 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
9979 {\global\let\LWR@mynextaction\LWR@doanything}}{}
```

```
9980 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
9981 {\global\let\LWR@mynextaction\LWR@doanything}}{}
```

```
9982 \ifdefequal{\LWR@mynexttoken}{\hline}%
9983 {\global\let\LWR@mynextaction\LWR@doanything}{}%

9984 \ifdefequal{\LWR@mynexttoken}{\firstline}%
9985 {\global\let\LWR@mynextaction\LWR@doanything}{}%

9986 \ifdefequal{\LWR@mynexttoken}{\lastline}%
9987 {\global\let\LWR@mynextaction\LWR@doanything}{}%

9988 \ifdefequal{\LWR@mynexttoken}{\toprule}%
9989 {\global\let\LWR@mynextaction\LWR@doanything}{}%

9990 \ifdefequal{\LWR@mynexttoken}{\midrule}%
9991 {\global\let\LWR@mynextaction\LWR@doanything}{}%

9992 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
9993 {\global\let\LWR@mynextaction\LWR@doanything}{}%

9994 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
9995 {\global\let\LWR@mynextaction\LWR@doanything}{}%

9996 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
9997 {\global\let\LWR@mynextaction\LWR@doanything}{}%

9998 \ifdefequal{\LWR@mynexttoken}{\cline}%
9999 {\global\let\LWR@mynextaction\LWR@doanything}{}%

10000 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
10001 {\global\let\LWR@mynextaction\LWR@doanything}{}%

10002 \ifdefequal{\LWR@mynexttoken}{\hhline}%
10003 {\global\let\LWR@mynextaction\LWR@doanything}{}%

10004 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
10005 {\global\let\LWR@mynextaction\LWR@doanything}{}%

10006 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
10007 {\global\let\LWR@mynextaction\LWR@doanything}{}%

10008 \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
10009 {\global\let\LWR@mynextaction\LWR@doanything}{}%

10010 \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
10011 {\global\let\LWR@mynextaction\LWR@doanything}{}%

10012 \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
10013 {\global\let\LWR@mynextaction\LWR@doanything}{}%

10014 \ifdefequal{\LWR@mynexttoken}{\ldelim}%
10015 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```
10016 \ifdefequal{\LWR@mynexttoken}{\rdelim}%
10017 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

For arydshln:

```
10018 \ifdefequal{\LWR@mynexttoken}{\hdashline}%
10019 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```
10020 \ifdefequal{\LWR@mynexttoken}{\cdashline}%
10021 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```
10022 \ifdefequal{\LWR@mynexttoken}{\firsthdashline}%
10023 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```
10024 \ifdefequal{\LWR@mynexttoken}{\lasthdashline}%
10025 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

Ignore an empty line between rows:

```
10026 \ifdefequal{\LWR@mynexttoken}{\par}%
10027 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

No action for an \end token.

Add similar to the above for any other non-data tokens which might appear in the table.


Start the new table cell if was not any of the above:

```
10028 \LWR@traceinfo{\LWR@tabledatacolumnstag: about to do mynext}%
10029 \LWR@mynextaction%
10030 \LWR@traceinfo{\LWR@tabledatacolumnstag: done}%
10031 }
```

```
10032 \end{warpHTML}
```

## 75.28 \mrowcell

**for HTML & PRINT:** 10033 \begin{warpall}

 **multirow cells** \mrowcell The user must insert \mrowcell into any \multirow cells which must be skipped. This command has no action during print output.

```
10034 \newcommand*{\mrowcell}{}


```

```
10035 \end{warpall}
```



## 75.29 `\mcolrowcell`

for HTML & PRINT: 10036 `\begin{warpall}`

 `\mcolrowcell` The user must insert `\mcolrowcell` into any `\multicolumnrow` cells which must be **multirow cells** skipped. This command has no action during print output.

```
10037 \newcommand*\mcolrowcell{}
```

```
10038 \end{warpall}
```

## 75.30 HTML tabular environment

for HTML output: 10039 `\begin{warpHTML}`

These are default definitions in case `booktabs` is not loaded, and are not expected to be used, but must exist as placeholders. `memoir` may have already loaded `booktabs`.

```
10040 \providecommand*\toprule[1][\hline]
10041 \providecommand*\midrule[1][\hline]
10042 \providecommand*\cmidrule{\cline}
10043 \providecommand*\bottomrule[1][\hline]
10044 \providecommand*\addlinespace[1][\]
10045 \providecommand*\morecmidrules{}
10046 \providecommand*\specialrule[3][\hline]
```

`\noalign`  $\langle text \rangle$  Redefined for use inside `tabular`.

```
10047 \LetLtxMacro\LWR@orignoalign\noalign
10048
10049 \newcommand{\LWR@tabularnoalign}[1]{%
10050 \advance\rownum\m@ne%
10051 \LetLtxMacro\LWR@save@xcolorrowHTMLcolor\LWR@xcolorrowHTMLcolor%
10052 \renewcommand*\LWR@xcolorrowHTMLcolor{}%
10053 \multicolumn{\value{\LWR@tabletotalLaTeXcols}}{l}{#1} \ \
10054 \LetLtxMacro\LWR@xcolorrowHTMLcolor\LWR@save@xcolorrowHTMLcolor%
10055 % \@rowcol@lors%
10056 \LWR@getmynexttoken%
10057 }
```

`\LWR@HTMLhline` The definition of `\hline` depends on whether `tabls` has been loaded. If so, optional space below the line may be specified, but will be ignored.

```
10058 \AtBeginDocument{
10059
10060 \ifpackageloaded{lwarp-tabls}
10061 {
10062 \newcommand*\LWR@HTMLhline[1][\]{
10063 \ifbool{FormatWP}%
10064 {\LWR@docmidrule{1-\arabic{\LWR@tabletotalLaTeXcols}}}%

```

```

10065 {\defaddtocounter{LWR@hlines}{1}}%
10066 \LWR@getmynexttoken}%
10067 }
10068 {
10069 \newcommand*\LWR@HTMLhline{%
10070 \ifbool{FormatWP}%
10071 {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10072 {\defaddtocounter{LWR@hlines}{1}}%
10073 \LWR@getmynexttoken}%
10074 }
10075
10076 }% AtBeginDocument

```

`\LWR@HTMLcline`  $\{\langle columns \rangle\}$

```

10077 \NewDocumentCommand{\LWR@HTMLcline}{m}%
10078 {\LWR@docmidrule{#1}\LWR@getmynexttoken}%

```

`\LWR@tabular@warpprintonly`  $\{\langle contents \rangle\}$

Only process the contents if producing printed output. Modified inside a tabular to grab the next token.

```

10079 \newcommand{\LWR@tabular@warpprintonly}[1]{%
10080 \ifbool{warpingprint}{#1}{}%
10081 \LWR@getmynexttoken%
10082 }

```

`\LWR@nullifyNoAutoSpacing` For `babel-french`, turn off auto spacing at the start of the tabular, then nullify the autospacing commands inside the tabular, since they were not compatible with the tabular parsing code for each cell, which uses `xstring`.

```

10083 \AtBeginDocument{
10084 \ifundefined{NoAutoSpacing}%
10085 {% no babel-french
10086 \newcommand*\LWR@nullifyNoAutoSpacing{}%
10087 }% no babel-french
10088 {% yes babel-french
10089 \newcommand*\LWR@nullifyNoAutoSpacing{%
10090 \NoAutoSpacing%
10091 \renewcommand*\NoAutoSpacing{}%
10092 \renewcommand*\LWR@FBcancel{}%
10093 }
10094 }% yes babel-french
10095 }% AtBeginDocument

```

Env `tabular`  $\langle direction \rangle$  [ $\langle vertposition \rangle$ ]  $\{\langle colspecs \rangle\}$

The  $\langle direction \rangle$  is from `plex` for Japanese documents, and is ignored.

```

10096 \StartDefiningTabulars
10097

```

```

10098 \NewDocumentCommand{\LWR@HTML@tabular}{d<> o m}
10099 {%
10100 \LWR@traceinfo{\LWR@HTML@tabular started}%

```



### <table> inside <span>

In L<sup>A</sup>T<sub>E</sub>X, a tabular may be placed inside a minipage, but in HTML a <table> may not be inside a <span>. Since there may be several nested <span>s, with an unknown number of other objects between, it is hard to undo all these <span>s before the <table> then redo them after. The browser probably compensates for this situation, but formatting may be lost inside the <table> because several things are neutralized inside a <span>. Furthermore, in the HTML output, the entire <table> is placed on a single line of HTML code, since the line breaking commands are neutralized inside a <span>. Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the <span> to print-only.

```

10101 \LWR@spanwarnformat{tabular}%
10102 \addtocounter{\LWR@tabulardepth}{1}%

```

Not yet started a table row:

```

10103 \boolfalse{\LWR@startedrow}%

```

Not yet doing any rules:

```

10104 \defcounter{\LWR@hlines}{0}%
10105 \defcounter{\LWR@hdashedlines}{0}%
10106 \boolfalse{\LWR@doingtbrule}%
10107 \boolfalse{\LWR@doingcmidrule}%

```

For babel-french, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the tabular parsing code.

```

10108 \LWR@nullifyNoAutoSpacing%

```

Have not yet found the end of tabular command. Unmute the @ and ! columns.

```

10109 \boolfalse{\LWR@exitingtabular}%
10110 \boolfalse{\LWR@tabularmutemods}%

```

Error if failed to use \mrowcell or \mcolrowcell when needed.

```

10111 \boolfalse{\LWR@usedmultirow}%
10112 \boolfalse{\LWR@foundmrowcell}%

10113 \renewcommand*{\LWR@multicoltext}{}%

```

Create the table tag:

```

10114 \booltrue{\LWR@intabularmetadata}%
10115 \LWR@traceinfo{\LWR@tabular: About to LWR@forecnewpage.}%
10116 \LWR@forcenewpage
10117 \LWR@htmlblocktag{table}%

```

Parse the table columns:

```
10118 \LWR@parsetablecols{#3}%
```

Table col spec is: \LWR@tablecolspec which is a string of llccrr, etc.

Do not place the table inside a paragraph:

```
10119 \LWR@stoppars%
```

Track column #:

```
10120 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
10121 \global\boolfalse{LWR@tabularcelladded}%
```

Start looking for midrules:

```
10122 \LWR@clearmidrules%
```

\\ becomes a macro to end the table row:

```
10123 \LetLtxMacro{\\}{\LWR@tabularendofline}%
```

\warpprintonly inside a tabular must grab the next token.

```
10124 \LetLtxMacro\warpprintonly\LWR@tabular@warpprintonly%
```

The following adjust for colortbl.

```
10125 \LetLtxMacro\arrayrulecolor\arrayrulecolornexttoken%
10126 \LetLtxMacro\doublerulesepcolor\doublerulesepcolornexttoken%
10127 \def\LWR@columnHTMLcolor{}%
10128 \def\LWR@rowHTMLcolor{}%
10129 \def\LWR@cellHTMLcolor{}%
10130 \@rowcolors%
```

The vertical rules are set to the color active at the start of the tabular. \arrayrulecolor will then affect horizontal rules inside the tabular, but not the vertical rules.

```
10131 \ifdefvoid{\LWR@ruleHTMLcolor}%
10132 {\edef\LWR@vertruleHTMLcolor{black}}%
10133 {\edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}%
```

Tracking the depth of cell color <div>s:

```
10134 \defcounter{LWR@cellcolordepth}{0}%
```

The following may appear before a data cell is created, so after doing their actions, we look ahead with \LWR@getmynexttoken to see if the next token might create a new data cell:

The optional parameter for `\hline` supports the `tbls` package.

```

10135 \LWR@traceinfo{LWR@HTML@tabular: redefining macros}%
10136 \LetLtxMacro\noalign\LWR@tabularnoalign%
10137 \LetLtxMacro\hline\LWR@HTMLhline%
10138 \LetLtxMacro\cline\LWR@HTMLcline%

10139 \DeclareDocumentCommand{\hdashline}{o}{%
10140 \ifbool{FormatWP}%
10141 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10142 {\defaddtocounter{LWR@hdashedlines}{1}}%
10143 \LWR@getmynexttoken%
10144 }%

10145 \DeclareDocumentCommand{\cdashline}{m}{%
10146 \LWR@docdashline{##1}\LWR@getmynexttoken%
10147 }%

10148 \DeclareDocumentCommand{\firsthdashline}{o}{%
10149 \ifbool{FormatWP}%
10150 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10151 {\defaddtocounter{LWR@hdashedlines}{1}}%
10152 \LWR@getmynexttoken%
10153 }%

10154 \DeclareDocumentCommand{\lasthdashline}{o}{%
10155 \ifbool{FormatWP}%
10156 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10157 {\defaddtocounter{LWR@hdashedlines}{1}}%
10158 \LWR@getmynexttoken%
10159 }%

```

The following create data cells and will have no more data in this cell, so we do not want to look ahead for a possible data cell, so do not want to use `\LWR@getmynexttoken`.

```

10160 \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
10161 \renewcommand*{\mrowcell}{%
10162 \LWR@maybenewtablerow%
10163 \LWR@tabularleftedge%
10164 \booltrue{LWR@skippingmrowcell}%
10165 \booltrue{LWR@foundmrowcell}%
10166 }%
10167 \renewcommand*{\mcolrowcell}{%
10168 \LWR@maybenewtablerow%
10169 \booltrue{LWR@skippingmcolrowcell}%
10170 \booltrue{LWR@foundmrowcell}%
10171 }%
10172 \LetLtxMacro\caption\LWR@longtabledatacaptiontag%

```

Reset for new processing:

```

10173 \boolfalse{LWR@tableparcell}%
10174 \boolfalse{LWR@skippingmrowcell}%
10175 \boolfalse{LWR@skippingmcolrowcell}%

```

```
10176 \boolfalse{LWR@skipatbang}%
10177 \boolfalse{LWR@emptyatbang}%
```

Set & for its special meaning inside the tabular:

```
10178 \StartDefiningTabulars%
10179 \protected\gdef&{\LWR@tabularampersand}%
```

Locally force any minipages to be fullwidth, until the end of the tabular:

```
10180 \booltrue{LWR@forceminipagefullwidth}%
```

Nest one level deeper of tabular paragraph handling:

```
10181 \addtocounter{LWR@tabularpardepth}{1}%
```

Look ahead for a possible table data cell:

```
10182 \LWR@traceinfo{LWR@@HTML@tabular: about to LWR@getmynexttoken}%
10183 \LWR@getmynexttoken%
10184 }%
```

Ending the environment:

```
10185 \newcommand*{\LWR@HTML@endtabular}
10186 {%
10187 \LWR@traceinfo{LWR@HTML@endtabular}%
```

Unnest one level of tabular paragraph handling:

```
10188 \addtocounter{LWR@tabularpardepth}{-1}%
10189 \ifboolexpr{%
10190 test {%
10191 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}%
10192 {\value{LWR@tabletotalLaTeXcols}}
10193 } or %
10194 (%
10195 bool{LWR@intabularmetadata} and%
10196 not bool{LWR@tabularcelladded} and%
10197 test {%
10198 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}%
10199 {\value{LWR@tabletotalLaTeXcols}}%
10200 }%
10201)%
10202 }%
10203 {%
10204 \LWR@tabularfinishrow%
10205 }%
10206 {%
10207 \LWR@closetabledatacell%
10208 }%
10209 \LWR@htmlblocktag{/tr}%
```

xcolor row color support:

```
10210 \@rowc@lors%
10211 \LWR@htmlblocktag{/table}%
10212 \boolfalse{LWR@intabularmetadata}%
```

Unnest one level of tabular:

```
10213 \addtocounter{LWR@tabulardepth}{-1}%
```

Restore & to its usual meaning:

```
10214 \ifnumequal{\value{LWR@tabulardepth}}{0}{%
10215 \protected\gdef&{\LWR@origampmacro}%
10216 \StopDefiningTabulars%
10217 }{}%
```

Error if used `\multirow` or `\multicolumnrow` without using `\mrowcell` or `\mcolrowcell`.

```
10218 \ifbool{LWR@usedmultirow}{%
10219 \ifbool{LWR@foundmrowcell}%
10220 {\relax}%
10221 {%
10222 \PackageError{lwarp}%
10223 {%
10224 When using \protect\multirow, \protect\multicolumnrow, \MessageBreak
10225 or the bigdelim package, \MessageBreak
10226 place \protect\mrowcell\space or \protect\mcolrowcell\space \MessageBreak
10227 in empty cells which are to be skipped. \MessageBreak
10228 See the Lwarp package documentation: \MessageBreak
10229 "Special cases and limitations" -> "Tabular"
10230 }%
10231 {%
10232 See the Lwarp package documentation: \MessageBreak
10233 "Special cases and limitations" -> "Tabular".
10234 }%
10235 }%
10236 }{}%

10237 \LWR@traceinfo{LWR@HTML@endtabular finished}%
10238 }
10239
10240 \csletcs{LWR@HTML@endtabular*}{LWR@HTML@endtabular}
10241
10242 \StopDefiningTabulars
```

siunitx may redefine tabular, so set the following later:

```
10243 \AtBeginDocument{
10244 \LetLtxMacro\LWR@origendtabular\endtabular
10245 \csletcs{LWR@origendtabular*}{endtabular*}
10246 \LWR@formatted{@tabular}
```

```

10247 \LWR@formatted{endtabular}
10248 \LWR@formatted{endtabular*}
10249 }

10250 \end{warpHTML}

```

## 76 Cross-references

Sectioning commands have been emulated from scratch, so the cross-referencing commands are custom-written for them. Emulating both avoids several layers of patches.

File `*_html.aux` A new entry in `*_html.aux` is used to remember section name, file, and lateximage depth and number for each label:

```

\newlabel{<labelname>@lwarp}{{<section name>}{<filename>}
{<limagedepth>}{<limagenumber>}}

```

Table 16 shows the data structures related to cross-referencing.

**for HTML output:** 10251 \begin{warpHTML}

### 76.1 Setup

`\@currentlabelname` To remember the most recently defined section name, description, or caption, for `\nameref`.

```
10252 \def\@currentlabelname{\linkhomename}%
```

`\LWR@stripperperiod` `{<text>} [(<.>)]`

Removes a trailing period.

```
10253 \def\LWR@stripperperiod#1.\ltx@empty#2\@nil{#1}%
```

`\LWR@setlatestname` `{<object name>}`

Removes `\label`, strips any final period, and remembers the result.

```
10254 \newcommand*\LWR@setlatestname}[1]{%
```

Remove `\label` and other commands from the name, the strip any final period. See `getttitlestring`.

```
10255 \GetTitleStringExpand{#1}%
```

```
10256 \edef\@currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
```

```
10257 \edef\@currentlabelname{%
```



Table 16: Cross-referencing data structures

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Original L<sup>A</sup>T<sub>E</sub>X:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (print and HTML) |
| <p><b>\refstepcounter:</b> Steps the counter and sets <code>\currentlabel</code>.</p> <p><b>\currentlabel:</b> <code>\p@&lt;ctr&gt;\the&lt;ctr&gt;</code> Updated by <code>\refstepcounter</code>.</p> <p><b>\label:</b> Writes to the .aux file:<br/> <code>\newlabel{&lt;label&gt;}{\currentlabel}{\thepage}}</code></p> <p><b>\newlabel:</b> When the .aux file is read, sets <code>\r@&lt;label&gt;</code>.</p> <p><b>\r@&lt;label&gt;:</b> Set to: <code>{\currentlabel}{\thepage}}</code></p> <p><b>\ref:</b> Returns the first part of <code>\r@&lt;label&gt;</code>.</p> <p><b>\pageref:</b> Returns the second part of <code>\r@&lt;label&gt;</code>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
| <b>Added by lwarp:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | (HTML only)      |
| <p><b>\label:</b> Adds HTML tags (section 76.3), and another .aux entry (section 76.2). If <code>memoir</code> is used, its <code>\mem@old@label</code> points to <code>lwarp</code>'s version, and <code>cleveref</code> patches.</p> <p><b>\newlabel:</b> Unchanged. When the .aux file is read, sets <code>\r@&lt;label&gt;@lwarp</code>.</p> <p><b>\r@&lt;label&gt;@lwarp:</b> Set to <code>{{section_name}{file_name}{depth}{number}}</code>:</p> <ul style="list-style-type: none"> <li><b>\LWR@nameref:</b> The section or object name for this label.</li> <li><b>\LWR@currentautosecpageref:</b> The <code>LWR@currentautosecpage</code> for this label.</li> <li><b>\LWR@htmlfileref:</b> The filename or name for this label.</li> <li><b>\LWR@lateximagedepthref:</b> The <code>lateximagedepth</code> for this label.</li> <li><b>\LWR@lateximagenumberref:</b> The <code>lateximagenumber</code> for this label.</li> </ul> <p><b>\nameref:</b> Emulated from <code>hyperref</code> for <code>lwarp</code>. See section 76.4.</p> <p><b>\ref and \nameref:</b> Adds HTML tags. See section 76.4.</p> |                  |
| <b>Added by amsmath:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (print and HTML) |
| <p><b>\label:</b> Execution is delayed until the math environment is completed.</p> <p><b>\ltx@label:</b> L<sup>A</sup>T<sub>E</sub>X <code>\label</code>, (HTML: patched by <code>lwarp</code>), later patched by <code>cleveref</code>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| <b>Added by cleveref:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | (print and HTML) |
| <p><b>\refstepcounter:</b> Added: sets <code>\cref@currentlabel</code>.</p> <p><b>\cref@currentlabel:</b> (<code>&lt;type&gt;=&lt;ctr&gt;</code> unless an alias is used):<br/> <code>[&lt;type&gt;][\arabic{&lt;ctr&gt;}][&lt;parent ctrs&gt;]{\p@&lt;ctr&gt;\the&lt;ctr&gt;}</code> Also see section 60.4 for use with footnotes.</p> <p><b>\label:</b> Writes to the .aux file:<br/> <code>\newlabel{&lt;label&gt;@cref}{\cref@currentlabel}{\thepage}}</code></p> <p><b>\newlabel:</b> Unchanged. When the .aux file is read, sets <code>\r@&lt;label&gt;@cref</code>.</p> <p><b>\r@&lt;label&gt;@cref:</b> Set to: <code>{\cref@currentlabel}{\thepage}}</code></p> <p><b>Utility functions:</b> See <code>\cref@getlabel</code>, <code>\cref@gettype</code>, <code>\cref@getcounter</code>, <code>\cref@getprefix</code>.</p> <p><b>Cross-referencing names:</b> <code>\crefname</code> and <code>\Crefname</code> assign human-readable names for references to this counter type.</p>                                                                                                                      |                  |
| <b>Additionally patched by lwarp:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | (HTML only)      |
| <p><b>\cref, etc.:</b> Modified for <code>lwarp</code>. See section 201.</p> <p><b>\label inside math:</b> See section 83.7.1.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
| <b>Footnotes:</b> See <code>\noteentry</code> in section 60.4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                  |

```

10258 \expandafter\LWR@stripperperiod\@currentlabelname%
10259 \ltx@empty.\ltx@empty\@nil%
10260 }%
10261 }

```

## 76.2 New lwarp labels.

File `*_html.aux` A new entry in `*_html.aux` is used to remember section name, file, and lateximage depth and number for each label:

```

\newlabel{<labelname>@lwarp}{{<section name>}{<filename>}
 {<limagedepth>}{<limagenumber>}}

```

See:

<http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference>

`\LWR@setref`  $\langle args\ list \rangle$   $\langle selector \rangle$   $\langle label \rangle$

`\@setref` without the `\null` (`\hbox`), and without the warning messages. Each caused problems with `lwarp` references. The regular reference will cause the warning.

```

10262 \def\LWR@setref#1#2#3{%
10263 \ifx#1\relax%
10264 ??%
10265 \else%
10266 \expandafter#2#1%
10267 \fi}

```

`\LWR@nameref`  $\langle label \rangle$  Returns the section name for this label:

```

10268 \newcommand*\LWR@nameref}[1]{%
10269 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@firstoffive{#1}%
10270 }

```

`\LWR@currentautosecpageref`  $\langle label \rangle$  Returns the `LWR@currentautosecpageref` for this label:

```

10271 \newcommand*\LWR@currentautosecpageref}[1]{%
10272 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@secondoffive{#1}%
10273 }

```

`\LWR@htmlfileref`  $\langle label \rangle$  Returns the file number or name for this label:

```

10274 \newcommand*\LWR@htmlfileref}[1]{%
10275 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@thirdoffive{#1}%
10276 }

```

`\LWR@lateximagedepthref`  $\langle label \rangle$  Returns the `lateximagedepth` for this label:

```

10277 \newcommand*\LWR@lateximagedepthref}[1]{%
10278 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@fourthoffive{#1}%
10279 }

```

`\LWR@lateximagenumberref`  $\langle label \rangle$  Returns the lateximagenumber for this label:

```

10280 \newcommand*\LWR@lateximagenumberref}[1]{%
10281 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@fifthoffive{#1}%
10282 }

```

`\LWR@write@lwarplabel`  $\langle label \rangle$  Sanitize the name and then creates the label:

```

10283 \newcommand*\LWR@write@lwarplabel}[1]{%
10284 \LWR@traceinfo{\LWR@write@lwarplabel !#1!}%
10285 \LWR@setlatestname{\@currentlabelname}%
10286 \@bsphack%
10287 \protected@write\@auxout{%
10288 {%
10289 \string\newlabel{#1@lwarp}{%
10290 {\@currentlabelname}%
10291 {\theLWR@currentautosecpage}%
10292 {%
10293 \ifbool{FileSectionNames}%
10294 {\LWR@thisfilename}%
10295 {\arabic{LWR@htmlfilenumber}}}%
10296 }%
10297 {\arabic{LWR@lateximagedepth}}%
10298 {\arabic{LWR@lateximagenumber}}%
10299 }%
10300 }%
10301 \@esphack%
10302 }

```

## 76.3 Labels

`\LWR@label@subcreatetag` Creates the tag from `\LWR@sanitized`.

```

10303 \newcommand*\LWR@label@subcreatetag{%
10304 \LWR@htmltag{a \LWR@print@mbox{id=\textquotedbl\LWR@sanitized\textquotedbl}}%
10305 \LWR@htmltag{/a}%
10306 }

```

`\LWR@label@inmathcomment`

```

10307 \newcommand*\LWR@label@inmathcomment{%
10308 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
10309 {%

```

The combined L<sup>A</sup>T<sub>E</sub>X & HTML label is printed in a `\mbox` field:

```

10310 \mbox{%

```

Shift the label over to the right side of the environment to avoid over-printing the math:

```
10311 \ifdef{\totwidth@}{\ifbool{LWR@amsmultline}{\hspace*{\totwidth@}}{}}%
```

Temporarily end the HTML comment, insert the L<sup>A</sup>T<sub>E</sub>X & HTML label, then resume the HTML comment. \@firstofone is required to remove extra braces introduced by the amsmath package.)

```
10312 \LWR@htmlclosecomment%
10313 \LWR@label@subcreatetag%
10314 \LWR@htmlopencomment%
10315 }% mbox
10316 }% mathjax
10317 {%
10318 \LWR@label@subcreatetag%
10319 }%
10320 }
```

`\LWR@label@createtag` `{\langle label \rangle}` Creates an HTML id tag.

Used by `\LWR@new@label` and `\hyperdef`.

`\detokenize` is used to allow underscores in the labels.

```
10321 \newcommand*{\LWR@label@createtag}[1]{%
10322 \LWR@traceinfo{\LWR@label@createtag !#1!}%
```

Create an HTML id tag unless are inside a lateximage, since it would appear in the image:

```
10323 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10324 }{%
10325 {% not lateximage
```

If not doing a lateximage, create an HTML ID tag.

```
10326 \LWR@sanitize{#1}%
10327 \ifbool{LWR@insidemathcomment}%
10328 {% inside HTML math comment
10329 \LWR@label@inmathcomment%
10330 }% inside HTML math comment
10331 {% not inside HTML math comment
10332 \ifbool{LWR@doingstartpars}%
10333 {% pars allowed
10334 \ifbool{LWR@doingapar}%
10335 {% par started
10336 \LWR@label@subcreatetag%
10337 }% par started
10338 }% par not started
10339 \LWR@stoppars%
10340 \LWR@label@subcreatetag%
10341 \LWR@startpars%
10342 }% par not started
```

```

10343 }% pars allowed
10344 {% pars not allowed
10345 \LWR@label@subcreatetag%
10346 }% pars not allowed
10347 }% not inside HTML math comment
10348 }% not lateximage
10349 }

```

`\LWR@new@label`  $\{ \langle label \rangle \}$

`\label` during HTML output when not in SVG math mode, removing extra spaces around the label, as done by a regular L<sup>A</sup>T<sub>E</sub>X `\label`.

This is also used during a `lateximage`, including SVG math, since the special label handling is required, but `\LWR@label@createtag` does not generate HTML tags inside a `lateximage`.

If `memoir` is used, it's `\@mem@old@label` is pointed here.

`cleveref` later encases this to add its own cross-referencing, and also patches `memoir`.

```

10350 \newcommand*{\LWR@new@label}[1]{%
10351 \LWR@traceinfo{\LWR@new@label: starting}%
10352 \LWR@traceinfo{\LWR@new@label: !#1!}%
10353 % \@bsphack%

```

Create a traditional L<sup>A</sup>T<sub>E</sub>X label, as modified by `cleveref`:

```

10354 \LWR@orig@label{#1}%

```

Create a special label which holds the section number, section name, `LWR@htmlfilenumber`, `LWR@lateximagedepth`, and `LWR@lateximagenumber`:

```

10355 \LWR@traceinfo{%
10356 LWR@new@label: filesectionnames is %
10357 \ifbool{FileSectionNames}{true}{false}%
10358 }%
10359 \LWR@traceinfo{%
10360 LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
10361 }%
10362 \LWR@traceinfo{%
10363 LWR@new@label: LWR@htmlfilenumber is \arabic{LWR@htmlfilenumber}%
10364 }%
10365 \LWR@write@lwarplabel{#1}%
10366 \LWR@label@createtag{#1}%
10367 % \@esphack%
10368 \LWR@traceinfo{\LWR@new@label: done}%
10369 }

```

## 76.4 References

`\LWR@addlinktitle`

```

10370 \newcommand*{\LWR@addlinktitle}{%
10371 \ifdefvoid{\LWR@ThisAltText}{ }{ % space
10372 title=\textquotedbl\LWR@ThisAltText\textquotedbl % space
10373 \gdef\LWR@ThisAltText{}%
10374 }%
10375 }

```

`\LWR@startref` `{\langle label \rangle}` (Common code for `\ref` and `\nameref`.)

Open an HTML tag reference to a filename, # character, and a label.

```

10376 \newcommand*{\LWR@startref}[1]
10377 {%
10378 \LWR@sanitize{#1}%
10379 \LWR@traceinfo{\LWR@startref A: !#1!}%

```

Create the filename part of the link:

```

10380 \LWR@htmltag{a href=\textquotedbl%
10381 \LWR@traceinfo{\LWR@startref B}%
10382 \LWR@print@mbox{\LWR@htmlrefsectionfilename{#1}}%
10383 \LWR@traceinfo{\LWR@startref C}%
10384 \LWR@origpound%

```

Create the destination id:

See if `LWR@lateximagedepth` is unknown:

```

10385 \LWR@traceinfo{\LWR@startref D: !#1!}%
10386 \ifcsundef{r@#1@lwarp}%

```

“??” if `LWR@lateximagedepth` is unknown, so create a link with an unknown destination:

```

10387 {%
10388 \LWR@traceinfo{\LWR@startref D0: ??}%
10389 ??%
10390 }%

```

If `LWR@lateximagedepth` is known. Use a `lateximage` if the depth is greater than zero, or a regular link otherwise:

```

10391 {%
10392 \ifthenelse{\cinttest{\LWR@lateximagedepthref{#1}}{>}{0}}%
10393 {%
10394 lateximage-\BaseJobname-\LWR@lateximagenumberref{#1}%
10395 }%
10396 {%
10397 \LWR@traceinfo{\LWR@startref D3}%

```

`\detokenize` is used to allow underscores in the labels:

```

10398 \LWR@print@mbox{\LWR@sanitized}%
10399 }%
10400]%
10401 \LWR@traceinfo{\LWR@startref E}%

```

Closing quote:

```
10402 \textquotedbl%
```

Maybe add a title:

```

10403 \LWR@addlinktitle%
10404]%
10405 \LWR@traceinfo{\LWR@startref F}%
10406 }

```

`\LWR@subnewref`  $\{\langle label \rangle\} \{\langle label \text{ or } sub@label \rangle\}$

Factored for the `subfig` package. Uses the original label for the hyper-reference, but prints its own text, such as “1(b)”.

```

10407 \NewDocumentCommand{\LWR@subnewref}{m m}{%
10408 \LWR@traceinfo{\LWR@subnewref #1 #2}%
10409 \LWR@startref{#1}%
10410 \LWR@print@ref{#2}%
10411 \LWR@htmltag{/a}%
10412 }

```

`\ref` \*  $\{\langle label \rangle\}$  `\ref` is redefined to `\LWR@HTML@ref`, except inside the text part of a `\hyperref`, where it is redefined to `\LWR@ref@ignorestar`.

`\LWR@HTML@ref` \*  $\{\langle label \rangle\}$  Create an internal document reference link, or without a link if starred per `hyperref`.

`hyperref` defines a starred version. Since `hyperref` is only emulated, the starred version is defined here for print mode, in case `\ref` is used inside `svg math`:

```
10413 \LWR@absorbstar{ref}%
```

The HTML version:

```

10414 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
10415 \LWR@traceinfo{\LWR@HTML@ref !#2!}%
10416 \IfBooleanTF{#1}%
10417 {\LWR@print@ref{#2}}%
10418 {\LWR@subnewref{#2}{#2}}%
10419 }
10420
10421 \LWR@formatted{ref}

```

`\LWR@refwithsection`

```

10422 \NewDocumentCommand{\LWR@refwithsection}{s m}{%
10423 \LWR@traceinfo{\LWR@refwithsection !#2!}%
10424 \IfBooleanTF{#1}%
10425 {\LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}}%
10426 {%
10427 \LWR@startref{#2}%
10428 \LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}%
10429 \LWR@htmltag{/a}%
10430 }%
10431 }

```

For MATHJAX:

```

10432 \CustomizeMathJax{\let\LWRref\ref}
10433 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}

```

`\pagerefPageFor` Text for page references.

```

10434 \newcommand*{\pagerefPageFor}{see }

```

`\pageref` \* `{\label}` Create an internal document reference, or just the unlinked number if starred, per `hyperref`.

```

10435 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
10436 \IfBooleanTF{#1}%
10437 {(\pagerefPageFor\LWR@print@ref{#2})}%
10438 {(\cpageref{#2})}%
10439 }

```

`\nameref` `{\label}`

```

10440 \newrobustcmd*{\nameref}[1]{%
10441 \LWR@traceinfo{\nameref}%
10442 \LWR@startref{#1}%
10443 \LWR@traceinfo{\nameref B}%
10444 \LWR@nameref{#1}%
10445 \LWR@traceinfo{\nameref C}%
10446 \LWR@htmltag{/a}%
10447 \LWR@traceinfo{\nameref: done}%
10448 }

```

`\Nameref` `{\label}` In print, adds the page number. In HTML, does not.

```

10449 \LetLtxMacro\Nameref\nameref

```

## 76.5 Hyper-references



Note that the code currently only sanitizes the underscore character. Additional



characters should be rendered inert as well. See the `hyperref.sty` definition of `\gdef\hyper@normalise` for an example.

Pkg hyperref



Do not tell other packages that `hyperref` is emulated. Some packages patch various commands if `hyperref` is present, which will probably break something, and the emulation already handles whatever may be emulated anyhow.

```
10450 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
10451 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

`\@currentHref` Added to support `backref`.

```
10452 \AtBeginDocument{
10453 \def\@currentHref{\BaseJobname-autopage-\theLWR@previousautopageLabel}%
10454 }
```

`\LWR@linkcatcodes` Sets catcodes before processing macros which have hyperlinks as arguments.

```
10455 \newcommand*\LWR@linkcatcodes{%
10456 \catcode'\#=12%
10457 \catcode'\%=12%
10458 \catcode'\&=12%
10459 \catcode'\~=12%
10460 \catcode'_ =12%
```

For `babel-french`:

```
10461 \LWR@hook@processingtags%
10462 }
```

`\LWR@linkmediacatcodes` Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```
10463 \newcommand*\LWR@linkmediacatcodes{%
10464 \catcode'\#=12%
10465 \catcode'\%=12%
10466 % \catcode'\&=12% left alone for splitting flash variables
10467 \catcode'\~=12%
10468 \catcode'_ =12%
```

For `babel-french`:

```
10469 \LWR@hook@processingtags%
10470 }
```

`\LWR@subhyperref`  $\{\langle URL \rangle\}$

Starts a link for `\LWR@hrefb`. A group must have been opened first, with nullified catcodes. The text name is printed afterwards, after the group is closed and catcodes restored.

```

10471 \NewDocumentCommand{\LWR@subhyperref}{m}{%
10472 \LWR@traceinfo{\LWR@subhyperref !#1!}%
10473 \LWR@sanitize{#1}%
10474 \LWR@htmltag{%
10475 a href=\textquotedbl\LWR@sanitized\textquotedbl\ % space
10476 \LWR@addlinktitle % space
10477 target=\textquotedbl_{}blank\textquotedbl\ % space
10478 }%
10479 }
```

`\LWR@subhyperreftext`  $\{\langle text \rangle\}$

Finishes the hyperref for `\LWR@hrefb`. Catcodes must have been restored already. To be used after `\LWR@subhyperref`, and after its group has been closed.

```

10480 \newcommand{\LWR@subhyperreftext}[1]{%
10481 #1%
10482 \LWR@htmltag{/a}%
10483 \LWR@ensuredoingapar%
10484 }
```

`\LWR@subhyperrefclass`  $\{\langle URL \rangle\} \{\langle text \rangle\} \{\langle htmlclass \rangle\}$

```

10485 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
10486 \LWR@htmltag{%
10487 a % space
10488 href=\textquotedbl\beginngroup@sanitize#1@endgroup\textquotedbl\ % space
10489 class=\textquotedbl#3\textquotedbl\ % space
10490 \LWR@addlinktitle % space
10491 }\LWR@orignewline%
10492 #2%
10493 \LWR@htmltag{/a}%
10494 \LWR@ensuredoingapar%
10495 }
```

`\LWR@href`  $[\langle options \rangle] \{\langle URL \rangle\} \{\langle text \rangle\}$

Create a link with accompanying text:

```

10496 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
10497 \LWR@ensuredoingapar%
10498 \LWR@subhyperref{#2}%
10499 \endgroup% restore catcodes
10500 \LWR@subhyperreftext%
10501 }
10502
10503 \newrobustcmd*{\LWR@href}{%
10504 \beginngroup%
10505 \LWR@linkcatcodes%
```

```
10506 \LWR@hrefb%
10507 }
```

`\LWR@nolinkurl`  $\{\langle URL \rangle\}$

Print the name of the link without creating the link:

```
10508 \newcommand*\LWR@nolinkurlb[1]{%
10509 \LWR@ensuredoingapar%
10510 \def\LWR@templink{#1}%
10511 \@onelevel@sanitize\LWR@templink%
10512 \LWR@templink%
10513 \endgroup%
10514 }
10515
10516 \newrobustcmd*\LWR@nolinkurl}{%
10517 \begingroup%
10518 \LWR@linkcatcodes%
10519 \LWR@nolinkurlb%
10520 }
```

`\LWR@url`  $\{\langle URL \rangle\}$

Create a link whose text name is the address of the link.

The `url` package may redefine `\url`, so it is `\let` to `\LWR@urlahere` and also redefined by `lwarp-url`.

```
10521 \DeclareDocumentCommand{\LWR@urlb}{m}{%
10522 \LWR@ensuredoingapar%
10523 \def\LWR@templink{#1}%
10524 \@onelevel@sanitize\LWR@templink%
10525 \LWR@href{\LWR@templink}{\LWR@templink}%
10526 \endgroup%
10527 }
10528
10529 \newrobustcmd*\LWR@url}{%
10530 \begingroup%
10531 \LWR@linkcatcodes%
10532 \LWR@urlb%
10533 }
```

`\LWR@subinlineimage`  $\{\langle 1: \text{<alt> tag} \rangle\} \{\langle 2: \text{class} \rangle\} \{\langle 3: \text{filename} \rangle\} \{\langle 4: \text{extension} \rangle\} \{\langle 5: \text{css style} \rangle\} \{\langle 6: \text{aria role} \rangle\}$

Factored from `lateximage`.

```
10534 \newcommand*\LWR@subinlineimage}[6]{%
10535 \ifblank{#6}%
10536 {\renewcommand*\LWR@tempone}{}}
10537 {\renewcommand*\LWR@tempone}{role="#6"\LWR@indentHTML}}
10538 \ifblank{#1}%
10539 {%
```

```
10540 \LWR@htmltag{img \LWR@indentHTML
10541 src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
10542 alt=\textquotedbl#3\textquotedbl \LWR@indentHTML
10543 \LWR@tempone
10544 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10545 class=\textquotedbl#2\textquotedbl \LWR@originewline
10546 }%
10547 }%
10548 {%
10549 \LWR@htmltag{img \LWR@indentHTML
10550 src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
10551 alt=\textquotedbl#1\textquotedbl \LWR@indentHTML
10552 \LWR@tempone
10553 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10554 class=\textquotedbl#2\textquotedbl \LWR@originewline
10555 }%
10556 }%
10557 }

10558 \end{warpHTML}
```

Table 17: Float data structures

---

For each <type> of float (figure, table, etc.) there exists the following:

**counter <type>:** A counter called <type>, such as figure, table.

**\<type>name:** Name. \figurename prints “Figure”, etc.

**\ext@<type>:** File extension. \ext@figure prints “lof”, etc.

**\fps@<type>:** Placement.

**\the<type>:** Number. \thetable prints the number of the table, etc.

**\p@<type>:** Parent’s number. Prints the number of the [within] figure, etc.

**\fnum@<type>:** Prints the figure number for the caption.  
 \<type>name \the<type>, “Figure 123”.

**\<type>:** Starts the float environment. \figure or \begin{figure}

**\end<type>:** Ends the float environment. \endfigure or \end{figure}

**\tf@<ext>:** The L<sup>A</sup>T<sub>E</sub>X file identifier for the output file.

**LWR@have<type>:** A boolean remembering whether a \listof was requested for a float of this type.

**File with extension lo<f, t, a-z>:** An output file containing the commands to build the \listof<type> “table-of-contents” structure.

**Cross-referencing names:** For cleveref’s \cref and related, \crefname and \Crefname assign human-readable names for references to this float type.

---

## 77 Floats

Floats are supported, although partially through emulation.

Table 17 shows the data structure associated with each <type> of float.

### 77.1 Float environment

**for HTML output:** 10559 \begin{warpHTML}

\LWR@floatbegin {<type>} [<placement>] Begins a \newfloat environment.

10560 \NewDocumentCommand{\LWR@floatbegin}{m o}{%

Warn if starting a float inside a <span>:

10561 \LWR@spanwarninvalid{float}%

```
10562 \ifbool{FormatWP}{\newline}{}%
10563 \LWR@stoppars%
```

There is a new float, so increment the unique float counter:

```
10564 \addtocounter{LWR@thisautoid}{1}%
10565 \booltrue{LWR@freezethisautoid}%

10566 \begingroup%
```

Settings while inside the environment:

```
10567 \LWR@print@raggedright%
```

Open an HTML figure tag. The figure is assigned a class equal to its type, and another class according to the float package style, if used. Note that `\csuse` returns an empty string if `\LWR@floatstyle@<type>` is not defined.

```
10568 \LWR@htmltag{%
10569 figure id=\textquotedbl%
10570 \LWR@print@mbbox{autoid-\arabic{LWR@thisautoid}}%
10571 \textquotedbl\ % space
10572 class=\textquotedbl#1 \@nameuse{LWR@floatstyle@#1}\textquotedbl%
10573 }%
10574 \ifbool{FormatWP}{%
10575 \LWR@orignewline%
10576 \LWR@BlockClassWP{#1}{wp#1}%
10577 }{#1}%
```

Update the caption type:

```
10578 \renewcommand*\@capttype{#1}%
```

Mark the float for a word processor conversion:

```
10579 \LWR@startpars%
10580 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10581
10582 === begin #1 ===
10583
10584 }{#1}%
```

After each `\LWR@floatbegin`, look for `\centering`, etc next, using `\LWR@floatalignment`.

```
10585 }
```

For koma-script. The following does not work for tables.

```
10586 \AtBeginDocument{
10587
10588 \ifpackageloaded{tocbasic}{
10589
```

```

10590 \appto\figure@atbegin{%
10591 \LWR@futurenonSPACElet\LWR@mynexttoken\LWR@floatalignment%
10592 }
10593
10594 }{}% tocbasic
10595
10596 }% AtBeginDocument

```

`\@xfloat` Support packages which create floats directly.  
`\@xdblfloat` Look for `\centering`, etc using `\LWR@floatalignment`.

```

10597 \AtBeginDocument{
10598 \def\@xfloat #1[#2]{%
10599 \LWR@floatbegin{#1}[#2]
10600 \LWR@futurenonSPACElet\LWR@mynexttoken\LWR@floatalignment%
10601 }
10602 \def\@xdblfloat #1[#2]{%
10603 \LWR@floatbegin{#1}[#2]
10604 \LWR@futurenonSPACElet\LWR@mynexttoken\LWR@floatalignment%
10605 }
10606 }

```

`\LWR@floatend` Ends a `\newfloat` environment.

```
10607 \newcommand*{\LWR@floatend}{%
```

If saw a `\centering`, finish the center environment:

```
10608 \LWR@endfloatalignment%
```

Mark the float end for a word processor conversion:

```

10609 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10610
10611 === end ===
10612
10613 }{}%
10614 \LWR@stoppars%

```

Close an HTML figure tag:

```

10615 \ifbool{FormatWP}{\endLWR@BlockClassWP}{}%
10616 \LWR@htmlElementend{figure}%
10617 \endgroup%
10618 \boolfalse{LWR@freezethisautoid}%
10619 \LWR@startpars%
10620 \ifbool{FormatWP}{\newline}{}%
10621 }

```

`\end@float` Support packages which create floats directly.  
`\end@dblfloat`

```

10622 \AtBeginDocument{
10623 \let\end@float\LWR@floatend
10624 \let\end@dblfloat\LWR@floatend
10625 }

```

## 77.2 Float tracking

**Ctr** `LWR@thisautoid` A sequential counter for all floats and theorems. This is used to identify the float or theorem then reference it from the List of Figures and List of Tables.

```
10626 \newcounter{LWR@thisautoid}
```

**Ctr** `LWR@thisautoidWP` A sequential counter for all word processor conversion `<div>s`. This is used to convince `LIBREOFFICE` to form a frame around this element.

```
10627 \newcounter{LWR@thisautoidWP}
```

**Bool** `LWR@freezethisautoid` Prevents multiple increments of `\LWR@thisautoid` inside a float.

```

10628 \newbool{LWR@freezethisautoid}
10629 \boolfalse{LWR@freezethisautoid}

```

`\LWR@forcenewautoidanchor` Adds a new `<autoid>` anchor.

```

10630 \newcommand*{\LWR@forcenewautoidanchor}{%
10631 \addtocounter{LWR@thisautoid}{1}%
10632 \ifbool{LWR@doingapar}%
10633 {%
10634 \LWR@htmltag{a id=\textquotedbl%
10635 \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}%
10636 \textquotedbl\ }% space
10637 \LWR@htmltag{/a }%
10638 }%
10639 {%
10640 \LWR@stoppars%
10641 \LWR@htmltag{a id=\textquotedbl%
10642 \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}%
10643 \textquotedbl\ }% space
10644 \LWR@htmltag{/a }%
10645 \LWR@startpars%
10646 }%
10647 }

```

`\LWR@newautoidanchor` Sometimes adds a new `<autoid>` anchor.

```

10648 \newcommand*{\LWR@newautoidanchor}{%
10649 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10650 {%
10651 {\ifbool{LWR@freezethisautoid}}{\LWR@forcenewautoidanchor}}%
10652 }

```



`\@capttype` Remembers which float type is in use.

```
10653 \newcommand*\@capttype{}
```

`\LWR@floatalignmentname` Set to center, flushleft, or flushright if saw `\centering`, `\raggedright`, or `\raggedleft`.

```
10654 \newcommand*\LWR@floatalignmentname{}
```

`\LWR@floatalignment` If sees a `\centering`, `\raggedleft`, or `\raggedright`, creates a center, flushright, or flushleft environment.

```
10655 \newcommand*\LWR@floatalignment{%
10656 \ifdefstrequal{\LWR@mynexttoken}{\centering}{%
10657 \center%
10658 \renewcommand*\LWR@floatalignmentname}{center}%
10659 }{%
10660 \ifdefstrequal{\LWR@mynexttoken}{\raggedright}{%
10661 \flushleft%
10662 \renewcommand*\LWR@floatalignmentname}{flushleft}%
10663 }{%
10664 \ifdefstrequal{\LWR@mynexttoken}{\raggedleft}{%
10665 \flushright%
10666 \renewcommand*\LWR@floatalignmentname}{flushright}%
10667 }{%
10668 }
```

`\LWR@endfloatalignment` Closes an environment from `\LWR@floatalignment`.

```
10669 \newcommand*\LWR@endfloatalignment{%
10670 \ifdefvoid{\LWR@floatalignmentname}%
10671 }{%
10672 {\@nameuse{end\LWR@floatalignmentname}}%
10673 \renewcommand*\LWR@floatalignmentname}{}%
10674 }
```

### 77.3 Caption inside a float environment

`\CaptionSeparator` How to separate the float number and the caption text, if not defined by the user. In most cases, `caption`'s settings are used instead.

```
10675 \AtBeginDocument{\providecommand*\CaptionSeparator{:~}}
```

`\@caption` `{<posn>} [<name>] {<long name>}`

`\@makecaption` `{<name and num>} {<text>}`

Prints the float type and number, the caption separator, and the caption text.

`\@caption` is provided here in case `caption` is not loaded, and is based on the `nameref` package.

```

10676 \AtBeginDocument{
10677 \ifpackageloaded{caption}{}{
10678 \let\LWR@orig@caption\@caption%
10679 \long\def\@caption#1[#2]{%

```

Warn if using a caption inside a <span>:

```

10680 \LWR@spanwarnformat{caption}%

10681 \LWR@setlatestname{#2}%
10682 \LWR@orig@caption{#1}[#{2}]% also takes third argument
10683 }%
10684
10685 \renewcommand{\@makecaption}[2]{%
10686 \LWR@traceinfo{@makecaption}%
10687 \caption@begin{\@capttype}%
10688 \LWR@isolate{#1}%
10689 \edef\LWR@tempone{#1}%
10690 \ifdefvoid{\LWR@tempone}{\CaptionSeparator}%
10691 \LWR@isolate{#2}%
10692 \caption@end%
10693 \LWR@traceinfo{@makecaption: done}%
10694 }%
10695 }
10696 }

```

## 77.4 Caption and LOF linking and tracking

When a new HTML file is marked in the L<sup>A</sup>T<sub>E</sub>X PDF file, or at the start of a new section, the L<sup>A</sup>T<sub>E</sub>X PDF page number at that point is stored in LWR@currentautosecfloatpage, (and the associated filename is remembered by the special L<sup>A</sup>T<sub>E</sub>X labels). This page number is used to generate an autopage HTML <id> in the HTML output at the start of the new HTML file or section. Meanwhile, there is a float counter used to generate an HTML autoid <id> at the start of the float itself in the HTML file. The autopage and autoid values to use for each float are written to the .lof, etc. files just before each float's entry. These values are used by \l@figure, etc. to create the HTML links in the List of Figures, etc.

Ctrl LWR@nextautoid Tracks autoid for floats. Tracks autopage for floats.  
Ctrl LWR@nextautopage These are updated per float as the .lof, .lot file is read.

```

10697 \newcounter{LWR@nextautoid}
10698 \newcounter{LWR@nextautopage}

```

\LWRsetnextfloat {<autopage>} {<float autoid>}

File \*\_html.lof This is written to the \*\_html.lof or \*\_html.lot file just before each float's usual entry. The autopage and the float's autoid are remembered for \l@figure to use when creating the HTML links.  
File \*\_html.lot

```

10699 \newcommand*{\LWRsetnextfloat}[2]{%
10700 \setcounter{LWR@nextautopage}{#1}%
10701 \setcounter{LWR@nextautoid}{#2}%
10702 }

```

Env LWR@figcaption An HTML <figcaption> is not allowed in places where L<sup>A</sup>T<sub>E</sub>X does allow a figure caption, such as inside a longtable where the tabular has already started, or inside a center environment. Therefore, a <div> of class figurecaption is used instead.

```

10703 \newenvironment*{LWR@figcaption}
10704 {%
10705 \ifbool{FormatWP}{%
10706 \BlockClass[font-style:italic]{figurecaption}%
10707 }{%
10708 \BlockClass{figurecaption}%
10709 }%

```

Inside the caption, temporarily prevent underfull \hbox warnings, such as when the caption contains a math SVG image.

```

10710 \hbadness=10000\relax%
10711 }%
10712 {\endBlockClass}

```

\LWR@HTML@caption@begin {<type>}

Low-level code to create HTML tags for captions.

The print versions are from the caption package, if loaded.

```

10713 \newcommand*{\LWR@HTML@caption@begin}[1]
10714 {%
10715 \LWR@traceinfo{LWR@HTML@caption@begin}%

```

Keep par and minipage changes local:

```

10716 \begingroup%

```

No need for a minipage or \parbox inside the caption:

```

10717 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{}{}%
10718 \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}{##5}%

```

Enclose the original caption code inside an HTML tag:

```

10719 \LWR@figcaption%
10720 \LWR@traceinfo{LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
10721 \LWR@print@caption@begin{#1}%
10722 \LWR@traceinfo{LWR@HTML@caption@begin: done}%
10723 }

```

`\LWR@HTML@caption@end` Low-level patches to create HTML tags for captions.

```
10724 \newcommand*{\LWR@HTML@caption@end}
10725 {%
10726 \LWR@traceinfo{\LWR@HTML@caption@end}%
10727 \LWR@print@caption@end%
```

Closing tag:

```
10728 \endLWR@figcaption%
10729 \endgroup%
10730 % \leavevmode% avoid bad space factor (0) error
10731 \LWR@traceinfo{\LWR@HTML@caption@end: done}%
10732 }
```

`\caption@begin` Low-level patches to create HTML tags for captions. These are assigned `\AtBeginDocument`  
`\caption@end` so that other packages which modify captions will have already been loaded before saving the print-mode version.

Print versions are provided here in case `caption` is not loaded.

```
10733 \AtBeginDocument{
10734 \providecommand{\caption@begin}[1]{}
10735 \LWR@formatted{caption@begin}
10736
10737 \providecommand{\caption@end}{}
10738 \LWR@formatted{caption@end}
10739 }
```

`\captionlistentry` Tracks the float number for this caption used outside a float. Patched to create an HTML anchor.

```
10740 \AtBeginDocument{%
10741 \ifpackageloaded{caption}{
10742 \let\LWR@origcaptionlistentry\captionlistentry
10743
10744 \renewcommand*{\captionlistentry}{%
10745 \LWR@ensuredoingapar%
10746 \LWR@origcaptionlistentry%
10747 }

10748 \def\LWR@LTcaptionlistentry{%
10749 \LWR@ensuredoingapar%
10750 \LWR@forcenewautoidanchor%
10751 \bgroup%
10752 \@ifstar{\egroup\LWR@LT@captionlistentry}% gobble *
10753 {\egroup\LWR@LT@captionlistentry}%
10754 }%
10755
10756 \def\LWR@LT@captionlistentry#1{%
10757 \caption@listentry\@firstoftwo[\LTcapttype]{#1}%
10758 }%
10759 }% caption loaded
```

```

10760 {% caption not loaded
10761 \newcommand{\captionlistentry}[2][{}]{%
10762 \newcommand{\LWR@LT@captionlistentry}[2][{}]{%
10763 }
10764 }% AtBeginDocument

```

`\addcontentsline` Patched to write the autopage and autoid before each float's entry. No changes if writing .toc For a theorem, automatically defines `\ext@<type>` as needed, to mimic and reuse the float mechanism.

f

```

10765 \let\LWR@origaddcontentsline\addcontentsline
10766
10767 \renewcommand*\addcontentsline[3]{%
10768 \ifstrequal{#1}{toc}{}% not TOC

10769 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10770 {}%
10771 {\LWR@newautoidanchor}%

10772 \ifcsvoid{ext@#2}{\csdef{ext@#2}{#1}}{%

10773 \addtocontents{\@nameuse{ext@#2}}{%
10774 \protect\LWRsetnextfloat%
10775 {\arabic{LWR@currentautosecfloatpage}}%
10776 {\arabic{LWR@thisautoid}}%
10777 }%
10778 }% not TOC
10779 \LWR@origaddcontentsline{#1}{#2}{#3}%
10780 }

```

Pkg `capt-of` Either package provides `\captionof`, which is later patched at the beginning of the document.  
 Pkg `caption`

`\captionof` Patched to handle paragraph tags.

```

10781 \RequirePackage{capt-of}
10782
10783 \AtBeginDocument{
10784 \let\LWR@origcaptionof\captionof
10785
10786 \renewcommand*\captionof{%
10787 \LWR@stoppars%
10788 \LWR@origcaptionof%
10789 }
10790 }% AtBeginDocument

10791 \end{warpHTML}

```

## 78 Table of Contents, LOF, LOT

This section controls the generation of the TOC, LOF, and LOT.

The .toc, .lof, and .lot files are named by the source code `\jobname`.

In HTML, the printed tables are placed inside a `<div>` of class `toc`, `lof`, or `lot`.

A “sidetoc” is provided which prints a subset of the TOC on the side of each page other than the homepage.

The regular L<sup>A</sup>T<sub>E</sub>X infrastructure is used for TOC, along with some patches to generate HTML output.

**for HTML output:** 10792 `\begin{warpHTML}`

### 78.1 Reading and printing the toc

`\LWR@myshorttoc` `{\toc/lof/lot/sidetoc}`

Reads in and prints the TOC/LOF/LOT at the current position. While doing so, makes the @ character into a normal letter to allow formatting commands in the section names.

Unlike in regular L<sup>A</sup>T<sub>E</sub>X, the file is not reset after being read, since the sidetoc may be referred to again in each HTML page.

```
10793 \newcommand*{\LWR@myshorttoc}[1]{%
10794 \LWR@traceinfo{\LWR@myshorttoc: #1}%
10795 \LWR@ensuredoingapar%
```

Only if the file exists:

```
10796 \IfFileExists{\jobname.#1}{%
10797 \LWR@traceinfo{\LWR@myshorttoc: loading}%
```



Many of the commands in the file will have @ characters in them, so @ must be made a regular letter.

```
10798 \begingroup%
10799 \makeatletter%
```

Disable CJK xpinyin while generating the sideroc.

```
10800 \LWR@disablepinyin%
```

Read in the toc file:

```
10801 \@input{\jobname.#1}%
10802 \endgroup%
10803 }%
10804 {}%
```

```
10805 \LWR@traceinfo{LWR@myshorttoc: done}%
10806 }
```

```
\LWR@subtableofcontents {<toc/lof/lot>} {<sectionstarname>}
```

Places a TOC/LOF/LOT at the current position.

```
10807 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
10808 \@ifundefined{chapter}%
10809 {\LWR@closeprevious{section}}%
10810 {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large toc:

```
10811 \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
10812 \@ifundefined{chapter}{\section*{#2}}{\chapter*{#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
10813 \LWR@htmlElementclass{nav}{#1}%
```

Create the actual list:

```
10814 \LWR@myshorttoc{#1}%
```

Close the nav:

```
10815 \LWR@htmlElementclassend{nav}{#1}%
10816 }
```

```
\@starttoc {<ext>}
```

Patch \@starttoc to encapsulate the toc inside HTML tags:

```
10817 \let\LWR@orig@starttoc\@starttoc
10818
10819 \renewcommand{\@starttoc}[1]{
10820 \LWR@htmlElementclass{nav}{#1}%
10821 \LWR@orig@starttoc{#1}%
10822 \LWR@htmlElementclassend{nav}{#1}%
10823 }
```

Bool LWR@copiedsidetoc Used to only copy the toc file to the sidetoc a single time.

(listings and perhaps other packages would re-use \tableofcontents for their own purposes, causing the sidetoc to be copied more than once, and thus end up empty.)

```
10824 \newbool{LWR@copiedsidetoc}
10825 \boolfalse{LWR@copiedsidetoc}
```

`\tableofcontents` Patch `\tableofcontents`, etc. to print footnotes first. `newfloat` uses `\listoffigures` for all future float types.

```
10826 \AtBeginDocument{
10827
10828 \let\LWR@origtableofcontents\tableofcontents
10829
10830 \renewcommand*{\tableofcontents}{%
```

Do not print the table of contents if formatting for a word processor, which will presumably auto-generate its own updated table of contents:

```
10831 \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
10832
10833 === table of contents ===
10834
10835 }
10836 {
```

Copy the `.toc` file to `.sidetoc` for printing the sideroc. The original `.toc` file is renewed when `\tableofcontents` is finished.

```
10837 \ifbool{LWR@copiedsidetoc}}{}%
10838 \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
10839 \booltrue{LWR@copiedsidetoc}%
10840 }%
10841 \LWR@printpendingfootnotes
10842 \LWR@origtableofcontents
10843 }
10844 }% \tableofcontents
10845
10846 }% AtBeginDocument
```

`\listoffigures`

```
10847 \let\LWR@origlistoffigures\listoffigures
10848
10849 \renewcommand*{\listoffigures}{
10850 \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10851
10852 === list of figures ===
10853
10854 }
10855 {
10856 \LWR@printpendingfootnotes
10857 \LWR@origlistoffigures
10858 }
10859 }
```



`\listoftables`

```

10860 \let\LWR@origlistoftables\listoftables
10861
10862 \renewcommand*\listoftables{
10863 \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10864
10865 === list of tables ===
10866
10867 }
10868 {
10869 \LWR@printpendingfootnotes
10870 \LWR@origlistoftables
10871 }
10872 }

```

## 78.2 toc commands

`\LWR@listof`  $\langle type \rangle$   $\langle title \rangle$

Emulate the `\listof` command from the float package (section 275). Used to create lists of custom float types. Also used to redefine the standard L<sup>A</sup>T<sub>E</sub>X `\listoffigures` and `\listoftables` commands, and in `tocloft` and `memoir`.

```

10873 \NewDocumentCommand{\LWR@listof}{m +m}{%
10874 \@ifundefined{l@#1}{%
10875 \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\@nameuse{ext@#1}}{##1}{##2}}%
10876 }{)%
10877 \LWR@subtableofcontents{\@nameuse{ext@#1}}{#2}%
10878 \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname%
10879 \immediate\openout \csname tf@\csname ext@#1\endcsname\endcsname%
10880 \jobname.\@nameuse{ext@#1}\relax%
10881 }

```

## 78.3 Side toc

The “side toc” is a table-of-contents positioned to the side.

It may be renamed by redefining `\sidoctocname`, and may contain paragraphs.

Per table 18, `css` may be used to format the sideroc.

Table 18: CSS related to the sideroc

**div.sidoctoccontainer:** The entire sideroc.

**div.sidoctoctitle:** The title.

**div.sidoctoccontents:** The table of contents.

```
10882 \end{warpHTML}
```

**for HTML & PRINT:** 10883 \begin{warpall}

ctr SideTOCDepth Controls how deep the side-TOC gets. Use a standard L<sup>A</sup>T<sub>E</sub>X section level similar to tocdepth. Warn if parts of the website may be inaccessible.

```

10884 \newcounter{SideTOCDepth}
10885 \setcounter{SideTOCDepth}{1}
10886
10887 \AtEndDocument{%
10888 \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{
10889 \PackageWarningNoLine{lwarp}
10890 {%
10891 SideTOCDepth is less than FileDepth,\MessageBreak
10892 so some website pages may be inaccessible%
10893 }
10894 }{}
10895 }

```

\sitetocname Holds the default name for the sideroc.

```

10896 \newcommand{\sitetocname}{Contents}

10897 \end{warpall}

```

**for HTML output:** 10898 \begin{warpHTML}

\LWR@sitetoc Creates the actual side-TOC.

```

10899 \newcommand*{\LWR@sitetoc}{%
10900 \LWR@forcenewpage
10901 \LWR@stoppars
10902 }

```

The entire sideroc is placed into a nav of class sidetoc.

```

10903 \LWR@htmlclass{div}{sidetoccontainer}
10904 \LWR@htmlclass{nav}{sidetoc}
10905
10906 \setcounter{tocdepth}{\value{SideTOCDepth}}
10907

```

The title is placed into a <div> of class sidetoc title, and may contain paragraphs.

```

10908 \begin{BlockClass}{sidetoc title}
10909 \ifcsvoid{thetitle}{}{\InlineClass{sidetoc thetitle}{\thetitle}\par}
10910 \sitetocname
10911 \end{BlockClass}

```

The table of contents is placed into a <div> of class sidetoc contents.

```

10912 \begin{BlockClass}{sidetoc contents}
10913 \LinkHome

```

```

10914
10915 \LWR@myshorttoc{sidetoc}
10916 \end{BlockClass}
10917 \LWR@htmlElementclassend{nav}{sidetoc}
10918 \LWR@htmlElementclassend{div}{sidetoccontainer}
10919 }

```

## 78.4 Low-level toc line formatting

`\numberline` {<*number*>}

(Called from each line in the .aux, .lof files.)

Record this section number for further use:

```

10920 \newcommand*\LWR@numberline[[1]]{%
10921 \LWR@sectionnumber{#1}\quad%
10922 }
10923
10924 \LetLtxMacro\numberline\LWR@numberline

```

`\LWR@maybetocdata` Replaced by `tocdata`. Adds author name.

```

10925 \newcommand*\LWR@maybetocdata{}

```

`\hypertoc` {<1: *depth*>} {<2: *type*>} {<3: *name*>} {<4: *page*>}

Called by `\l@section`, etc. to create a hyperlink to a section.

The autopage label is always created just after the section opens.

**#1** is depth

**#2** is section, subsection, etc.

**#3** the text of the caption

**#4** page number

```

10926 \NewDocumentCommand{\hypertoc}{m m +m m}{%
10927 \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%

```

Respond to `tocdepth`:

```

10928 \ifnumcomp{#1}{>}{\value{tocdepth}}%
10929 {}%
10930 {%
10931 \LWR@startpars%

```

Create an HTML link to `<filename>#autosec-(page)`, with the name, of the given HTML class.

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```

10932 \LWR@subhyperrefclass{%
10933 \LWR@htmlrefsectionfilename{\BaseJobname-autopage-#4}%
10934 \LWR@origpound\LWR@print@box{autosec-#4}%
10935 }{#3}{toc#2}%

10936 \LWR@maybetocdata%

10937 \LWR@stoppars%
10938 }%
10939 \LWR@traceinfo{hypertoc done}%
10940 }
```

Ctrl `lofdepth` TOC depth for figures.

```

10941 \@ifclassloaded{memoir}{}{
10942 \newcounter{lofdepth}
10943 \setcounter{lofdepth}{1}
10944 }
```

Ctrl `lotdepth` TOC depth for tables.

```

10945 \@ifclassloaded{memoir}{}{
10946 \newcounter{lotdepth}
10947 \setcounter{lotdepth}{1}
10948 }
```

`\hypertocfloat`  $\langle 1: depth \rangle \langle 2: type \rangle \langle 3: ext\ of\ parent \rangle \langle 4: caption \rangle \langle 5: page \rangle$

**#1** is depth

**#2** is figure, table, etc.

**#3** is lof, lot, of the parent.

**#4** the text of the caption

**#5** page number

```

10949 \newcommand{\hypertocfloat}[5]{%
```

If some float-creation package has not yet defined the float type's `lofdepth` counter, etc, define it here:

```

10950 \@ifundefined{c@#3depth}{%
10951 \newcounter{#3depth}%
10952 \setcounter{#3depth}{1}%
10953 }{}%
```

Respond to lofdepth, etc.:

```
10954 \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
10955 \ifthenelse{\cnttest{#1}{<=}{\arabic{#3depth}}}%
10956 {%
10957 \LWR@startpars%
```

Create an HTML link to filename#autoid-(float number), with text of the caption, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
10958 \LWR@subhyperrefclass{%
10959 \LWR@htmlrefsectionfilename{%
10960 \BaseJobname-autopage-\arabic{LWR@nextautopage}}%
10961 }%
10962 \LWR@origpound\LWR@print@box{autoid-\arabic{LWR@nextautoid}}}%
10963 {#4}{toc#2}%

10964 \LWR@maybetocdata%

10965 \LWR@stoppars%
10966 }%
10967 }%
10968 }
```

Automatically called by \contentsline:

`\l@book {<name>} {<page>}`

Uses \DeclareDocumentCommand in case the class does not happen to have a \book.

```
10969 \DeclareDocumentCommand{\l@book}{m m}{\hypertoc{-2}{book}{#1}{#2}}
```

`\l@part {<name>} {<page>}`

Uses \DeclareDocumentCommand in case the class does not happen to have a \part.

```
10970 \DeclareDocumentCommand{\l@part}{m m}{\hypertoc{-1}{part}{#1}{#2}}
```

`\l@chapter {<name>} {<page>}`

Uses \DeclareDocumentCommand in case the class does not happen to have a \chapter.

```
10971 \ifundefined{chapter}
10972 {}
10973 {
10974 \DeclareDocumentCommand{\l@chapter}{m m}
10975 {\hypertoc{0}{chapter}{#1}{#2}}
10976 }
```

```
\l@section {<name>} {<page>}
```

```
10977 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

```
\l@subsection {<name>} {<page>}
```

```
10978 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

```
\l@subsubsection {<name>} {<page>}
```

```
10979 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}
```

```
\l@paragraph {<name>} {<page>}
```

```
10980 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}
```

```
\l@subparagraph {<name>} {<page>}
```

```
10981 \renewcommand{\l@subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}
```

```
\l@figure {<name>} {<page>}
```

```
10982 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}
```

```
\l@table {<name>} {<page>}
```

```
10983 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}
```

```
10984 \end{warpHTML}
```

## 79 Index and glossary

See:

<http://tex.stackexchange.com/questions/187038/>

[how-to-mention-section-number-in-index-created-by-imakeidx](#)

Index links are tracked by the counter `LWR@autoindex`. This counter is used to create a label for each index entry, and a reference to this label for each entry in the index listing. This method allows each index entry to link directly to its exact position in the document.

**for HTML output:** 10985 \begin{warpHTML}

```
10986 \newcounter{LWR@autoindex}
```

```
10987 \setcounter{LWR@autoindex}{0}
```

```
10988
```

```
10989 \newcounter{LWR@autoglossary}
```

```
10990 \setcounter{LWR@autoglossary}{0}
```

`\IndexPageSeparator` `\IndexRangeSeparator` User-adjustable delimiters for page and range separators in the \*.ind files.

```
10991 \newcommand*\IndexPageSeparator}{, }
10992 \newcommand*\IndexRangeSeparator}{--}
```

Env `theindex`

```
10993 \@ifundefined{chapter}
10994 {\newcommand*\LWR@indexsection}[1]{\section*{#1}}
10995 {\newcommand*\LWR@indexsection}[1]{\chapter*{#1}}
10996
10997
10998 \AtBeginDocument{
10999
11000 \renewenvironment*{theindex}{%
11001 \LWR@indexsection{\indexname}%
11002 \let\item\LWR@indexitem%
11003 \let\subitem\LWR@indexsubitem%
11004 \let\subsubitem\LWR@indexsubsubitem%
11005 }{}
11006
11007 }% AtBeginDocument
```

`\LWR@indexitem` [*<index key>*] The optional argument is added to support `repeatindex`.

```
11008 \newcommand*\LWR@indexitem}[1][\@empty]{
11009
11010 \InlineClass{indexitem}{\LWR@htmlcomment{}}#1%
11011 }
```

`\LWR@indexsubitem`

```
11012 \newcommand*\LWR@indexsubitem){
11013
11014 \InlineClass{indexsubitem}{\LWR@htmlcomment{}}%
11015 }
```

`\LWR@indexsubsubitem`

```
11016 \newcommand*\LWR@indexsubsubitem){
11017
11018 \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}}%
11019 }
```

`\LWR@index@modifyentry` {*<indexing term>*}

If using `xindex`, modifies the pipe character to become `\hyperindexformat`. The indexing term is split into two argument at the pipe, then fed to `\LWR@index@modifyentrysub`.

```
11020 \NewDocumentCommand*\LWR@index@modifyentry}{>{\SplitArgument{1}{|}}m}
11021 {\LWR@index@modifyentrysub#1}
```

Handle left and right parenthesis range argument, or add a hyperindexformat clause.

```

11022 \newcommand*{\LWR@index@modifyentrysub}[2]{%
11023 \edef\LWR@tempone{#1}%
11024 \edef\LWR@temptwo{#2}%
11025 \IfValueTF{#2}{%
11026 \ifx#2(%
11027 \appto\LWR@tempone{|(%}
11028 \else%
11029 \ifx#2)%
11030 \appto\LWR@tempone{|)%}
11031 \else%
11032 \appto\LWR@tempone{%
11033 |hyperindexformat\LWRleftbrace%
11034 \LWRbackslash#2%
11035 \LWRrightbrace%
11036 }%
11037 \fi%
11038 \fi%
11039 }%
11040 {%}
11041 }

```

`\@wrindex {{indexing term}}` Redefined to write the LWR@autoindex counter instead of page.

If using *xindex*, the first line is a comment including a special phrase which tricks *xindex* into thinking that *hyperref* was used.

```

11042 \newbool{LWR@index@tricked}
11043 \boolfalse{LWR@index@tricked}
11044
11045 \def\LWR@wrindex#1{%
11046 \ifbool{LWR@index}{%
11047 \ifbool{LWR@index@tricked}{%}
11048 \protected@write\@indexfile{%
11049 {%
11050 \LWRpercent\space hyperpage\LWRrightbrace%
11051 \LWRpercent\space trick xindex to assume hyperref%
11052 }%
11053 \global\booltrue{LWR@index@tricked}%
11054 }%
11055 \LWR@index@modifyentry{#1}%
11056 }{%}
11057 \def\LWR@tempone{#1}%
11058 }%
11059 \addtocounter{LWR@autoindex}{1}%
11060 \label{LWRindex-\arabic{LWR@autoindex}}%
11061 \protected@write\@indexfile{%
11062 {\string\indexentry{\LWR@tempone}{\arabic{LWR@autoindex}}}%
11063 \endgroup%
11064 \@esphack%
11065 }
11066
11067 \AtBeginDocument{
11068 \let\@wrindex\LWR@wrindex

```



11069 }

`\@wrglossary` {*<term>*}     Redefined to write the LWR@autoglossary counter instead of page.

```
11070 \def\@wrglossary#1{%
11071 \addtocounter{LWR@autoglossary}{1}%
11072 \LWR@new@label{LWRglossary-\theLWR@autoglossary}%
11073 \protected@write\@glossaryfile{%
11074 {\string\glossaryentry{#1}\theLWR@autoglossary}}%
11075 \endgroup%
11076 \@esphack%
11077 }
```

`\LWR@indexnameref@anonref` {*<LWR@autoindex>*}

Displays a reference link where there no `\ref` available.

```
11078 \newcommand*\LWR@indexnameref@anonref[1]{%
11079 \LWR@startref{LWRindex-#1}%
11080 (*)%
11081 \LWR@htmltag{/a}%
11082 }
```

`\LWR@indexnameref@ref` {*<LWR@autoindex>*}

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first.

```
11083 \newcommand*\LWR@indexnameref@ref[1]{%
11084 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11085 \ifdefvoid{\LWR@thisref}{}%
11086 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11087 \ifdefvoid{\LWR@thisref}%
11088 {\LWR@indexnameref@anonref{#1}}%
11089 {\ref{LWRindex-#1}}%
11090 }%
11091 }
```

`\LWR@indexnameref@refnameref` {*<LWR@autoindex>*}

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first. For links to starred or ?? objects, only the name is used.

```
11092 \newcommand*\LWR@indexnameref@refnameref[1]{%
11093 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11094 \ifdefvoid{\LWR@thisref}{}%
11095 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11096 \ifdefvoid{\LWR@thisref}{}%
11097 \ifdefstring{\LWR@thisref}{(*)}%
11098 {}%
11099 {\ref{LWRindex-#1} }% space
```

```

11100 }%
11101 }%
11102 \nameref{LWRindex-#1}%
11103 }

```

`\LWR@indexnameref@cref`  $\langle LWR@autoindex \rangle$

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is `??`, which will be changed by `\LWR@indexnameref` to become `(*)`, then the link is changed to show `(*)`.

```

11104 \newcommand*{\LWR@indexnameref@cref}[1]{%
11105 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11106 \ifdefvoid{\LWR@thisref}{%
11107 \nameref{LWRindex-#1}%
11108 }{%
11109 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11110 \ifdefvoid{\LWR@thisref}{%
11111 \nameref{LWRindex-#1}%
11112 }{%
11113 \ifdefstring{\LWR@thisref}{(*)}{%
11114 \LWR@indexnameref@anonref{#1}%
11115 }{%
11116 \cref{LWRindex-#1}%
11117 }%
11118 }%
11119 }%
11120 }

```

`\LWR@indexnameref@crefnameref`  $\langle LWR@autoindex \rangle$

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is `??`, which will be changed by `\LWR@indexnameref` to become `(*)`, then the link is changed to show only the name.

```

11121 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
11122 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11123 \ifdefvoid{\LWR@thisref}%
11124 {}%
11125 {%
11126 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11127 \ifdefvoid{\LWR@thisref}%
11128 {}%
11129 {%
11130 \ifdefstring{\LWR@thisref}{(*)}%
11131 {}%
11132 {\cref{LWRindex-#1}} % space
11133 }%
11134 }%
11135 \nameref{LWRindex-#1}%
11136 }

```

`\LWR@indexnameref`  $\langle LWR@autoindex \rangle$

Creates a hyperlink based on the given entry's autoindex.

```
11137 \newcommand*\LWR@indexnameref}[1]{%
11138 {% group
```

Temporarily redefine `\caption@xref` because it was printing ?? in the indexes, and also causing error on expansion:

```
11139 \ifdef{\caption@xref}{%
11140 \renewcommand*\caption@xref[2]{(*)}%
11141 }{%

11142 \ifdefstring\LWR@IndexRef}{ref}{%
11143 \LWR@indexnameref@ref{#1}%
11144 }{%
11145 \ifdefstring\LWR@IndexRef}{nameref}{%
11146 \nameref\LWRindex-#1}%
11147 }{%
11148 \ifdefstring\LWR@IndexRef}{refnameref}{%
11149 \LWR@indexnameref@refnameref{#1}%
11150 }{%
11151 \ifdefstring\LWR@IndexRef}{cref}{%
11152 \LWR@indexnameref@cref{#1}%
11153 }{%
11154 \ifdefstring\LWR@IndexRef}{crefnameref}{%
11155 \LWR@indexnameref@crefnameref{#1}%
11156 }{%
11157 \ifdefstring\LWR@IndexRef}{autoref}{%
11158 \LWR@indexnameref@cref{#1}%
11159 }{% text string
11160 \LWR@startref\LWRindex-#1}%
11161 \LWR@IndexRef%
11162 \LWR@htmltag{/a}%
11163 }}}}]}%
11164 }% group
11165 }
```

```
\LWR@doindexentrysubsub {<range start: LWR@autoindex, or macros.>} {<range end or blank>}
```

Creates a hyperlink, or handles `\see`, `\textbf`, etc.

```
11166 \newrobustcmd{\LWR@doindexentrysubsub}[2]{%
11167 \IfInteger{#1}%
11168 {\LWR@indexnameref{#1}}%
11169 {#1}%
11170 \IfValueT{#2}{%
11171 \IndexRangeSeparator%
11172 \IfInteger{#2}%
11173 {\LWR@indexnameref{#2}}%
11174 {#2}%
11175 }%
11176 }
```

`\LWR@doindexentrysub` {<*range delimiter*>} {<*LWR@autoindex or macros, possible a range*>}

```
11177 \NewDocumentCommand{\LWR@doindexentrysub}{m >{\SplitArgument{1}{#1}}m}
11178 {\LWR@doindexentrysubsub#2}
```

`\LWR@doindexentry` {<*LWR@autoindex or macros, possible a range*>}

```
11179 \newcommand*{\LWR@doindexentry}[1]{%
11180 \relax% required
11181 \expandafter\LWR@doindexentrysub\expandafter{\IndexRangeSeparator}{#1}%
11182 }
```

`\LWR@hyperindexrefnullified` Handles macros commonly seen inside an `\index` entry. Each macro is redefined to create and format a link to its entry.

 **index formatting** To handle additional macros:

```
\appto\LWR@hyperindexrefnullified{. . . }
```

```
11183 \newcommand{\LWR@hyperindexrefnullified}{%
11184 \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}%
11185 \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}%
11186 \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{##1}}}%
11187 \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{##1}}}%
11188 \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}%
11189 \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}%
11190 \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}%
11191 \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}%
11192 \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%
11193 \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{##1}}}%
11194 \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}%
11195 \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%
11196 \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%
11197 }
```

`\hyperindexref` {<*list of LWR@autoindex, commas, and ranges*>}

`\hyperindexref{LWR@autoindex}` is inserted into `*.ind` by the *makeindex* style file `lwarp.ist` or the *xindy* style file `lwarp.xdy`. For *xindex*, `\hyperpage` is inserted, which is `\let` to `\hyperindexref`. For *gindex*, `\addindexitem` and related are inserted, which are defined to use `\hyperindexref`.

The argument is split at commas, and also for ranges, then passed to `\LWR@hyperindexrefsub`.

```
11198 \newcommand*{\hyperindexref}[1]{%
11199 \relax% required
11200 \expandafter\LWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}%
11201 }
```

`\LWR@hyperindexref@comma` {<*separator*>} {<*list of args*>}

The list is split at commas, and passed to `\LWR@hyperindexref@comma`.

```

11202 \NewDocumentCommand{\LWR@hyperindexref@comma}
11203 {m >{\SplitList{#1}} m}
11204 {%

```

Used to place the separator between each entry, but not before the first.

```

11205 \def\LWR@hyperindexref@thiscomma{}%
11206 \def\LWR@hyperindexref@nextcomma{#1}%

```

Each comma-delimited entry is now passed individually to `\LWR@hyperindexref@@comma`.

```

11207 \ProcessList{#2}\LWR@hyperindexref@@comma%
11208 }

```

`\LWR@hyperindexref@@comma` {*<arg, perhaps with a range>*}

A comma separator is placed if not the first item, then the range is parsed.

```

11209 \newcommand*{\LWR@hyperindexref@@comma}[1]{%
11210 \LWR@hyperindexref@thiscomma%
11211 \renewcommand{\LWR@hyperindexref@thiscomma}{\LWR@hyperindexref@nextcomma}%
11212 \expandafter\LWR@hyperindexref@range\expandafter{\IndexRangeSeparator}{#1}%
11213 }

```

`\LWR@hyperindexref@range` {*<range delimiter>*} {*<arg>*}

```

11214 \NewDocumentCommand{\LWR@hyperindexref@range}
11215 {m >{\SplitArgument{1}{#1}} m}
11216 {\LWR@hyperindexrefsub#2}

```

`\LWR@hyperindexrefsub` {*<range start: LWR@autoindex>*} {*<range end, or -NoValue->*}

Handles the start and end of a range, if applicable.

```

11217 \newcommand*{\LWR@hyperindexrefsub}[2]{%
11218 \LWR@hyperindexrefsubtwo{#1}%
11219 \IfValueT{#2}{%
11220 \IndexRangeSeparator%
11221 \LWR@hyperindexrefsubtwo{#2}%
11222 }%
11223 }

```

`\LWR@hyperindexrefsubtwo` {*<LWR@autoindex>*}

```

11224 \newcommand*{\LWR@hyperindexrefsubtwo}[1]{%

```

In long index lines with numerous entries, *makeindex* can insert a newline before the page number, resulting in an extra space before the first digit. If the first character is a space, remove it first.

```

11225 \edef\LWR@tempone{#1}%

```

```

11226 \IfBeginWith{\LWR@tempone}{ }{%
11227 \StrGobbleLeft{\LWR@tempone}{1}[\LWR@tempone]%
11228 }{%

```

If a numeric entry, create a link. If not numeric, such as `\see`, use the entry as-is. `\emph`, `\textit`, etc. have been redefined above to create and format the entry.

```

11229 \IfInteger{\LWR@tempone}%
11230 {\LWR@indexnameref{\LWR@tempone}}%
11231 {%
11232 \begingroup%
11233 \LWR@hyperindexrefnullified%
11234 #1%
11235 \endgroup%
11236 }%
11237 }

```

`\hyperpage` Emulate `hyperref`.

```
11238 \LetLtxMacro\hyperpage\hyperindexref
```

`\nohyperpage` Emulate `hyperref`.

```
11239 \def\nohyperpage#1{}
```

`\hyperindexformat` Emulate `hyperref`.

```

11240 \def\hyperindexformat#1#2{%
11241 #1{\hyperpage{#2}}%
11242 }%
11243 \end{warpHTML}

```

**for PRINT output:** A null command for print mode, in case `hyperref` was not used:

```

11244 \begin{warpprint}
11245 \newcommand{\hyperindexref}[1]{#1}
11246 \end{warpprint}

```

**for HTML & PRINT:** For the `glossaries` package, try to prevent an error where `\glo@name` was not found:

```

11247 \begin{warpall}
11248 \providecommand{\glo@name}{}
11249 \end{warpall}

```

## 80 Bibliography presentation

**for HTML output:** 11250 `\begin{warpHTML}`

`\bibliography`  $\langle\textit{filenames}\rangle$  At one time this was modified to read `\BaseJobname.bbl`, which meant the HTML version could not resolve until the print version was also present. This also confused `multibib`. It has been reverted to the original to use `\jobname.bbl`.

`\@biblabel`  $\langle\textit{text-refnumber}\rangle$

```
11251 \renewcommand{\@biblabel}[1][[#1]\quad}
```

Env `thebibliography` To emphasize document titles in the bibliography, the following redefines `\em` inside `thebibliography` to gather everything until the next closing brace, then display these tokens with `\textit`.

*Adapted from* `embracedef.sty`, which is by TAKAYUKI YATO:

<https://gist.github.com/zr-tex8r/b72555e3e7ad2f0a37f1>

```
11252 \AtBeginDocument{
11253
11254 \AtBeginEnvironment{thebibliography}{
11255
11256 \providecommand*\LWR@newem}[1]{\textit{#1}}
11257
11258 \renewrobustcmd{\em}{%
11259 \begingroup
11260 \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
11261 \afterassignment\LWR@em@after
11262 \toks@\bgroup
11263 }
11264
11265 \def\LWR@em@finish#1{%
11266 \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
11267 \endgroup
11268 \LWR@em@after\egroup
11269 }
11270
11271 }% \AtBeginEnvironment{thebibliography}
11272
11273 }% \AtBeginDocument

11274 \end{warpHTML}
```

## 81 Restoring original formatting

for HTML output: 11275 `\begin{warpHTML}`

`\LWR@restoreMathJaxformatting` A few macros (ref: `tcolorbox`) must be treated separately while printing the HTML comment for a MATHJAX expression. These are set here, to which other functions may be appended.

```
11276 \newcommand*\LWR@restoreMathJaxformatting{}
```

`\LWR@restoreorigformatting` Used to temporarily restore the print-mode meaning of a number of formatting, graphics, and symbols-related macros while generating SVG math or a `lateximage`.

Must be used inside a group.

Sets `\LWR@formatting` to print until the end of the group.

A number of packages will `\appto` additional actions to this macro.

Various packages add to this macro using `\appto`.

```
11277 \newcommand*{\LWR@restoreorigformatting}{%
11278 \LWR@traceinfo{\LWR@restoreorigformatting}%
```

Numerous macros change their print/HTML meaning depending on `\LWR@formatting`:

```
11279 \renewcommand*{\LWR@formatting}{print}%
11280 \linespread{1}%

11281 \let\par\LWR@origpar%

11282 \LWR@select@print@hspace%

11283 \LetLtxMacro\hfil\LWR@origfil%
11284 \let\hss\LWR@orighss%
11285 \let\llap\LWR@origllap%
11286 \let\rlap\LWR@origrlap%
11287 \let\hfilneg\LWR@origfilneg%

11288 \let\,\LWR@origcomma% disable HTML short unbreakable space
11289 \let\thinspace\LWR@origthinspace% disable HTML short unbreakable space
11290 \let\negthinspace\LWR@orignegthinspace% disable HTML negative short unbreakable space
11291 \let\textellipsis\LWR@origtextellipsis%

11292 \let\vdots\LWR@origvdots%

11293 \let\textless\LWR@origtextless%
11294 \let\textgreater\LWR@origtextgreater%

11295 \let\&\LWR@origampersand%

11296 \LetLtxMacro\em\LWR@origem%
11297 \LetLtxMacro\normalfont\LWR@orignormalfont%
11298 \let\sp\LWR@origsp%
11299 \let\sb\LWR@origsb%
11300 \LetLtxMacro\underline\LWR@origunderline%
11301 \let~\LWR@origtilde%
11302 \let\enskip\LWR@origenskip%
11303 \let\quad\LWR@origquad%
11304 \let\qqquad\LWR@origqqquad%
```



`\endtabular` must be restored to its original, instead of relying on `lwarp`'s `\LWR@formatted` mechanism:

```

11305 \LetLtxMacro\endtabular\LWR@origendtabular%
11306 \csletcs{endtabular*}{LWR@origendtabular*}%

11307 \LetLtxMacro\noalign\LWR@orignoalign%
11308 \LetLtxMacro\hline\LWR@orighline%

11309 \let\newline\LWR@orignewline%
11310 \LetLtxMacro\includegraphics\LWR@origincludegraphics%

11311 \LetLtxMacro\@ensuredmath\LWR@origensuredmath%

11312 \let\math\LWR@orig@math%
11313 \let\endmath\LWR@orig@endmath%
11314 \let\displaymath\LWR@orig@displaymath%
11315 \let\enddisplaymath\LWR@orig@enddisplaymath%
11316 %
11317 \LWR@restoreorigaccents%
11318 \LWR@restoreoriglists%
11319 %
11320 \LWR@hook@processingtags%
```

To enable MATHJAX-specific nullification, used for `tcolorbox`:

```

11321 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
11322 {\LWR@restoreMathJaxformatting}%
11323 }%
11324 }

11325 \end{warpHTML}
```

## 82 Nullifying filename formatting

The following are used to nullify certain macros and environments while converting section names to file names.

**for HTML output:** 11326 `\begin{warpHTML}`

Also commonly used are `\@empty`, `\@gobble`, and `\@firstofone`.

```
11327 \newcommand*{\LWR@dash}{-}
```

`\LWR@nullfonts` Removes formatting during filename operations, file references, and HTML comments.

 **Use only inside a group.**

The following are *not* made robust, since they must be expanded to their nullified versions.

```
11328 \catcode'\$=\active% redefining $ below
11329 \catcode'_ =12% redefining _ below
11330 \newcommand*\LWR@nullfonts}{%
```

Various built-in symbols.

```
11331 \renewcommand*\$}{-%
11332 \renewcommand*\%}{-%
11333 \renewcommand*_}{-%
11334 \renewcommand*\}{-%
11335 \renewcommand*\{ }{-%
11336 \renewcommand*\&}{-% used to be 'and'
11337 \renewcommand*\#}{-%
11338 \renewcommand*\,}{-%
11339 \renewcommand*\~}{-%
11340 %
11341 % accents:
11342 \renewcommand*\`}[1]{##1}%
11343 \renewcommand*\'}[1]{##1}%
11344 \renewcommand*\^[1]{##1}%
11345 \renewcommand*\~}[1]{##1}%
11346 \renewcommand*\=[1]{##1}%
11347 \renewcommand*\u}[1]{##1}%
11348 \renewcommand*\.[1]{##1}%
11349 \renewcommand*\"}[1]{##1}%
11350 \renewcommand*\H}[1]{##1}%
11351 \renewcommand*\v}[1]{##1}%
11352 \renewcommand*\d}[1]{##1}%
11353 \renewcommand*\c}[1]{##1}%
11354 \renewcommand*\b}[1]{##1}%
11355 \renewcommand*\t}[1]{##1}%
11356 %
11357 \let\newline\LWR@dash%
11358 \let\textasciicircum\LWR@dash%
11359 \let\textasciitilde\LWR@dash%
11360 \let\textasteriskcentered\LWR@dash%
11361 \let\textbackslash\LWR@dash%
11362 \let\textbar\LWR@dash%
11363 \let\textbardbl\LWR@dash%
11364 \let\textbigcirc\LWR@dash%
11365 \let\textbraceleft\LWR@dash%
11366 \let\textbraceright\LWR@dash%
11367 \let\textbullet\LWR@dash%
11368 \let\textcopyright\LWR@dash%
11369 \let\textdagger\LWR@dash%
11370 \let\textdaggerdbl\LWR@dash%
11371 \let\textdollar\LWR@dash%
11372 \let\textellipsis\LWR@dash%
11373 \let\textemdash\LWR@dash%
11374 \let\textendash\LWR@dash%
11375 \let\textexclamdown\LWR@dash%
11376 \let\textgreater\LWR@dash%
```

```

11377 \let\textless\LWR@dash%
11378 \let\textordfeminine\LWR@dash%
11379 \let\textordmasculine\LWR@dash%
11380 \let\textparagraph\LWR@dash%
11381 \let\textperiodcentered\LWR@dash%
11382 \let\textpertenthousand\LWR@dash%
11383 \let\textperthousand\LWR@dash%
11384 \let\textquestiondown\LWR@dash%
11385 \let\textquotedblleft\LWR@dash%
11386 \let\textquotedblright\LWR@dash%
11387 \let\textquoteleft\LWR@dash%
11388 \let\textquoteright\LWR@dash%
11389 \let\textregistered\LWR@dash%
11390 \let\textsection\LWR@dash%
11391 \let\textsterling\LWR@dash%
11392 \let\texttrademark\LWR@dash%
11393 \let\textunderscore\LWR@dash%
11394 \let\textvisiblespace\LWR@dash%
11395 \let\copyright\LWR@dash%
11396 \let\dag\LWR@dash%
11397 \let\ddag\LWR@dash%
11398 \let\dots\LWR@dash%
11399 \let\P\LWR@dash%
11400 \let\pounds\LWR@dash%
11401 \let\S\LWR@dash%
11402 %
11403 \renewcommand*{\aa}{a}%
11404 \renewcommand*{\AA}{A}%
11405 \renewcommand*{\AE}{AE}%
11406 \renewcommand*{\ae}{ae}%
11407 \renewcommand*{\dh}{d}%
11408 \renewcommand*{\DH}{D}%
11409 \renewcommand*{\DJ}{D}%
11410 \renewcommand*{\dj}{d}%
11411 \renewcommand*{\IJ}{IJ}%
11412 \renewcommand*{\ij}{ij}%
11413 \renewcommand*{\L}{L}%
11414 \renewcommand*{\l}{l}%
11415 \renewcommand*{\NG}{NG}%
11416 \renewcommand*{\ng}{ng}%
11417 \renewcommand*{\O}{O}%
11418 \renewcommand*{\o}{o}%
11419 \renewcommand*{\oe}{oe}%
11420 \renewcommand*{\OE}{OE}%
11421 \renewcommand*{\ss}{ss}%
11422 \renewcommand*{\SS}{SS}%
11423 \renewcommand*{\th}{th}%
11424 \renewcommand*{\TH}{TH}%
11425 %
11426 \let\guillemotleft\@empty%
11427 \let\guilsinglleft\@empty%
11428 \let\quotedblbase\@empty%
11429 \let\textquotedbl\@empty%
11430 \let\guillemotright\@empty%
11431 \let\guilsinglright\@empty%

```

```

11432 \let\quotesinglbase\@empty%

11433 \renewcommand*\HTMLunicode}[1]{}%
11434 \renewcommand*\HTMLentity}[1]{}%

11435 \renewcommand{\textsuperscript}[1]{##1}%
11436 \renewcommand{\textsubscript}[1]{##1}%

11437 \renewcommand{\underline}[1]{##1}%

11438 \RenewDocumentCommand{\hspace}{s m}{}%

11439 \RenewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{##4}%
11440 \DeclareExpandableDocumentCommand{\InlineClass}{D{(){} } o m +m}{##4}%

```

Nullify math macros.

```

11441 \def\(\){}%
11442 \def\[\]{}%
11443 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%

```

Nullify logos:

```

11444 \renewcommand*\TeX{\TeX}%
11445 \renewcommand*\LaTeX{\LaTeX}%
11446 \renewcommand*\LaTeXe{\LaTeX2e}%
11447 \renewcommand*\LuaTeX{\LuaTeX}%
11448 \renewcommand*\LuaLaTeX{\LuaLaTeX}%
11449 \renewcommand*\XeTeX{\XeTeX}%
11450 \renewcommand*\XeLaTeX{\XeLaTeX}%
11451 \renewcommand*\ConTeXt{\ConTeXt}%
11452 \renewcommand*\BibTeX{\BibTeX}%
11453 \renewcommand*\MakeIndex{\MakeIndex}%
11454 \renewcommand*\AmS{\AmS}%
11455 \renewcommand*\MiKTeX{\MiKTeX}%
11456 \renewcommand*\LyX{\LyX}%

```

Use the simpler form with `\texorpdfstring`:

```

11457 \def\texorpdfstring{\expandafter\@secondoftwo}%
11458 }
11459 \catcode'\$=3%
11460 \catcode'_ =8%

```

`\FilenameNullify` {<redefinitions>}

Adds more nullifying definitions for filename generation.

```

11461 \newcommand*\FilenameNullify}[1]{%
11462 \appto{\LWR@nullfonts}{#1}%
11463 }

11464 \end{warpHTML}

```

## 83 Math

### 83.1 Limitations

See [Math](#), section 8.7.

### 83.2 HTML alt tag names

Redefinable names for the HTML alt tags, for translation according to the reader's native language.

**for HTML & PRINT:** 11465 \begin{warpall}

`\AltTextOpen` The opening part of HTML alt tag for an image. The default is a left parenthesis.

Default: `(`

```
11466 \newcommand*{\AltTextOpen}{(}
```

`\AltTextClose` The closing part of HTML alt tag for an image. The default is a right parenthesis.

Default: `)`

```
11467 \newcommand*{\AltTextClose}{)}
```

`\ImageAltText` The HTML alt tag for an image.

Default: `image`

```
11468 \newcommand*{\ImageAltText}{image}
```

`\MathImageAltText` The HTML alt tag for an SVG math image.

Default: `"math image"`

```
11469 \newcommand*{\MathImageAltText}{math image}
```

`\LWR@ThisAltText` The HTML alt tag for the next image. Cleared after use, and also after each `lateximage`, `\LWR@subsingledollar`, and each use of `MATHJAX`.

```
11470 \newcommand*{\LWR@ThisAltText}{}
```

`\ThisAltText` `{\langle text \rangle}`

Assigns the HTML alt tag for the next image generated by `lwarp`, such as a `lateximage`, `picture`, or `svg math`.

```
11471 \newcommand*{\ThisAltText}[1]{%
```

```
11472 \renewcommand{\LWR@ThisAltText}{#1}%
```

```
11473 }
```

`\PackageDiagramAltText` Appended to the `lateximage` HTML `alt` tag for the images generated by many packages.  
Default: “`diagram`”

```
11474 \newcommand*{\PackageDiagramAltText}{diagram}
```

```
11475 \end{warpall}
```

### 83.3 Inline and display math

**for HTML output:** 11476 `\begin{warpHTML}`

`ctr LWR@externalfilecnt` Counter for the external files which are generated and then referenced from the HTML:

```
11477 \newcounter{LWR@externalfilecnt}
```

`bool LWR@indisplaymathimage` True if processing display math for SVG output. Inside a `lateximage`, display math is only set to print-mode output if `LWR@indisplaymathimage` is false. Used to avoid nullifying display math before it has been completed.

```
11478 \newbool{LWR@indisplaymathimage}
```

`bool LWR@insidemathcomment` True while inside an HTML comment which is displaying a math environment. Used to undo the comment for a moment while creating a `\label`, so that the label’s HTML tags will be seen by HTML.

```
11479 \newbool{LWR@insidemathcomment}
```

```
11480 \boolfalse{LWR@insidemathcomment}
```

`bool LWR@xfakebold` True if `xfakebold \setBold` is in use.

```
11481 \newbool{LWR@xfakebold}
```

```
11482 \boolfalse{LWR@xfakebold}
```

`\LWR@orig@setBold` Redefined by `lwarp-xfakebold`.

```
11483 \newcommand*{\LWR@orig@setBold}{}
```

`\LWR@orig@unsetBold` Redefined by `lwarp-xfakebold`.

```
11484 \newcommand*{\LWR@orig@unsetBold}{}
```

`\LWR@applyxfakebold` Redefined by `lwarp-xfakebold`.

```
11485 \newcommand*{\LWR@applyxfakebold}{}
```

`\LWR@setcurrentfont` Sets the actual  $\LaTeX$  font to that which was selected for HTML output. Ex: In HTML mode, `\bfseries` sets `\LWR@f@series` to “`bf`”. This sets the PDF output here for use inside a `lateximage`.

```

11486 \newcommand*\LWR@setcurrentfont}{%
11487 \LWR@traceinfo{Using font family \LWR@family}%
11488 \@nameuse{LWR@print@LWR@family family}%
11489 \LWR@traceinfo{Using font series \LWR@series}%
11490 \@nameuse{LWR@print@LWR@series series}%
11491 \LWR@traceinfo{Using font shape \LWR@shape}%
11492 \@nameuse{LWR@print@LWR@shape shape}%
11493 \LWR@traceinfo{Using font caps shape \LWR@shapecaps}%
11494 \@nameuse{LWR@print@LWR@shapecaps shape}%
11495 }

```

$\$$  Plain dollar signs appearing in the HTML output may be interpreted by MATHJAX to be math shifts. For a plain text dollar  $\$$ , use an HTML entity to avoid it being interpreted by MATHJAX, unless are inside a lateximage, in which case it will not be seen by MATHJAX.

```

11496 \let\LWR@origtextdollar\$
11497
11498 \renewcommand*\$}{%
11499 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
11500 {\LWR@origtextdollar}%
11501 {\HTMLUnicode{00024}}%
11502 }

```

File *A marker to be used to help *pdfcrop* identify the inline math baseline and width. If *lwarp\_baseline\_marker.png* either *graphicx* or *graphics* is loaded, this marker is placed at the lower left and lower right corners of the inline math. *pdfcrop* is then able to identify the width of the image, and also the height of an image such as a horizontal dash which does not otherwise touch the baseline.*

File *lwarp\_baseline\_marker.eps*

A marker with alpha or opacity of 0% is not registered by *pdfcrop*, so the marker is a small square block of 1% alpha, which seems to work while still being effectively invisible in the final svg image.

If *graphicx* is loaded, this marker is sized as a tiny 1 sp square. If *graphics* is loaded, this marker is used at its default size of around .25 pt. If neither *graphics* package is loaded, the marker is replaced by a 10 sp horizontal space, and there is no assistance for determining baseline or width of the inline math image. The best results are obtained when using *graphicx*.

$\LWR@addbaselinemarker$  Places a small marker in an svg inline image. If *graphics* or *graphicx* are loaded, the marker is a mostly transparent image. If neither is loaded, no marker is used.

```

11503 \AtBeginDocument{
11504
11505 \ifpdf
11506 \newcommand*\LWR@baselinename}{lwarp_baseline_marker.png}
11507 \else
11508 \ifXeTeX
11509 \newcommand*\LWR@baselinename}{lwarp_baseline_marker.png}
11510 \else
11511 \newcommand*\LWR@baselinename}{lwarp_baseline_marker.eps}
11512 \fi

```

```

11513 \fi
11514
11515 \IfFileExists{\LWR@baselinename}%
11516 {
11517 \@ifpackageloaded{graphicx}{
11518 \newcommand*\LWR@addbaselinemarker}{%
11519 \LWR@originincludegraphics{\LWR@baselinename}%
11520 }
11521 }{
11522 \@ifpackageloaded{graphics}{
11523 \newcommand*\LWR@addbaselinemarker}{%
11524 \LWR@originincludegraphics{\LWR@baselinename}%
11525 }
11526 }{
11527 \newcommand*\LWR@addbaselinemarker}{%
11528 \global\booltrue{LWR@warnbaselinemarker}%
11529 }
11530 \AtEndDocument{
11531 \ifbool{LWR@warnbaselinemarker}{
11532 \PackageWarningNoLine{lwarp}{%
11533 Load graphicx or graphics for improved\MessageBreak
11534 SVG math sizing and baselines%
11535 }
11536 }{}
11537 }
11538 }
11539 }
11540 }{% lwarp_baseline_marker.png or .eps is not present
11541 \newcommand*\LWR@addbaselinemarker}{%
11542 \global\booltrue{LWR@warnbaselinemarker}%
11543 }
11544 \AtEndDocument{
11545 \ifbool{LWR@warnbaselinemarker}{
11546 \PackageWarningNoLine{lwarp}{%
11547 File \LWR@baselinename\space is not installed\MessageBreak
11548 alongside the lwarp-*.sty files, so\MessageBreak
11549 SVG math sizing and baselines may not be accurate}
11550 }{}
11551 }
11552 }
11553
11554 }% AtBeginDocument

```

Bool LWR@warnbaselinemarker True if the math baseline marker was ever called for, but `graphics` or `graphicx` were not loaded.

```

11555 \newbool{LWR@warnbaselinemarker}
11556 \boolfalse{LWR@warnbaselinemarker}

```

Bool LWR@unknownmathsize If `Tikz` or other objects are used inside math mode, the resulting image may exceed the TeX box, resulting in an incorrect measurement of the size of the resulting image. If this is so, the HTML styles for image size and depth will be neutralized.

```

11557 \newbool{LWR@unknownmathsize}

```



`\LWR@singledollarmeasure`  $\langle\mathit{expression}\rangle$

Measures the size of the image of the math expression.

(In some circumstances `svg math` is used even if `MATHJAX` is preferred.)

**svg math:** `\LWR@origensuredmath` is part of argument #4.

**svg math \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**svg dynamic math:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

**MATHJAX \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

**\ifmmode:** Included “just in case”.

Factored from `\LWR@subsingledollarsvg`.

```
11558 \newcommand*{\LWR@singledollarmeasure}[1]{%
11559 \begingroup%
```

Temporarily disable formatting while measuring the image parameters:

```
11560 \LWR@restoreorigformatting%
11561 \RenewDocumentEnvironment{lateximage}{s o s o d()}{}{}% inside group
11562 \LWR@print@normalsize%
```

Temporarily set font for the HTML PDF output:

```
11563 \LWR@setcurrentfont%
```

`lateximagedepth` must be nested to avoid generating paragraph tags.  $\mathcal{AMS}$  `math` modifies the `\text` macro such that `\addtocounter` does not always occur as expected. Lower-level code is used instead.

```
11564 \global\advance\c@LWR@lateximagedepth 1\relax%
```

Typeset the math in a box. While doing so, some macros or environments may set `LWR@unknownmathsize`, in which case this will be used to cancel the HTML styles being generated here.

```
11565 \boolfalse{LWR@unknownmathsize}%
11566 \ifmmode%
11567 \global\sbox{\LWR@singledollarbox}{#1}%
11568 \else%
11569 \ifbool{LWR@dynamicmath}{%
11570 \ifbool{mathjax}{%
```

```

11571 \global\abox{\LWR@singledollarbox}%
11572 {\LWR@origensuredmath{#1}}%
11573 }{%
11574 \global\abox{\LWR@singledollarbox}{#1}%
11575 }%
11576 }{%
11577 \global\abox{\LWR@singledollarbox}{#1}%
11578 }%
11579 \fi%

```

Add a small and almost transparent marker at the depth of the image.

A math minus sign has the same depth as a plus, even though it does not draw anything below the baseline. This means that *pdfcrop* would crop the image without depth. The marker below the baseline is seen by *pdfcrop* and preserves the depth.

```

11580 \global\abox{\LWR@singledollarbox}{%
11581 \usebox{\LWR@singledollarbox}%
11582 \raisebox{-\dp\LWR@singledollarbox}{%
11583 \LWR@addbaselinemarker%
11584 }%
11585 }%

```

More low-level code to undo the counter change.

```

11586 \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.

```

Measure the depth:

```

11587 \setlength{\LWR@singledollardepth}{%
11588 \LateximageFontScale\dp\LWR@singledollarbox%
11589 }%

```

Make the length a global change:

```

11590 \global\LWR@singledollardepth=\LWR@singledollardepth%

```

Likewise for width:

```

11591 \setlength{\LWR@singledollarwidth}{%
11592 \LateximageFontScale\wd\LWR@singledollarbox%
11593 }%
11594 \global\LWR@singledollarwidth=\LWR@singledollarwidth%

```

Likewise for total height:

```

11595 \setlength{\LWR@singledollarheight}{%
11596 \LateximageFontScale\ht\LWR@singledollarbox%
11597 }%
11598 \addtolength{\LWR@singledollarheight}{%
11599 \LateximageFontScale\dp\LWR@singledollarbox%
11600 }%
11601 \global\LWR@singledollarheight=\LWR@singledollarheight%

```

```
11602 \endgroup%
11603 }
```

```
\LWR@subsingledollarsvg * {<2: alt text>} {<3: add'l hashing>} {<4: math expression>}
```

For inline math. Uses SVG math. The image is measured and adjusted to the baseline of the HTML output, and placed inside a `lateximage`.

(In some circumstances SVG math is used even if MATHJAX is preferred.)

Factored from `\LWR@subsingledollar`.

```
11604 \newcommand*\LWR@subsingledollarsvg[4]{%
```

Measure the depth, width, and height of the math image:

```
11605 \LWR@singledollarmeasure{#4}%
```

Set a style for the the height or width. The em unit is used so that the math scales according to the user's selected font size.

Start with the greater of the width or the height, biased towards the width:

```
11606 \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
11607 \def\LWR@singledollarstyle{%
11608 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11609 }%
11610 }{%
11611 \def\LWR@singledollarstyle{%
11612 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11613 }%
11614 }%
```

If a very narrow width, use the height.

```
11615 \ifdimless{\LWR@singledollarwidth}{.2em}%
11616 {%
11617 \def\LWR@singledollarstyle{%
11618 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11619 }%
11620 }%
11621 }%
```

If very wide and short, use the width:

```
11622 \ifdimless{\LWR@singledollarheight}{.2em}%
11623 {%
11624 \def\LWR@singledollarstyle{%
11625 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11626 }%
11627 }%
11628 }%
```

If there is significant text depth, add the depth to the style.

```

11629 \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
11630 \def\LWR@singledollardepthstyle{%
11631 \ ; % extra space
11632 \LWR@print@mbbox{%
11633 vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
11634 } % extra space
11635 }%
11636 }{%
11637 \def\LWR@singledollardepthstyle{%
11638 }%

```

If using certain Tikz actions inside math, the resulting image may exceed the TEX boundaries, so the HTML size styles may be incorrect, and must be neutralized.

```

11639 \ifbool{LWR@unknownmathsize}{%
11640 \def\LWR@singledollarstyle{%
11641 \def\LWR@singledollardepthstyle{%
11642 }{%

```

Create the lateximage using the alternate tag and the computed size and depth. The star causes lateximage to use an MD5 hash as the filename. When hashing, also include the current font and color in the hash.

```

11643 \ifbool{LWR@dynamicmath}{%
11644 \LWR@traceinfo{subsingledollar: dynamic}%
11645 \begin{lateximage}% no hashing
11646 [\MathImageAltText]% alt tag
11647 []% no add'l hashing
11648 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11649 (math)% ARIA
11650 }{% not dynamic math
11651 \LWR@traceinfo{subsingledollar: static}%
11652 \IfValueTF{#1}{% #1 True
11653 \LWR@findcurrenttextcolor% sets \LWR@tempcolor

```

Support for xfakebold:

```

11654 \ifbool{LWR@xfakebold}%
11655 {\def\LWR@tempone{Y}}%
11656 {\def\LWR@tempone{N}}%

11657 \begin{lateximage}*% use hashing
11658 [#2]% alt
11659 *% do not add open/closing braces
11660 [% addl' hashing
11661 #3%
11662 FM\LWR@f@family%
11663 SR\LWR@f@series%
11664 SH\LWR@f@shape%
11665 SHC\LWR@f@shapecaps%
11666 CL\LWR@tempcolor%
11667 FB\LWR@tempone% xfakebold

```

```

11668]%
11669 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11670 (math)% ARIA
11671 }{% #1 False
11672 \begin{lateximage}% no hashing
11673 [#2]% alt
11674 []% no add'l hashing
11675 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11676 (math)% ARIA
11677 }%
11678 }% not dynamic math

```

Place small and almost transparent markers on the baseline at the left and right edges of the image. These markers are seen by *pdfcrop*, and force vertically-centered objects such as a dash to be raised off the baseline in the cropped image, and also force the total width and left/right margins to be correct. (Except that in some fonts a character may exceed the bounding box, and thus may appear wider than expected when converted to an image.)

```
11679 \LWR@addbaselinemarker%
```

Support for xfakebold:

```
11680 \LWR@applyxfakebold%
```

Typeset the contents:

```
11681 \usebox{\LWR@singledollarbox}%
```

The closing baseline marker:

```
11682 \LWR@addbaselinemarker%
```

```
11683 \end{lateximage}%
```

```
11684 %
```

```
11685 }
```

```
\LWR@subsingledollar * {<2: alt text>} {<3: add'l hashing>} {<4: math expression>}
```

For inline math. Uses MATHJAX, or for SVG math the image is measured and adjusted to the baseline of the HTML output, and placed inside a `lateximage`.

**SVG math:** `\LWR@origensuredmath` is part of argument #4.

**SVG math \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**SVG dynamic math:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

**MATHJAX \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

[image filename hashing](#) If starred, a hashed filename is used. If so, the hash is based on the `alt` tag and also the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated `TEX` expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is duplicated in the additional hashing argument.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple `alt` tag is still the same.

```

11686 \newlength{\LWR@singledollarwidth}
11687 \newlength{\LWR@singledollarheight}
11688 \newlength{\LWR@singledollardepth}
11689
11690 \newsavebox{\LWR@singledollarbox}
11691
11692 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
11693 \LWR@traceinfo{\LWR@subsingledollar}%

11694 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11695 {%
11696 \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
11697 #4% contents
11698 }%
11699 {% not in a lateximage
11700 \begingroup%
```

Support for `xfakebold`:

```

11701 \LWR@applyxfakebold%
```

`MATHJAX` cannot parse the often complicated `TEX` expressions which appear in the various uses of `\ensuredmath`. `\ensuremath` forces the `alt` tag to “(math image)”, as translated according to `\MathImageAltText`. If this is the case, force the use of a `lateximage` even if `MATHJAX`. Likewise for `siunitx` if `parse-numbers=false`.

If `MATHJAX`, or if formatting math for a word processor, and not `\ensuredmath`, and not a dynamic math expression, print the math expression:

```

11702 \ifboolexpr{%
11703 (
11704 bool{mathjax} or
11705 (bool{FormatWP} and bool{WPMarkMath})
11706) and
11707 (not test {
```

```

11708 \ifstrequal {#2}% from \ensuredmath
11709 {\AltTextOpen\MathImageAltText\AltTextClose}
11710 }
11711) and
11712 (not bool{LWR@dynamicmath})
11713 }%

```

For MATHJAX, print the math between  $\left($  and  $\right)$ :

```

11714 {%
11715 \LWR@traceinfo{LWR@subsingledollar: Mathjax}%
11716 {%
11717 \textbackslash(%
11718 {%

```

$\ifmmode$  to avoid error about  $\ttfamily$  inside math mode in the case of nested math, ex. equation with `tcolorbox` with `math`.

```

11719 \ifmmode\else\LWR@print@ttfamily\fi%
11720 \LWR@HTMLsanitize{#4}%
11721 }%
11722 \textbackslash)%
11723 }%
11724 }% mathjax

```

For `svg`, print the math inside a `lateximage`, with an `<alt>` tag of the  $\LaTeX$  code, and a `css` style to control the baseline adjustment.

```

11725 {% not mathjax
11726 \LWR@traceinfo{%
11727 \LWR@subsingledollar: NOT mathjax, or is ensuremath, or is dynamic%
11728 }%
11729 \LWR@subsingledollarsvg{#1}{#2}{#3}{#4}%
11730 }% not mathjax
11731 \endgroup%
11732 }% not in a lateximage

```

Clear the single-use `alt` text:

```

11733 \gdef\LWR@ThisAltText{}%
11734 \LWR@traceinfo{LWR@subsingledollar: done}%
11735 }

```

```

11736 \LetLtxMacro\LWR@origdollar$
11737 \LetLtxMacro\LWR@secondorigdollar%$ balance for editor syntax highlighting

```

```

11738 \LetLtxMacro\LWR@origopenparen\left
11739 \LetLtxMacro\LWR@origcloseparen\right
11740 \LetLtxMacro\LWR@origopenbracket\left[
11741 \LetLtxMacro\LWR@origclosebracket\right]

```

$\$$  Redefine the dollar sign to place math inside a `lateximage`, or use MATHJAX:  
 $\$\$$

```

11742 \begingroup
11743 \catcode'\$=\active%
11744 \protected\gdef$\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by chemformula to escape single-dollar math:

```

11745 \protected\gdef\LWR@newsingledollar{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

`\LWR@doubledollar` Redefine the double dollar sign to place math inside a lateximage, or use MATHJAX:

```

11746 \protected\gdef\LWR@doubledollar$#1$${%

```

If MATHJAX or formatting for a word processor, print the L<sup>A</sup>T<sub>E</sub>X expression:

```

11747 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%

```

For MATHJAX, print the math between `\[` and `\]`:

```

11748 {
11749
11750 \IfSubStr{\detokenize\expandafter{#1}}{\detokenize{note}}{%

```

The equation is printed to the PDF output inside HTML comment tags. This allows labels and footnotes to be accepted and processed. The math environment is selected here, and `\LWR@hidelatexequation` will use the original print-mode meaning of math.

```

11751 \LWR@hidelatexequation{math}{#1}%

11752 \InlineClass{hidden}{\LWR@syncnotenumbers}%
11753 \textbackslash[%
11754 {\LWR@print@ttfamily\LWR@HTMLsanitize{#1}}%
11755 \textbackslash]
11756 \InlineClass{hidden}{\LWR@syncnotenames}%
11757 }{%
11758 \textbackslash[%
11759 {\LWR@print@ttfamily\LWR@HTMLsanitize{#1}}%
11760 \textbackslash]
11761 }%
11762
11763 }% mathjax

```

For svg, print the math inside a lateximage, with an `<alt>` tag of the L<sup>A</sup>T<sub>E</sub>X code:

```

11764 {% not mathjax
11765 \begin{BlockClass}{displaymath}%
11766 \LWR@newautoidanchor%
11767 \booltrue{\LWR@indisplaymathimage}%
11768 \begin{lateximage}%
11769 [%
11770 \textbackslash[[] % extra space
11771 \LWR@HTMLsanitize{#1} % extra space
11772 \textbackslash[]}%
11773]%

```



```
11774 *% do not add open/closing braces
11775 (math)% ARIA
```

#### Support for xfakebold:

```
11776 \LWR@applyxfakebold%

11777 \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
11778 \end{lateximage}%
11779 \end{BlockClass}%
11780 }% not mathjax
```

#### Clear the single-use alt text:

```
11781 \gdef\LWR@ThisAltText{%
11782 }
```

`\LWR@singledollar`  $\langle alt\ text\rangle\ \langle math\ expression\rangle$

```
11783 \protected\gdef\LWR@singledollar#1${%
11784 \ifbool{mathjax}{%
11785 \LWR@subsingledollar*%
11786 {% alt tag
11787 \textbackslash(%
11788 \LWR@HTMLsanitize{#1} % extra space
11789 \textbackslash)%
11790 }%
11791 {singledollar}% add'l hashing
11792 {#1}% contents
11793 }{% not mathjax
11794 \LWR@subsingledollar*%
11795 {% alt tag
11796 \textbackslash(%
11797 \LWR@HTMLsanitize{#1} % extra space
11798 \textbackslash)%
11799 }%
11800 {singledollar}% add'l hashing
11801 {\LWR@origensuredmath{#1}}% contents
11802 }% not mathjax
```

#### Clear the single-use alt text:

```
11803 \gdef\LWR@ThisAltText{%
11804 }
```

`\(` Redefine to the above dollar macros.

```
\[
11805 \AtBeginDocument{
11806 \protected\gdef\(#1\){$#1$}
11807 \protected\gdef\[#1\]{$$#1$$}
11808 }
11809
11810 \endgroup% active $
```

```

11811 \AtBeginDocument{
11812 \LetLtxMacro\LWR@openbracketnormal\[
11813 \LetLtxMacro\LWR@closebracketnormal\]
11814 }

```

`\@ensuredmath`  $\langle expression \rangle$

If MATHJAX, a `lateximage` is used, since `\ensuremath` is often used for complex T<sub>E</sub>X expressions which MATHJAX may not render. If `svg math`, a hashed file is used with a simple `alt` tag, but additional hashing provided by the contents.

```

11815 \LetLtxMacro\LWR@origensuredmath\@ensuredmath
11816
11817 \renewcommand{\@ensuredmath}[1]{%
11818 \ifbool{mathjax}{%
11819 \LWR@subsingledollar*\AltTextOpen\MathImageAltText\AltTextClose}%
11820 {%
11821 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
11822 }%
11823 {%
11824 \relax%
11825 \LWR@origensuredmath{#1}%
11826 }%
11827 }{% SVG math

```

If already inside a `lateximage` in `math` mode, continue as-is.

```

11828 \ifmmode%
11829 \LWR@origensuredmath{#1}%
11830 \else%

```

Create an inline `math lateximage` with a simple `alt` tag and additional hashing according to the contents.

```

11831 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
11832 {\LWR@origensuredmath{#1}}%
11833 {%
11834 \LWR@subsingledollar*%
11835 {\AltTextOpen\MathImageAltText\AltTextClose}%
11836 {\protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}}%
11837 {\LWR@origensuredmath{#1}}%
11838 }%
11839 \fi%
11840 }%

```

Clear the single-use `alt` text:

```

11841 \gdef\LWR@ThisAltText{}%
11842 }

```

Remember then remove the old `math` and `displaymath` environments:

```

11843 \let\LWR@orig@math\math
11844 \let\LWR@orig@endmath\endmath
11845
11846 \let\LWR@orig@displaymath\displaymath
11847 \let\LWR@orig@enddisplaymath\enddisplaymath
11848
11849 \let\math\relax
11850 \let\endmath\relax
11851
11852 \let\displaymath\relax
11853 \let\enddisplaymath\relax

```

Env `math` Set math mode then typeset the body of what was between the begin/end. See the `environ` package for `\BODY`.

```
11854 \NewEnviron{math}{\expandafter\(\BODY\)}
```

Env `LWR@displaymathnormal` Set math mode then typeset the body of what was between the begin/end. See the `environ` package for `\BODY`.

```
11855 \NewEnviron{LWR@displaymathnormal}{\expandafter\[\BODY\]\@ignoretrue}
```

Set the default `displaymath` to the normal version:

```

11856 \LetLtxMacro\displaymath\LWR@displaymathnormal%
11857 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%

```

Env `LWR@displaymathother` A version of `displaymath` which can handle complicated objects, but does not supply `MATHJAX` or `HTML alt` tags.

```

11858 \newenvironment{LWR@displaymathother}
11859 {%
11860 \begin{BlockClass}{displaymath}%
11861 \LWR@newautoanchor%
11862 \booltrue{LWR@indisplaymathimage}%
11863 \begin{lateximage}[\MathImageAltText](math)% [alt](ARIA)
11864 \LWR@origdollar\LWR@origdollar%
11865 }
11866 {%
11867 \LWR@origdollar\LWR@origdollar%
11868 \end{lateximage}%
11869 \end{BlockClass}%
11870 }

```

Env `LWR@equationother` A version of `displaymath` which can handle complicated objects, but does not supply `MATHJAX` or `HTML alt` tags.

```

11871 \newenvironment{LWR@equationother}
11872 {%
11873 \begin{BlockClass}{displaymathnumbered}%
11874 \LWR@newautoanchor%

```

```

11875 \booltrue{LWR@indisplaymathimage}%
11876 \begin{lateximage}[\MathImageAltText](math)% [alt](ARIA)
11877 \LWR@orig@equation%
11878 }
11879 {%
11880 \LWR@orig@endequation%
11881 \end{lateximage}%
11882 \end{BlockClass}%
11883 }

```

### 83.4 MATHJAX support

Ctrl LWR@nextequation Used to add one to compute the next equation number.

```
11884 \newcounter{LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of `\theequation` to determine `\theMathJaxsection` and `\theMathJaxequation`.

```

11885 \newcommand\LWR@article@theequation{\@arabic\c@equation}
11886
11887 \newcommand\LWR@book@theequation
11888 {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}
11889
11890
11891 \newcommand\LWR@chapter@theequation{\thechapter.\arabic{equation}}
11892 \newcommand\LWR@section@theequation{\thesection.\arabic{equation}}
11893 \newcommand\LWR@subsection@theequation{\thesubsection.\arabic{equation}}
11894
11895 \AtBeginDocument{
11896 % default per article class:
11897 \newcommand*\theMathJaxsubequations{\emptyset}
11898 \newcommand*\theMathJaxsection{}
11899 \newcommand*\theMathJaxequation{\arabic{equation}}
11900
11901 \ifdefstrequal{\theequation}\LWR@article@theequation
11902 {}{
11903 \ifdefstrequal{\theequation}\LWR@book@theequation{
11904 \renewcommand*\theMathJaxsection{\ifnum \c@chapter>\z@ \thechapter.\fi}
11905 }{
11906 \ifdefstrequal{\theequation}\LWR@subsection@theequation{
11907 \renewcommand*\theMathJaxsection{\thesubsection{.}}
11908 }{
11909 \ifdefstrequal{\theequation}\LWR@section@theequation{
11910 \renewcommand*\theMathJaxsection{\thesection{.}}
11911 }{
11912 \ifdefstrequal{\theequation}\LWR@chapter@theequation{
11913 \renewcommand*\theMathJaxsection{\thechapter{.}}
11914 }{% unknown format
11915 \PackageWarningNoLine{lwarp}
11916 {%
11917 Unknown equation tag format for \protect\theequation.\MessageBreak
11918 Article-style equation numbering will be used%

```

```

11919 }
11920 }}}}
11921 }

```

`\LWR@syncmathjax` Sets the MATHJAX equation format and number for the following equations.

These MATHJAX commands are printed inside “\(" and “\)” characters. They are printed to HTML output, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```
11922 \newcommand*\LWR@syncmathjax}{%
```

Tell MATHJAX that the next equation number is the current L<sup>A</sup>T<sub>E</sub>X equation number.

Before each equation, lwarp inserts into the HTML code:

```
\seteqnumber{subequations?}{section}{number}
```

**subequations?** is 0 usually, 1 if inside `amsmath` subequations.

**section** is a string printed as-is, or empty.

**number** is auto-incremented by MATHJAX between equations.

Place the MATHJAX command inside “\(" and “\)” characters, to be printed to HTML, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```

11923 \LWR@stoppars%
11924 \InlineClass{hidden}{
11925 \textbackslash(%
11926 \textbackslash{seteqnumber%
11927 \{\theMathJaxsubequations\}%
11928 \{\theMathJaxsection\}%
11929 \{\theMathJaxequation\}%
11930 \textbackslash)%
11931 }
11932 \LWR@startpars%
11933 }

```

`\LWR@hidelatexequation`  $\langle environment \rangle$   $\langle contents \rangle$

Creates the L<sup>A</sup>T<sub>E</sub>X version of the equation inside an HTML comment.

```
11934 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```

11935 \LWR@stoppars
11936 \LWR@htmlopencomment
11937

```

Start the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```

11938 \begingroup
11939 \@nameuse{LWR@orig@#1}

```

While in the math environment, restore various commands to their L<sup>A</sup>T<sub>E</sub>X meanings.

```
11940 \LWR@restoreorigformatting
11941 \booltrue{LWR@insidemathcomment}
```

Temporarily prevent underfull \hbox warnings.

```
11942 \hbadness=10000\relax%
```

See \LWR@htmlmathlabel in section 83.7.1.

Print the contents of the equation:

```
11943 #2
```

End the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```
11944 \@nameuse{LWR@orig@end#1}
11945 \endgroup
11946
```

Close the HTML comment and resume HTML paragraph handling:

```
11947 \LWR@htmlclosecomment
11948 \boolfalse{LWR@insidemathcomment}
11949 \LWR@startpars
11950 }
```

```
\LWR@addmathjax {<environment name>} {<contents>}
```

Given the name of a math environment and its contents, create a MATHJAX instance. The contents are printed to HTML output, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```
11951 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
```

```
11952 \LWR@origtilde\LWR@orignewline
```

Enclose the MATHJAX environment inside printed “\(" and “\)” characters. Print the environment name and contents, sanitizing for HTML special characters.

```
11953 {%
11954 \LWR@print@ttfamily%
11955 \textbackslash{}begin\{#1\}
```

The alignat environment takes a mandatory argument, which must be replicated here.

```
11956 \ifboolexpr{
11957 test {\ifstrequal{#1}{alignat}} or
11958 test {\ifstrequal{#1}{alignat*}} or
11959 test {\ifstrequal{#1}{alignat+}}
11960 }%
```

```

11961 {\{\arabic{LWR@maxfields}\}}%
11962 {}%

```

The environment contents and `\end`:

```

11963 \LWR@orignewline%
11964 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{#2}}%
11965 \LWR@orignewline%
11966 \textbackslash{}end\{#1\}
11967 }%

11968 \LWR@orignewline
11969 }

```

### 83.5 Equation environment

Remember existing equation environment, after redefined by `amsmath`, if loaded.

```

11970 \AtBeginDocument{
11971 \let\LWR@orig@equation\equation
11972 \let\LWR@orig@endequation\endequation
11973 \csletcs{LWR@orig@equation*}{equation*}
11974 \csletcs{LWR@orig@endequation*}{endequation*}
11975 }

```

```
\LWR@doequation {<env contents>} {<env name>}
```

For `SVG` math output, the contents are typeset using the original equation inside a `lateximage`, along with an `<alt>` tag containing a detokenized copy of the  $\LaTeX$  source for the math.

For `MATHJAX` output, the contents are typeset in an original equation environment placed inside a `HTML` comment, with special processing for `\labels`. The contents are also printed to the `HTML` output for processing by the `MATHJAX` script.

```

11976 \newcommand*{\LWR@doequation}[2]{%
11977

```

If `mathjax` or `FormatWP`, print the  $\LaTeX$  expression:

```

11978 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%

```

`MATHJAX` output:

```

11979 {

```

Print commands to synchronize `MATHJAX`'s equation number and format to the current  $\LaTeX$  chapter/section and equation number:

```

11980 \LWR@syncmathjax%

```

Print the  $\LaTeX$  math inside an HTML comment:

```
11981 \LWR@hidelatexequation{#2}{#1}
11982 }
```

svg output: Create the `lateximage` along with an HTML `<alt>` tag having an equation number, the  $\LaTeX$  equation environment commands, and the contents of the environment's `\BODY`.

```
11983 {% not mathjax
```

Begin the `lateximage` with an `<alt>` tag containing the math source:

```
11984 \ifstrequal{#2}{equation*}{%
11985 \begin{BlockClass}{displaymath}%
11986 }{%
11987 \begin{BlockClass}{displaymathnumbered}%
11988 }%
11989 \LWR@newautoidanchor%
11990 \booltrue{LWR@indisplaymathimage}%
11991 \begin{lateximage}[%
11992 \ifstrequal{#2}{equation*}{%
11993 \ifdefequal{\LWR@equationtag}{\theequation}{%
11994 % no tag was given
11995 }{%
11996 (\LWR@equationtag) % tag was given
11997 }%
11998 }{%
11999 (\LWR@equationtag) % automatic numbering
12000 }%
12001 \textbackslash{begin\{#2\}} % extra space
12002 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{#1}} % extra space
12003 \textbackslash{end\{#2\}}%
12004]*(math)% alt tag, ARIA
```

Support for `xfakebold`:

```
12005 \LWR@applyxfakebold%
```

Create the actual  $\LaTeX$ -formatted equation inside the `lateximage` using the contents of the environment.

```
12006 \@nameuse{LWR@orig@#2}%
12007 #1 contents collected by \collect@body
12008 \@nameuse{LWR@orig@end#2}%
12009 \end{lateximage}%
12010 \end{BlockClass}%
12011 }% not mathjax
```

Clear the single-use `alt` text:

```
12012 \gdef\LWR@ThisAltText{%
12013 }
```



After the environment, if MATHJAX, print the math to the HTML output for MATHJAX processing. If a footnote is used, sync the footnote counter before, then unsync after for non-equation environments, as defined next.

```

12014 \newcommand*{\LWR@doendequation}[1]{%
12015 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
12016 {%
12017 \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
12018 \InlineClass{hidden}{\LWR@syncnotenumbers}%
12019 \LWR@addmathjax{#1}{\BODY}%
12020 \InlineClass{hidden}{\LWR@syncnotenames}%
12021 }{%
12022 \LWR@addmathjax{#1}{\BODY}%
12023 }%
12024 }{%
12025

```

Clear the single-use alt text:

```

12026 \gdef\LWR@ThisAltText{}%
12027 }

```

The following are used to synchronize footnote marks and related to MATHJAX if *\*note\** is used inside the MATHJAX expression. The counter is read from L<sup>A</sup>T<sub>E</sub>X then defined into MATHJAX for use during the following equation. After the equation, the MATHJAX value is returned to the text from `\footnotename`. Other notes may be added by appending to `\LWR@syncnotenumbers` and `\LWR@syncnotenames`.

`\LWR@synconenotenum`     $\langle \textit{MathJax variable} \rangle$      $\langle \textit{mark} \rangle$

```

12028 \newcommand*{\LWR@synconenotenum}[2]{%
12029 \textbackslash(
12030 \textbackslash{def}\textbackslash{#1}\{#2\}
12031 \textbackslash)
12032 }

```

`\LWR@syncnotenumbers`    Assignments to make.

```

12033 \newcommand*{\LWR@syncnotenumbers}{\LWR@synconenotenum{\LWRfootnote}{\thefootnote}}

```

`\LWR@synconenotename`     $\langle \textit{MathJax variable} \rangle$      $\langle \textit{text} \rangle$

```

12034 \newcommand*{\LWR@synconenotename}[2]{%
12035 \textbackslash(
12036 \textbackslash{def}\textbackslash{#1name}\{#2\}
12037 \textbackslash)
12038 }

```

`\LWR@syncnotenames`    Assignments to make.

```

12039 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}

```

Remove existing equation environment:

```
12040 \AtBeginDocument{
12041 \let\equation\relax
12042 \let\endequation\relax
12043 \csletcs{equation*}{relax}
12044 \csletcs{endequation*}{relax}
12045 }
```

Env `equation` The new equation environment is created with `\NewEnviron` (from the `environ` package), which stores the contents of its environment in a macro called `\BODY`.

```
12046 \AtBeginDocument{
12047 \NewEnviron{equation}%
12048 {\LWR@doequation{\BODY}{equation}}%
12049 [\LWR@doendequation{equation}]
12050
12051 \LetLtxMacro\LWR@equationnormal\equation
12052 \LetLtxMacro\endLWR@equationnormal\endequation
12053 }% AtBeginDocument
```

Env `equation*`

```
12054 \AtBeginDocument{
12055 \NewEnviron{equation*}%
12056 {\LWR@doequation{\BODY}{equation*}}%
12057 [\LWR@doendequation{equation*}]
12058
12059 \csletcs{LWR@equationnormalstar}{equation*}
12060 \csletcs{LWR@endequationnormalstar}{endequation*}
12061 }% AtBeginDocument
```

Remember the “less” version of `equation`, which uses `MATHJAX` and `alt` tags, but does not support complicated contents such as some `Tikz` expressions.

```
12062 \AtBeginDocument{
12063 \LetLtxMacro\LWR@equationless\equation
12064 \LetLtxMacro\endLWR@equationless\endequation
12065 \csletcs{LWR@equationlessstar}{equation*}
12066 \csletcs{LWR@endequationlessstar}{endequation*}
12067 }
```

### 83.6 `\displaymathnormal` and `\displaymathother`

`\displaymathnormal` By default, or when selecting `\displaymathnormal`, `MATHJAX` math display environments print their contents as text into `HTML` for `MATHJAX` to interpret, and `SVG` display math environments render their contents as `SVG` images and use their contents as the `alt` tag of `HTML` output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated `Tikz` pictures, compilation will fail.

`\displaymathother` When selecting `\displaymathother`, it is assumed that the contents are more compli-

**MATHJAX unsupported  
complicated alt tag**

cated than “pure” math. An example is an elaborate *Tikz* picture, which will not render in MATHJAX and will not make sense as an HTML alt tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML alt tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as *Tikz* pictures are more likely to compile successfully.

 **$\displaymathnormal$   
simple math objects**

Use when display math environments have simple math which is to sent to MATHJAX or included in HTML alt tags.

```
12068 \newcommand*{\displaymathnormal}{%
12069 \ifbool{LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
12070 \LetLtxMacro[\LWR@openbracketnormal%
12071 \LetLtxMacro\]\LWR@closebracketnormal%
12072 \LetLtxMacro\displaymath\LWR@displaymathnormal%
12073 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
12074 \LetLtxMacro\equation\LWR@equationnormal%
12075 \LetLtxMacro\endequation\endLWR@equationnormal%
12076 \csletcs{equation*}{LWR@equationnormalstar}%
12077 \csletcs{endequation*}{LWR@endequationnormalstar}%
12078 }
```

 **$\displaymathother$   
complicated math objects**

Use when display math environments have complicated objects which will not work with MATHJAX or should not be included in HTML alt tags. Complicated contents are more likely to compile correctly.

```
12079 \newcommand*{\displaymathother}{%
12080 \boolfalse{mathjax}%
12081 \LetLtxMacro\displaymath\LWR@displaymathother%
12082 \LetLtxMacro\enddisplaymath\endLWR@displaymathother%
12083 \LetLtxMacro[\LWR@displaymathother%
12084 \LetLtxMacro\]\endLWR@displaymathother%
12085 \LetLtxMacro\equation\LWR@equationother%
12086 \LetLtxMacro\endequation\endLWR@equationother%
12087 \csletcs{equation*}{\displaymath}%
12088 \csletcs{endequation*}{\enddisplaymath}%
12089 }
```

```
12090 \end{warpHTML}
```

**for PRINT output:** 12091 \begin{warpprint}

Print-mode versions:

```
12092 \newcommand*{\displaymathnormal}{%}
12093 \newcommand*{\displaymathother}{%}

12094 \end{warpprint}
```

**for HTML output:** 12095 \begin{warpHTML}

## 83.7 AMS Math environments

### 83.7.1 Support macros

Bool LWR@amsmultline True if processing a multiline environment.

To compensate for multiline-specific code, LWR@amsmultline is used to add extra horizontal space in \LWR@htmlmathlabel if is used in an amsmath environment which is not a multiline environment and not an equation.

```
12096 \newbool{LWR@amsmultline}
12097 \boolfalse{LWR@amsmultline}
```

\LWR@beginhideamsmath Starts hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```
12098 \newcommand*{\LWR@beginhideamsmath}{
12099 \LWR@stoppars
12100 \LWR@origtilde\LWR@orignewline
12101 \LWR@htmlopencomment
12102
12103 \begingroup
12104 \LWR@restoreorigformatting
```

Temporarily prevent underfull \hbox warnings.

```
12105 \hbadness=10000\relax%

12106 \booltrue{LWR@insidemathcomment}
12107 }
```

\LWR@endhideamsmath Ends hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```
12108 \newcommand*{\LWR@endhideamsmath}{
12109 \endgroup
12110
12111 \LWR@htmlclosecomment
12112 \boolfalse{LWR@insidemathcomment}
12113 \LWR@orignewline
12114 \LWR@startpars
12115 }
```

### 83.7.2 Environment patches

The amsmath environments already collect their contents in \@envbody for further processing. eqnarray is not an  $\mathcal{A}\mathcal{M}\mathcal{S}$  package, and thus requires special handling.

For svg math: Each environment is encapsulated inside a lateximage environment, along with a special optional argument of \LWR@amsmathbody or \LWR@amsmathbodynumbered telling lateximage to use as the HTML <alt> tag the environment's contents which were automatically captured by the  $\mathcal{A}\mathcal{M}\mathcal{S}$  environment.

For MATHJAX: Each environment is synched with L<sup>A</sup>T<sub>E</sub>X's equation numbers, typeset with L<sup>A</sup>T<sub>E</sub>X inside an HTML comment, then printed to HTML output for MATHJAX to process.

Env eqnarray This environment is not an  $\mathcal{A}\mathcal{M}\mathcal{S}$  environment and thus its body is not automatically captured, so the `environ` package is used to capture the environment into `\BODY`.

```
12116 \let\LWR@origeqnarray\eqnarray
12117 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
12118 \newbool{LWR@numbereqnarray}
12119 \booltrue{LWR@numbereqnarray}
```

Common code used by eqnarray and Beqnarray (from fancybox):

```
12120 \newcommand{\LWR@eqnarrayfactor}{%
```

If mathjax or FormatWP, print the L<sup>A</sup>T<sub>E</sub>X expression:

```
12121 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
12122 {%
```

If MATHJAX, the environment contents (the `\BODY`) are executed in a HTML comment to trigger the correct equation number increment (if not starred), then are included verbatim in the output for MATHJAX to interpret:

```
12123 \LWR@syncmathjax%
12124 \boolfalse{LWR@amsmultline}%
12125 \ifbool{LWR@numbereqnarray}%
12126 {%
```

If numbering the equations, execute a copy inside an HTML comment block:

```
12127 \LWR@beginhideamsmath%
12128 \LWR@origeqnarray%
12129 \BODY%
12130 \LWR@origendeqnarray%
12131 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for MATHJAX to interpret:

```
12132 \LWR@addmathjax{eqnarray}{\BODY}%
12133 }%
12134 {% not LWR@numbereqnarray
```

If not numbering equations, just create the contents for MATHJAX:

```
12135 \LWR@addmathjax{eqnarray*}{\BODY}%
12136 }% LWR@numbereqnarray
```

```

12137 }% mathjax
12138 {% not mathjax
12139 \ifbool{LWR@numbreqnarray}%
12140 {%

```

For numbered svg equations, first create a `lateximage` with an `alt` attribute containing sanitized copy of the source code:

```

12141 \begin{BlockClass}{displaymathnumbered}%
12142 \LWR@newautoidanchor%
12143 \booltrue{LWR@indisplaymathimage}%
12144 \begin{lateximage}[(\LWR@startingequationtag\textendash\LWR@equationtag)%
12145 \LWR@addmathjax{eqnarray}{\BODY}](math)%

```

Support for `xfakebold`:

```

12146 \LWR@applyxfakebold%

```

Create the image contents using an actual `eqnarray`:

```

12147 \LWR@origeqnarray%
12148 \BODY%
12149 \LWR@origendeqnarray%
12150 \end{lateximage}%
12151 \end{BlockClass}%
12152 }%
12153 {% not LWR@numbreqnarray

```

If not numbered, do the same, but an extra `\nonumber` seems to be required:

```

12154 \begin{BlockClass}{displaymath}%
12155 \LWR@newautoidanchor%
12156 \booltrue{LWR@indisplaymathimage}%
12157 \begin{lateximage}[(\LWR@addmathjax{eqnarray*}{\BODY}](math)%

```

Support for `xfakebold`:

```

12158 \LWR@applyxfakebold%

12159 \def\@eqncr{\nonumber\@seqncr}
12160 \csuse{LWR@origeqnarray}%
12161 \BODY%
12162 \nonumber\csuse{LWR@origendeqnarray}%
12163 \end{lateximage}%
12164 \end{BlockClass}%
12165 }% LWR@numbreqnarray
12166 }% not mathjax

```

Default to number equations in the future:

```

12167 \booltrue{LWR@numbreqnarray}%

```

Clear the single-use `alt` text:

```
12168 \gdef\LWR@ThisAltText{%
12169 }
```

eqnarray itself is made with a blank line before and after to force it to be on its own line:

```
12170 \RenewEnviron{eqnarray}
12171 {%
12172
12173 \LWR@eqnarrayfactor
12174
12175 }
```

The starred version is patched to turn off the numbering:

```
12176 \csgpreto{eqnarray*}{\boolfalse{LWR@numbereqnarray}}
12177 \end{warpHTML}
```

## 84 Lateximages

### 84.1 Description

Env `lateximage` A `lateximage` is a piece of the document which is typeset in  $\LaTeX$  then included in the HTML output as an image. This is used for math if `svg math` is chosen, and also for the `picture`, `tikzpicture`, and other environments.

Before typesetting the `lateximage` a large number of formatting, graphics, and symbols-related macros are temporarily restored to their print-mode meaning by `\LWR@restoreorigformatting`. (See section 81.)

A `lateximage` is typeset on its own PDF page inside an HTML comment which starts on the preceding page and ends on following page, and instructions are written to `lateximage.txt` for `lwarpmk` to extract the `lateximage` from the page of the PDF file then generate an accompanying `.svg` file image file. Meanwhile, instructions to show this image are placed into the HTML file after the comment.

An HTML `<span>` is created to hold both the HTML comment, which will have the `pdfotext` conversion, and also the link to the final `.svg` image.

A  $\LaTeX$  label is used to remember which PDF page has the image. A label is used because footnotes, endnotes, and pagenotes may cause the image to appear at a later time. The label is declared along with the image, and so it correctly remembers where the image finally ended up.

HTML alt tag The HTML `alt` tag is set to the  $\LaTeX$  source for `svg math`, some chemistry expressions, and perhaps some other expressions which make sense for text copy/paste. In some other cases, the `alt` tag is set according to the package name.

When creating an `svg math` image, its HTML `alt` tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after

`\inlinemathother`, where the contents require a unique image for each instance of the same expression, the `alt` tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This `alt` expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following `svg` math images.

For many packages, the output is placed inside a `lateximage` with an `HTML alt` tag set to the package name followed by `\PackageDiagramAltText`. For example:

```
(-xy- diagram)
```

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

**svg image font size** For the `lateximage` environment, the size of the math and text used in the `svg` image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline `svg` math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

```
\newcommand*{\LateximageFontScale}{.75}
```

## 84.2 Support counters and macros

**for HTML output:** 12178 `\begin{warphTML}`

Ctrl LWR@`lateximagenumber` Sequence the images.

```
12179 \newcounter{LWR@lateximagenumber}
12180 \setcounter{LWR@lateximagenumber}{0}
```

Ctrl LWR@`lateximagedepth` Do not create `\lateximage` inside of `\lateximage`.

```
12181 \newcounter{LWR@lateximagedepth}
12182 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
12183 \edef\LWR@hashmark{\string#} % for use in \write
12184 \edef\LWR@percent{\@percentchar} % for use in \write
```

Ctrl LWR@`LIPage` Used to reference the PDF page number of a `lateximage` to be written into `<project>-images.txt`.

```
12185 \newcounter{LWR@LIPage}
```




```
12186 \end{warpHTML}
```

### 84.3 Font size

**for HTML & PRINT:** 12187 \begin{warpall}

`\LateximageFontSizeName` Declares how large to write text in `\lateximages`. The `.svg` file text size should blend well with the surrounding HTML text size.

 **no backslash** *Do not include the leading backslash in the name.*

```
12188 \newcommand*{\LateximageFontSizeName}{normalsize}
```

`\LateximageFontScale` Declares how large to scale inline SVG math images. The `.svg` file text size should blend well with the surrounding HTML text size. The default is 1, but it may be redefined as needed depending on the HTML font.

```
12189 \newcommand*{\LateximageFontScale}{1}
```

```
12190 \end{warpall}
```

### 84.4 Equation numbers

**for HTML output:** 12191 \begin{warpHTML}

`Ctrl LWR@startingequation` For use with `lateximage` and multi-line numbered equations. Remembers the next equation number so that it may be printed in the alt tag.

```
12192 \newcounter{LWR@startingequation}
12193
12194 \ifundefined{chapter}
12195 {
12196 \renewcommand{\theLWR@startingequation}{%
12197 \arabic{LWR@startingequation}%
12198 }
12199 }
12200 {% chapter defined
12201 \renewcommand{\theLWR@startingequation}{%
12202 \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}.}%
12203 \arabic{LWR@startingequation}%
12204 }
12205 }
```

`Bool LWR@isstartingequation` True for the first equation tag, false for later tags in the same environment.

```
12206 \newbool{LWR@isstartingequation}
```

`\LWR@startingequationtag` Prints the starting equation number or tag.

```
12207 \let\LWR@startingequationtag\theLWR@startingequation
```

`\LWR@equationtag` Prints the ending equation number or tag.

This is reset by `lateximage`, may be temporarily overwritten by `\tag` calling `\LWR@remembertag`.

```
12208 \newcommand*\LWR@equationtag{}
```

Only if `svg math`, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
12209 \AtBeginDocument{
12210
12211 \ifbool{mathjax}{}{% not mathjax
```

`\LWR@remembertag` `{<tag>}`

For use inside the math environments while using `svg math`. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
12212 \NewDocumentCommand{\LWR@remembertag}{m}{%
12213 \ifbool{LWR@isstartingequation}%
12214 {%
12215 \global\boolfalse{LWR@isstartingequation}%
12216 \xdef\LWR@startingequationtag{#1}%
12217 }{%
12218 \xdef\LWR@equationtag{#1}%
12219 }%

12220 }% not mathjax
12221 }% AtBeginDocument
```

## 84.5 HTML alt tags

`\LWR@amsmathbody` `{<envname>}` For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
12222 \newcommand*\LWR@amsmathbody}[1]
12223 {%
12224 \textbackslash\{begin\}\{#1\} % extra space
12225 \LWR@HTMLSanitizeexpand{\detokenize\expandafter{\the\@envbody}}%
12226 \textbackslash\{end\}\{#1\}%
12227 }
```

`\LWR@amsmathbodynumbered` `{<envname>}` For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `alt` tag, prefixed by the equation numbers.

```

12228 \newcommand*{\LWR@amsmathbodynumbered}[1]
12229 {%
12230 \ifnumcomp{\value{LWR@startingequation}}{=}{\value{equation}}%
12231 {(\LWR@equationtag)}%
12232 {(\LWR@startingequationtag\textendash\LWR@equationtag)} % extra space
12233 \LWR@amsmathbody{#1} % extra space
12234 }

```

## 84.6 lateximage environment

`\LWR@lateximage@oneimageb`  $\langle 1: alt\ text \rangle$   $\langle 2: filename \rangle$   $\langle 3: css\ style \rangle$   $\langle 4: aria\ role \rangle$  Creates the image for the lateximage.

```

12235 \newcommand{\LWR@lateximage@oneimageb}[4]{%
12236 \LWR@subinlineimage{#1}{lateximage}%
12237 {%
12238 \LWR@print@mbox{%
12239 \LWR@ImagesDirectory\OSPathSymbol%
12240 #2%
12241 }%
12242 }{svg}{#3}{#4}%
12243 }

```

`\LWR@lateximage@oneimage`  $\langle 1: alt\ text \rangle$   $\langle 2: filename \rangle$   $\langle 3: css\ style \rangle$   $\langle 4: delimit? \rangle$   $\langle 5: aria\ role \rangle$

Creates an image for the lateximage, whose alt text depends on the circumstances.

```

12244 \newcommand{\LWR@lateximage@oneimage}[5]{%
12245 \ifdefvoid{\LWR@ThisAltText}{%
12246 \IfBooleanTF{#4}{%
12247 \LWR@lateximage@oneimageb{#1}{#2}{#3}{#5}%
12248 }{%
12249 \LWR@lateximage@oneimageb%
12250 {\AltTextOpen#1\AltTextClose}%
12251 {#2}{#3}{#5}%
12252 }%
12253 }{%
12254 \LWR@lateximage@oneimageb%
12255 {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
12256 {#2}{#3}{#5}%
12257 }%
12258 }

```

Env `lateximage` \*  $\langle 2: <alt>\ tag \rangle$  \*  $\langle 4: add'l\ hashing \rangle$   $\langle 5: css\ style \rangle$   $\langle 6: aria\ role \rangle$

Typesets the contents and then renders the result as an svg file. Star #1 causes the image to be hashed for reuse. Star #3 causes the alt tag to not include `\AltTextOpen` and `\AltTextClose`, for use with math expressions.

The optional `<alt>` tag is included in the HTML code for use with copy/paste.

[image filename hashing](#) If starred, a hashed filename is used. If so, the hash is based on the alt tag and also

the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated  $\TeX$  expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is duplicated in the additional hashing argument.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple `alt` tag is still the same.

File `*_html.aux` A new label is placed into the file `*_html.aux`:

```
\newlabel{LWRlateximage-<BaseJobname>-<number>}{{<x>}{<y>}}
```

This is used to find the image in the PDF file, according to its name.

File `*-images.txt` A list of images to generate is created in `<jobname>-images.txt`. Each line has three pipe-delimited fields, containing the PDF page number from `<jobname>_html.pdf`, where the image is located, a boolean indicating whether the image is hashed, and the filename of the image. The last line has “end” in each field, and is used to detect an incomplete compile.

```
12259 \catcode'\$=\active%
12260
12261 \NewDocumentEnvironment{lateximage}{s O{\ImageAltText} s O{} O{} D({})}%
12262 {%
12263 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
12264 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%
```

Nested `lateximages` remain one large `lateximage`:

```
12265 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
```

If nesting inside an already-existing `lateximage`, simply record one more level.  $\mathcal{A}\mathcal{M}\mathcal{S}$  packages redefine `\addtocounter` to do nothing if inside a `\text`, so lower-level  $\TeX$  macros are used for tracking nested `lateximages`.

```
12266 {%
12267 % \addtocounter{LWR@lateximagedepth}{1}%
12268 \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
12269 }%
```

Otherwise, this is the outer-most `lateximage`:

```
12270 {% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```

12271 \LWR@traceinfo{lateximage: starting outer-most lateximage}%
12272 \setcounter{LWR@startingequation}{\value{equation}}%
12273 \addtocounter{LWR@startingequation}{1}%
12274 \booltrue{LWR@isstartingequation}%
12275 \let\LWR@startingequationtag\theLWR@startingequation%

```

The default equation tag, unless overwritten by `\tag`:

```
12276 \let\LWR@equationtag\theequation%
```

Starting a new lateximage:

```

12277 \addtocounter{LWR@lateximagenumber}{1}%
12278 \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%

```

While inside a lateximage, locally do not use mathjax:

```
12279 \boolfalse{mathjax}%
```

Be sure that are doing a paragraph:

```
12280 \LWR@ensuredoingapar%
```

Inside the lateximage, temporarily prevent underfull \hbox warnings.

```
12281 \hbadness=10000\relax%
```

Next file:

```

12282 \addtocounter{LWR@externalfilecnt}{1}%
12283 \LWR@traceinfo{lateximage: LWR@externalfilecnt is \arabic{LWR@externalfilecnt}}%

```

Figure out what the next page number will be. `\setcounterpageref` assigns `LWR@LIpage` to the page number for the reference `LWR\lateximage-BaseJobname-XXX`:

```

12284 \setcounterpageref{LWR@LIpage}{%
12285 LWR\lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
12286 }%
12287 \LWR@traceinfo{lateximage: LWR@LIpage is \arabic{LWR@LIpage}}%

```

Create an HTML span which will hold the comment which contains the *pdftotext* translation of the image's page, and also will hold the link to the .svg file:

```

12288 \LWR@htmltag{span\LWR@indentHTML%
12289 id=\textquotedbl{}%
12290 lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
12291 \textquotedbl\LWR@indentHTML
12292 class=\textquotedbl{}lateximagesource\textquotedbl\LWR@orignewline
12293 }%

```

Write instructions to the `<ImagesDirectory>.txt` file:

```
12294 \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
```

```
12295 \IfBooleanTF{#1}% starred
12296 {% hash
```

Compute and save the hashed file name for later use:

```
12297 \ifdefvoid{\LWR@ThisAltText}{%
12298 \IfBooleanTF{#3}{%
12299 \edef\LWR@hashedname{%
12300 \LWR@mdfive{\detokenize\expandafter{#2}-!-#4}%
12301 }%
12302 }{%
12303 \edef\LWR@hashedname{%
12304 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#4}%
12305 }%
12306 }%
12307 }{%
12308 \edef\LWR@hashedname{%
12309 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#4}%
12310 }%
12311 }%
12312 \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%
```

Write the page, hashing, and hashed name:

```
12313 \immediate\write\LWR@lateximagesfile{%
12314 |\arabic{LWR@Lpage}|true|\LWR@hashedname|%
12315 }%
12316 }% hash
12317 {% no hash
```

No hash, so write the page, no hashing, and the image number:

```
12318 \LWR@traceinfo{lateximage: hash false}%
12319 \immediate\write\LWR@lateximagesfile{%
12320 |\arabic{LWR@Lpage}|false|\LWR@ImagesName\arabic{LWR@externalfilecnt}}|%
12321 }%
12322 }% no hash
```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```
12323 \LWR@traceinfo{lateximage: about to create open comment}%
12324 \LWR@htmlopencomment%
```

One level deeper. At this outer-most lateximage, it is known that this is not being used inside an  $\mathcal{M}\mathcal{S}$  \text, since the outer-most level will never be in math mode.

```
12325 \addtocounter{LWR@lateximagedepth}{1}%
```

Start the new PDF page:

```
12326 \LWR@traceinfo{lateximage: about to create a new page}%
12327 \LWR@maybe@orignewpage%
```

If the current page is larger, typeset the image in a “standard” width page and font size:

```
12328 \LWR@traceinfo{lateximage: about to create minipage}%
12329 \ifdimless{\linewidth}{6in}{%
12330 \LWR@print@minipage{\linewidth}%
12331 }{%
12332 \LWR@print@minipage{6in}%
12333 }%
12334 \@nameuse{LWR@print@LateximageFontSizeName}%
```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for \hspace, etc. inside a lateximage.

```
12335 \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
12336 \LWR@restoreorigformatting%
```

Use full-page footnotes instead of minipage footnotes. These become HTML footnotes.

```
12337 \def\@mpfn{footnote}%
12338 \def\thempfn{\thefootnote}%
12339 \LetLtxMacro\@footnotetext\LWR@footnotetext%
```

Create the LWRlateximage<number> label:

```
12340 \LWR@traceinfo{lateximage: about to create label}%
12341 \LWR@orig@label{LWRlateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
12342 \LWR@traceinfo{lateximage: finished creating the label}%
```

Adjust the rule color to match HTML:

```
12343 \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
12344 \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
12345 }%
```

Enable print-mode math functions:

```
12346 \LetLtxMacro$\LWR@origdollar%
12347 \catcode'\$=3% math shift
12348 \LetLtxMacro\(\LWR@origopenparen%
12349 \LetLtxMacro\)\LWR@origcloseparen%
```

Only enable print-mode display math if are not already inside display math:

```
12350 \ifbool{LWR@indisplaymathimage}{}{% not in display math
12351 \LetLtxMacro\[\LWR@origopenbracket%
12352 \LetLtxMacro\]\LWR@origclosebracket%
12353 \let\equation\LWR@orig@equation%
12354 \let\endequation\LWR@orig@endequation%
12355 \csletcs{equation*}{LWR@orig@equation*}%
12356 \csletcs{endequation*}{LWR@orig@endequation*}%
12357 }% not in display math
```

For chemformula:

```
12358 \LetLtxMacro\LWR@newsingledollar$%
12359 \LetLtxMacro\LWR@newsingledollar$% syntax highlighting

12360 }% end of outer-most lateximage
12361 \LWR@traceinfo{lateximage: finished start of environment}%
12362 }% end of \begin{lateximage}
```

`\endlateximage` When the lateximage environment closes:

```
12363 {% start of \end{lateximage}
12364 \LWR@traceinfo{lateximage: starting end of lateximage}%
```

Nested more than one deep?

```
12365 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}%
12366 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level T<sub>E</sub>X macro due to  $\mathcal{A}\mathcal{M}\mathcal{S}$  `\text` change of `\addtocounter`.

```
12367 {%
12368 \LWR@traceinfo{lateximage: unnesting}%
12369 \global\advance\c@LWR@lateximagedepth -1\relax%
12370 }%
```

If this is the outer-most lateximage:

```
12371 {% end of outer-most lateximage
```

Finish the lateximage minipage and start a new PDF page:

```
12372 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
12373 \endLWR@print@minipage%
12374 \LWR@maybe@orignewpage%
```

Close the HTML comment which encapsulated any traces of the lateximage picked up by *pdftotext*:

```
12375 \LWR@print@vspace*{.5\baselineskip}%
12376 \LWR@htmlclosecomment%
12377 \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the lateximage, allowing its natural height:

```
12378 \IfBooleanTF{#1}% starred
12379 {% hash
12380 \LWR@lateximage@oneimage{#2}{\LWR@hashedname}{#5}{#3}{#6}%
12381 }% hash
12382 {% no hash
12383 \LWR@lateximage@oneimage{#2}{\LWR@ImagesName\theLWR@externalfilecnt}{#5}{#3}{#6}%
12384 }% no hash
```



Be sure that are doing a paragraph:

```
12385 \LWR@ensuredoingapar%
```

Close the HTML span which has the *pdftotext* comment and also the link to the .svg image:

```
12386 \LWR@htmltag{/span}%
12387 \ifbool{HTMLDebugComments}{%
12388 \LWR@htmlcomment{End of lateximage}%
12389 }{}%
```

Undo one lateximage level. This is not inside an  $\mathcal{AMS}$  \text, so regular \addtocounter may be used here.

```
12390 \addtocounter{LWR@lateximagedepth}{-1}%
```

Clear the single-use alt text:

```
12391 \gdef\LWR@ThisAltText{}%
12392 }% end of outer-most lateximage
12393 \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
12394 \LWR@traceinfo{lateximage: done}%
12395 }%
12396 \catcode'\$=3% math shift
12397 \end{warpHTML}
```

**for PRINT output:** 12398 \begin{warpprint}

Env lateximage \* [<alt> tag] \* [<add'l hashing>] [<css style>]

varwidth is used to create a box of the natural width of its contents.

```
12399 \NewDocumentEnvironment{lateximage}{s o s o o d()}
12400 {\begin{varwidth}[b]{\linewidth}}
12401 {\end{varwidth}}
```

```
12402 \end{warpprint}
```

## 85 center, flushleft, flushright

**for HTML output:** 12403 \begin{warpHTML}

Env center Replace center functionality with css tags. In a <span>, these macros are nullified, but extra % are used to remove spurious spaces here as well.

```
12404 \newenvironment*{LWR@HTML@center}
12405 {%
12406 \LWR@forcenewpage%
```

```

12407 \ifbool{FormatWP}%
12408 {\BlockClass[\LWR@print@mbx{text-align:center}]{center}}%
12409 {\BlockClass{center}}%
12410 }
12411 {\endBlockClass}
12412
12413 \LWR@formattedenv{center}

```

#### Env flushright

```

12414 \newenvironment*{LWR@HTML@flushright}
12415 {%
12416 \LWR@forcenewpage%
12417 \ifbool{FormatWP}%
12418 {\BlockClass[\LWR@print@mbx{text-align:right}]{flushright}}%
12419 {\BlockClass{flushright}}%
12420 }
12421 {\endBlockClass}
12422
12423 \LWR@formattedenv{flushright}

```

#### Env flushleft

```

12424 \newenvironment*{LWR@HTML@flushleft}
12425 {%
12426 \LWR@forcenewpage%
12427 \ifbool{FormatWP}%
12428 {\BlockClass[\LWR@print@mbx{text-align:left}]{flushleft}}%
12429 {\BlockClass{flushleft}}%
12430 }
12431 {\endBlockClass}
12432
12433 \LWR@formattedenv{flushleft}

```

`\centering`, `\raggedleft`, and `\raggedright` usually have no effect on the HTML output, but they may be used to compare with the next token to identify their use at the start of a float. See `\LWR@floatalignment`.

#### `\centering`

```

12434 \newcommand*{\LWR@HTML@centering}{%
12435 \ifbool{HTMLDebugComments}{%
12436 \LWR@htmlcomment{centering}%
12437 }}%
12438 }
12439 \LWR@formatted{centering}

```

#### `\raggedleft`

```

12440 \newcommand*{\LWR@HTML@raggedleft}{%
12441 \ifbool{HTMLDebugComments}{%
12442 \LWR@htmlcomment{raggedleft}%

```

```

12443 }{}%
12444 }
12445 \LWR@formatted{raggedleft}

```

`\raggedright`

```

12446 \newcommand*{\LWR@HTML@raggedright}{%
12447 \ifbool{HTMLDebugComments}{%
12448 \LWR@htmlcomment{raggedright}%
12449 }{}%
12450 }
12451 \LWR@formatted{raggedright}

```

`\leftline {<text>}`

```

12452 \renewcommand{\leftline}[1]{\begin{flushleft}#1\end{flushleft}}

```

`\centerline {<text>}`

```

12453 \renewcommand{\centerline}[1]{\begin{center}#1\end{center}}

```

`\rightline {<text>}`

```

12454 \renewcommand{\rightline}[1]{\begin{flushright}#1\end{flushright}}

```

```

12455 \end{warpHTML}

```

## 86 Preloaded packages

**for HTML output:** 12456 `\begin{warpHTML}`

If the given package was loaded before or by `lwarp`, load the `lwarp` version as well.

`\LWR@PreloadedPackage {<packagename>}`

```

12457 \newcommand*{\LWR@PreloadedPackage}[1]{%
12458 \@ifpackageloaded{#1}%
12459 {%
12460 \AtBeginDocument{
12461 \LWR@origRequirePackage{lwarp-#1}%
12462 }
12463 }%
12464 }{}%
12465 }

```

If `inputtrc` was loaded before `lwarp`, as is usually done, explicitly load the `lwarp` patches now:

```

12466 \LWR@PreloadedPackage{inputtrc}

```

If `textcomp` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
12467 \LWR@PreloadedPackage{textcomp}
```

If `xunicode` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
12468 \LWR@PreloadedPackage{xunicode}
```

If `graphics` or `graphicx` were loaded before `lwarp`, perhaps by `xunicode`, explicitly load the `lwarp` patches now:

```
12469 \LWR@PreloadedPackage{graphics}
```

```
12470 \LWR@PreloadedPackage{graphicx}
```

`scalegnt` may have been preloaded by `babel`

```
12471 \LWR@PreloadedPackage{scalegnt}
```

`fontaxes` must be preloaded so that `lwarp` may patch it for `HTML`.

```
12472 \LWR@PreloadedPackage{fontaxes}
```

Various font packages which may be loaded before `lwarp`:

```
12473 \LWR@PreloadedPackage{cmbright}
```

```
12474 \LWR@PreloadedPackage{fourier}
```

```
12475 \LWR@PreloadedPackage{kpfonts}
```

```
12476 \LWR@PreloadedPackage{kpfonts-otf}
```

```
12477 \LWR@PreloadedPackage{libertinust1math}
```

```
12478 \LWR@PreloadedPackage{pxfonts}
```

```
12479 \LWR@PreloadedPackage{txfonts}
```

```
12480 \LWR@PreloadedPackage{txgreek}
```

```
12481 \LWR@PreloadedPackage{newpxmath}
```

```
12482 \LWR@PreloadedPackage{newtxmath}
```

```
12483 \LWR@PreloadedPackage{newtxsf}
```

```
12484 \LWR@PreloadedPackage{mathalpha}
```

```
12485 \LWR@PreloadedPackage{unicode-math}
```

`nfssex-cfr` may be preloaded by `cfm-lm` or related font packages.

```
12486 \LWR@PreloadedPackage{nfssex-cfr}
```

`ulem` may be preloaded by `ctex`, `ctexart`, and related classes.

```
12487 \LWR@PreloadedPackage{ulem}
```

```
12488 \LWR@PreloadedPackage{xetexko}
```

`geometry` is preloaded by `lwarp`, and perhaps by various classes.

```
12489 \LWR@PreloadedPackage{geometry}
```

plex is preloaded by some CJK classes.

```
12490 \LWR@PreloadedPackage{plex}
```

stfloats is preloaded by ltj\* classes.

```
12491 \LWR@PreloadedPackage{stfloats}
```

lltjext is preloaded by ltj\* classes.

```
12492 \LWR@PreloadedPackage{lltjext}
```


luatexko must be loaded before lwarp.

```
12493 \LWR@PreloadedPackage{luatexko}
```

```
12494 \end{warpHTML}
```

## 87 siunitx


Pkg siunitx The lwarp core passes a few options to siunitx.


 **v3 not yet!** siunitx v3 is not yet supported. For now, specify version 2:


```
\usepackage{siunitx}[=v2]
```

This may be also necessary before loading other packages which also use siunitx, such as chemmacros.

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

 **math mode required** Some units will require that the expression be placed inside math mode.


 **tabular** Tabular S and s columns are rendered as simple c columns. These may be replaced by c columns with each cell contained in \num or \si.

 **MathJax** For math mode with svg display, the original siunitx code is used while generating the svg image. For text mode, lwarp uses an emulation which provides a very effective HTML interpretation of siunitx. For math expressions while using MATHJAX, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. Complicated parsing such as for \ang is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

Document modifications required for MATHJAX:

**custom units**

- Custom units may be added with \CustomizeMathJax. See the lwarp-siunitx code for examples.

 **unit spacing**

- Units work better using ~ between units instead of using periods.

⚠ `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

Also see [MATHJAX option](#), section 8.7.4.

for HTML output: `12495 \begin{warpHTML}`

Options for `siunitx`:

```
12496 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
12497 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
12498 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLunicode{2032}}
12499 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLunicode{2033}}
12500 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLunicode{210F}}}}
12501
12502 \appto\LWR@restoreorigformatting{%
12503 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^\circ}C}}%
12504 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^\circ}}}%
12505 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^\prime}}}%
12506 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^\prime\prime}}}%
12507 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}%
12508 }
12509
12510 \PassOptionsToPackage{
12511 detect-mode=true,
12512 per-mode=symbol,% fraction is not seen by pdftotext
12513 text-celsius = {\LWR@siunitx@textcelsius},
12514 text-degree = {\LWR@siunitx@textdegree},
12515 text-arcminute = {\LWR@siunitx@textprime} ,
12516 text-arcsecond = {\LWR@siunitx@textdblprime} ,
12517 }{siunitx-v2}

12518 \end{warpHTML}
```

## 88 Graphics print-mode modifications

### 88.1 General limitations

Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase extension, and `lwarp` cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with `lwarp`. For example, name the image file `image.pdf` instead of `image.PDF`, but refer to it in the source as `image`, without an extension. For

file extensions

⚠ case sensitive

images which may be used as-is with either print or HTML, such as JPG or PNG, you may use a capitalized extension if it is specified in the source, such as `image.JPG`.

`\includegraphics` file formats For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, `lwarp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

Prog `pdftocairo` To convert a PDF image to SVG, use the utility `pdftocairo`:  
PDF to SVG

```
Enter => pdftocairo -svg filename.pdf
```

Prog `lwarpmk pdftosvg` For a large number of images, use `lwarpmk`:

```
Enter => lwarpmk pdftosvg *.pdf (or a list of filenames)
```

Prog `lwarpmk epstopdf` For EPS images converted to PDF using the package `epstopdf`, use

Prog `epstopdf`  
epstopdf package

```
Enter => lwarpmk pdftosvg *.PDF
```

to convert to SVG images.

DVI L<sup>A</sup>T<sub>E</sub>X When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

```
Enter => lwarpmk epstopdf *.eps (or a list of filenames)
```

```
Enter => lwarpmk pdftosvg *.pdf (or a list of filenames)
```

PNG and JPG For PNG or JPG while using `pdflatex`, `lualatex`, or `xelatex`, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

duplicate files

△ image not displayed

A complication occurs if a file of the same name exists elsewhere in the T<sub>E</sub>X tree, such as a test image from some L<sup>A</sup>T<sub>E</sub>X package. T<sub>E</sub>X looks in the local document directory before considering the directories specified by `\graphicspath`, but the T<sub>E</sub>X tree is found as “local”, so any file in the tree is found before the directories in `\graphicspath`. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

- ⚠ **graphics vs. graphicx** If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that
- ⚠ **viewport** viewports are not supported by `lwarp`—the entire image will be shown.
- units** For `\includegraphics`, avoid `px` and `%` units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use `ex` or `em`. For fixed-sized images, use `cm`, `mm`, `in`, `pt`, or `pc`. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.
- options** `\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus new `class` and `alt` keys.
- HTML class** With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.
- HTML alt tags** Likewise, the `\includegraphics alt` key adds an HTML `alt` tag to an image, and is ignored for print output. If not assigned, each image is given an `alt` tag according to `\ImageAltText`.
- ⚠ **scale** Avoid using the `\includegraphics scale` option. Change:
- ```
\includegraphics[scale=<xx>]{ . . . }
```
- to:
- ```
\includegraphics[width=<yy>\linewidth]{ . . . }
```
- \rotatebox** `\rotatebox` accepts the optional `origin` key.
- ⚠ **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The CSS3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike `LATEX`, so expect some ugly results for scaling and rotating.

## 88.2 Print-mode modifications

**for PRINT output:** For print output, accept and then discard the new `class` key:

```
12519 \begin{warpprint}
12520 \define@key{Gin}{class}{}
12521 \define@key{Gin}{alt}{}

```

Print-mode additions for the `overpic` package. See section 458 for the HTML version.

```
12522 \AtBeginDocument{
12523 \ifpackageloaded{overpic}{
12524 \newcommand*{\overpicfontsize}{12}
12525 \newcommand*{\overpicfontskip}{14}
12526 }{}
12527 }

```



```
12528 \end{warpprint}
```

## 89 xcolor boxes

Pkg xcolor A few new definitions are provided for enhanced HTML colored boxes, and `\fcolorbox` is slightly modified. Print-mode version are also provided.

Print-mode versions of new xcolor defintions. These are defined inside `warpall` because they are also used for HTML while inside a `lateximage`. They are defined `\AtBeginDocument` so that the xcolor originals may first be loaded and saved for reuse.

The framed versions are modified to allow a background color of none, in which case only the frame is drawn, allowing the background page color to show.

**for HTML & PRINT:** 12529 `\begin{warpall}`

After xparse may have been loaded ...

```
12530 \AtBeginDocument{
```

... and *only* if xcolor was loaded:

```
12531 \@ifpackageloaded{xcolor}{
12532 \LWR@traceinfo{patching xcolor}
```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

```
12533 \LetLtxMacro\colorboxBlock\colorbox
```

The original definition is reused by the new versions:

```
12534 \LetLtxMacro\LWR@orig@print@fcolorbox\fcolorbox
```

```
\fcolorbox [framemodel] [framecolor] [boxmodel] [boxcolor] [text]
```

In print mode, `\fcolorbox` is modified to accept a background color of none.

(`\fcolorbox` is particular about its optional arguments, thus the elaborate combinations of `\ifthenelse`.)

```
12535 \newsavebox{\LWR@colorminipagebox}
12536
12537 \NewDocumentCommand{\LWR@print@fcolorbox}{o m o m +m}{%
12538 \LWR@traceinfo{\LWR@print@fcolorbox #2 #4}%
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```

12539 \begin{lrbox}{\LWR@colorminipagebox}%
12540 #5%
12541 \end{lrbox}%

```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a \fcolorbox.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```

12542 \ifstrequal{#4}{none}%
12543 {% #4 none
12544 \LWR@traceinfo{background is none}%
12545 {% scope the \colorlet
12546 \colorlet{\LWR@currentcolor}{.}%
12547 \color{#2}%
12548 \fbox{%
12549 \color{\LWR@currentcolor}%
12550 \usebox{\LWR@colorminipagebox}%
12551 }% fbox
12552 }% colorlet
12553 }% #4 none
12554 {% #4 not none
12555 \LWR@traceinfo{background not none}%
12556 \IfValueTF{#1}%
12557 {%
12558 \IfValueTF{#3}%
12559 {\LWR@orig@print@fcolorbox[#1][#2][#3][#4]{\usebox{\LWR@colorminipagebox}}}%
12560 {\LWR@orig@print@fcolorbox[#1][#2][#4]{\usebox{\LWR@colorminipagebox}}}%
12561 }%
12562 {% no value #1
12563 \IfValueTF{#3}%
12564 {\LWR@orig@print@fcolorbox[#2][#3][#4]{\usebox{\LWR@colorminipagebox}}}%
12565 {\LWR@orig@print@fcolorbox[#2][#4]{\usebox{\LWR@colorminipagebox}}}%
12566 }% no value #1
12567 }% #4 not none
12568 \LWR@traceinfo{\LWR@print@fcolorbox done}%
12569 }

```

```

12570 \renewrobustcmd*\fcolorbox{\LWR@print@fcolorbox}%

```

```
\fcolorboxBlock [framemodel] [framecolor] [boxmodel] [boxcolor] [text]
```

In print mode, \fcolorboxBlock is the same as \fcolorbox.

```

12571 \newcommand*\LWR@print@fcolorboxBlock{\LWR@print@fcolorbox}

```

```

12572 \newrobustcmd*\fcolorboxBlock{\LWR@print@fcolorboxBlock}

```

```

Env fcolorminipage [1:framemodel] [2:framecolor] [3:boxmodel] [4:boxcolor] [5:align] [6:height]
 [7:inner-align] [8:width]

```

In print mode, becomes a `\fcolorbox` containing a minipage:

```
12573 \NewDocumentEnvironment{LWR@print@fcolorminipage}{o m o m O{c} O{ } o m}
12574 {%
12575 \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
12576 \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```
12577 \IfValueTF{#7}%
12578 {\begin{minipage}[#5][#6][#7]{#8}}%
12579 {\begin{minipage}[#5][#6][#5]{#8}}%
12580 }%
12581 {%
12582 \end{minipage}%
12583 \end{lrbox}%
12584 \LWR@traceinfo{*** starting end fcolorminipage #1 #2 #3 #4 #8}%
```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a `\fcolorbox`.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
12585 \ifstrequal{#4}{none}%
12586 {% #4 none
12587 {% scope the \colorlet
12588 \colorlet{LWR@currentcolor}{.}%
12589 \color{#2}%
12590 \fbox{%
12591 \color{LWR@currentcolor}%
12592 \usebox{\LWR@colorminipagebox}%
12593 }% fbox
12594 }% colorlet
12595 }% #4 none
12596 {% #4 not none
12597 \IfValueTF{#1}%
12598 {%
12599 \IfValueTF{#3}%
12600 {\LWR@orig@print@fcolorbox[#1][#2][#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
12601 {\LWR@orig@print@fcolorbox[#1][#2][#4]{\usebox{\LWR@colorminipagebox}}}%
12602 }%
12603 {% no value #1
12604 \IfValueTF{#3}%
12605 {\LWR@orig@print@fcolorbox[#2][#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
12606 {\LWR@orig@print@fcolorbox[#2][#4]{\usebox{\LWR@colorminipagebox}}}%
12607 }% no value #1
12608 }% #4 not none
12609 \LWR@traceinfo{*** finished end fcolorminipage}%
12610 }
```

```

12611 \NewDocumentEnvironment{fcolorminipage}{}
12612 {\LWR@print@fcolorminipage}
12613 {\endLWR@print@fcolorminipage}

```

`xcolor` is known to have been loaded, and provided HTML versions of the following, and the print versions are provide above, so now they may be `\LW@formatted`.

```

12614 \LWR@formatted{colorbox}
12615 \LWR@formatted{colorboxBlock}
12616 \LWR@formatted{fcolorbox}
12617 \LWR@formatted{fcolorboxBlock}
12618 \LWR@formattedenv{fcolorminipage}

12619 \LWR@traceinfo{xcolor patches done}
12620 }{}% xcolor loaded
12621 }% AtBeginDocument

12622 \end{warppall}

```

## 90 chemmacros environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in print mode, and in the `chemmacros` code in HTML mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

**for PRINT output:** 12623 `\begin{warpprint}`

```

12624 \AtBeginDocument{
12625 \ifpackageloaded{chemmacros}{

```

Env `polymerdelims`

```

12626 \DeclareDocumentEnvironment{polymerdelims}{}
12627 {}{}

```

Env `redoxreaction` `{\langle space above \rangle}{\langle space below \rangle}`

For print output, extra space is include above and below the image, and a `lateximage` is not necessary. This extra space must be enforced, even inside a float, so zero-width rules are used.

For the HTML version, see section [192.4](#).

```

12628 \DeclareDocumentEnvironment{redoxreaction}{m m}
12629 {\rule{0pt}{#1}}{\rule[-#2]{0pt}{#2}}

```

```

12630 }{}% chemmacros
12631 }% AtBeginDocument

```

```

12632 \end{warpprint}

```

## 91 cleveref

**loading order** `cleveref` and `lwarp-cleveref` with its associated macro patches are automatically preloaded at the end of the preamble via `\AtEndPreamble` and `\AfterEndPreamble`. This is done because the HTML conversion requires `cleveref`. The user's document may not require `cleveref`, thus the user may never explicitly load it, so during HTML output `lwarp` loads it last. If the user's document preamble uses `cleveref` options, or functions such as `\crefname`, then `cleveref` may be loaded in the user's preamble near the end, and `lwarp`'s additional loading of `cleveref` will have no effect.

`\AtEndPreamble` forces `cleveref` to be loaded last, if it has not yet been loaded by the user.

```
for HTML output: 12633 \begin{warpHTML}
 12634
 12635 \AtEndPreamble{
 12636 \RequirePackage{cleveref}
 12637 }
 12638
 12639 \end{warpHTML}
```

## 92 Preexisting label and reference definitions

Remember and patch some label-related definitions. These will be further encased and patched by other packages later.

`\label` and `\pageref` do NOT change their behavior according to print or HTML output, and thus do not use the `\LWR@formatted` system.

```
for HTML output: 12640 \begin{warpHTML}
 12641
 12642 \LetLtxMacro\LWR@orig@label\label% includes memoir, before cleveref
 12643 \LetLtxMacro\label\LWR@new@label
 12644
 12645 \LetLtxMacro\LWR@orig@pageref\pageref
 12646 \LetLtxMacro\pageref\LWR@new@pageref
 12647
 12648 \end{warpHTML}
```

## 93 picture environment

Env `picture` The picture environment is enclosed inside a `\lateximage`.

```
for HTML output: 12649 \begin{warpHTML}
```

```
Env picture
```

```

12650 \BeforeBeginEnvironment{picture}{\begin{lateximage}[picture]}
12651
12652 \AfterEndEnvironment{picture}{\end{lateximage}}

12653 \end{warpHTML}

```

## 94 Minipages and Boxes

A CSS flexbox is used for minipages and parboxes, allowing external and internal vertical positioning.

- ⚠ **inline** A line of text with an inline minipage or `\parbox` will have the minipage or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made inline-block.
- placement** minipages and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.
- side-by-side** Side-by-side minipages may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.
- ⚠ **minipage in a span** There is limited support for minipages inside an HTML `<span>`. An HTML `<div>` cannot appear inside a `<span>`. While in a `<span>`, minipages, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.
- ⚠ **minipage size** When using minipage, `\parbox`, and `fminipage`, a virtual 6 × 9 inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.
- if width is `\linewidth`** If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.
- full-width if HTML** A new macro `\minipagefullwidth` requests that, during HTML output, the next single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version’s width makes no sense in HTML.
- ⚠ **tabular, multicols** Inside a tabular or multicols environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell lwarp to honor the specified widths of all following minipages and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell lwarp to ignore the specified widths.
- ⚠ **multicol** Inside a multicols, `\linewidth` is divided by the specified number of columns.
- ⚠ **text alignment** Nested minipages adopt their parent’s text alignment in HTML, whereas in regular

L<sup>A</sup>T<sub>E</sub>X PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

**for HTML output:** 12654 `\begin{warpHTML}`

## 94.1 Computed lengths

Len `\LWR@minipagewidth` Used to convert the width into printable units.

```
12655 \newlength{\LWR@minipagewidth}
```

Len `\LWR@minipageheight` Used to convert the height into printable units.

```
12656 \newlength{\LWR@minipageheight}
```

## 94.2 Virtual page size

Ctr `LWR@virtualpagedepth` Used to only reset the line width at the outermost minipage.

```
12657 \newcounter{LWR@virtualpagedepth}
12658 \setcounter{LWR@virtualpagedepth}{0}
```

Env `LWR@setvirtualpage` \* [*columns*]

If not nesting a minipage, adjust `\linewidth`, `\textwidth`, and `\textheight` for a virtual  $6 \times 9$  page, and start on a new PDF page to help prevent page overflows.

If starred, force a new page in the PDF before generating more HTML. This may be done to reduce the chance of page overflow when starting a new minipage.

The optional number of columns defaults to 1.

```
12659 \NewDocumentEnvironment{LWR@setvirtualpage}{s O{1}}{%
12660 \ifnumequal{\value{LWR@virtualpagedepth}}{0}{%
12661 \IfBooleanT{#1}{\LWR@maybe@orignewpage}%
12662 \setlength{\linewidth}{6in/#2}%
12663 \setlength{\textwidth}{6in}%
12664 \setlength{\textheight}{9in}%
12665 }{%
12666 \addtocounter{LWR@virtualpagedepth}{1}%
12667 }
12668 {\addtocounter{LWR@virtualpagedepth}{-1}}
```

## 94.3 Footnote handling

Also see section 60 for other forms of footnotes. Minipage footnotes are gathered in section 60.5, and then placed into the document in section 94.4.

## 94.4 Minipage handling

Bool LWR@minipagefullwidth Should the next minipage have no HTML width?

```
12669 \newbool{LWR@minipagefullwidth}
12670 \boolfalse{LWR@minipagefullwidth}
```

Bool LWR@forceminipagefullwidth Should the next minipage have no HTML width? Used to force full width for all minipages in an environment such as tabular or multicols, where the actual width depends on the browser width. Controlled by \useminipagewidths and \ignoreminipagewidths.

```
12671 \newbool{LWR@forceminipagefullwidth}
12672 \boolfalse{LWR@forceminipagefullwidth}
```

\minipagefullwidth Requests that the next minipage have no width tag in HTML:

**for HTML output:** 12673 \newcommand\*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}

\UseMinipageWidths Locally requests that minipage widths be honored.

```
12674 \newcommand*{\UseMinipageWidths}{\boolfalse{LWR@forceminipagefullwidth}}
```

\IgnoreMinipageWidths Locally requests that minipage widths be ignored.

```
12675 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
12676 \end{warpHTML}
```

**for PRINT output:** 12677 \begin{warpprint}  
12678 \newcommand\*{\minipagefullwidth}{}  
12679 \newcommand\*{\UseMinipageWidths}{}  
12680 \newcommand\*{\IgnoreMinipageWidths}{}  
12681 \end{warpprint}

**for HTML output:** 12682 \begin{warpHTML}

Bool LWR@minipagethispar Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

```
12683 \newbool{LWR@minipagethispar}
12684 \boolfalse{LWR@minipagethispar}
```

Env minipage [*vert position*] [*height*] [*inner vert position*] [*width*]

The vertical positions may be 'c', 't', or 'b'. The inner position may also be 's'.

When using \linewidth, \textwidth, or \textheight, these are scaled proportionally to a 6×9 inch text area.

```
12685 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
```



```
12686 {%
12687 \LWR@traceinfo{minipage}%
```

Start an environment, in which width and height is computed based on a virtual page size instead of the extra-large PDF page used during HTML tag generation.

```
12688 \begin{LWR@setvirtualpage}*%
```

Save the requested width now that `\linewidth`, etc. are adjusted to virtual size.

```
12689 \setlength{\LWR@minipagewidth}{#4}%
12690 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
12691 \addtolength{\LWR@minipagewidth}{3em}% room for frames
12692 }{%
12693 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%
```

Compute height:

```
12694 \setlength{\LWR@minipageheight}{\textheight}% default unless specified
12695 \ifblank{#2}{\setlength{\LWR@minipageheight}{#2}}%
```

L<sup>A</sup>T<sub>E</sub>X wants to start a paragraph for the virtual minipage, then start a paragraph again for the contents of the minipage, so cancel the paragraph tag handling until the minipage has begun.

```
12696 \ifbool{FormatWP}{\newline}{}%
12697 \LWR@stoppars%
```

If `FormatWP`, add a text frame:

```
12698 \ifbool{FormatWP}{%
12699
12700 \addtocounter{LWR@thisautoidWP}{1}%
12701 \LWR@htmltag{%
12702 div id=\textquotedbl%
12703 \LWR@print@mbx{autoidWP-\arabic{LWR@thisautoidWP}}%
12704 \textquotedbl\ % space
12705 class=\textquotedbl{}wminipage\textquotedbl%
12706 }%
12707
12708 }{%
```

Create the `<div>` tag with optional alignment style:

```
12709 \LWR@traceinfo{minipage: creating div class}%
12710 \LWR@htmltag{div class=\textquotedbl{}minipage\textquotedbl\ style=\textquotedbl%
12711 \ifthenelse{\equal{#1}{t}}{\LWR@print@mbx{vertical-align:bottom} ; }{%
12712 \ifthenelse{\equal{#1}{c}}{\LWR@print@mbx{vertical-align:middle} ; }{%
12713 \ifthenelse{\equal{#1}{b}}{\LWR@print@mbx{vertical-align:top} ; }{%
12714 \ifthenelse{\equal{#3}{t}}{\LWR@print@mbx{justify-content:flex-start} ; }{%
12715 \ifthenelse{\equal{#3}{c}}{\LWR@print@mbx{justify-content:center} ; }{%
12716 \ifthenelse{\equal{#3}{b}}{\LWR@print@mbx{justify-content:flex-end} ; }{%
12717 \ifthenelse{\equal{#3}{s}}{\LWR@print@mbx{justify-content:space-between} ; }{%
```

Print the width and optional height styles:

```

12718 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
12719 \ifbool{LWR@minipagefullwidth}%
12720 {\global\boolfalse{LWR@minipagefullwidth}}%
12721 {%
12722 \ifbool{LWR@forceminipagefullwidth}%
12723 {}%
12724 {%
12725 \ifdimequal{#4}{\linewidth}%
12726 {}%
12727 {width:\LWR@printlength{\LWR@minipagewidth} ; }%
12728 }%
12729 }%
12730 \LWR@traceinfo{minipage: about to print the height}%
12731 \ifblank{#2}{\height:\LWR@printlength{\LWR@minipageheight} ; }%
12732 \textquotedbl%
12733 }%
```

Finish with an empty line to start the contents on a new line.

```

12734
12735 % The preceding empty line is required.
```

Set the user-accessible line and text width and height values inside the virtual minipage. These do not affect the actual size of the PDF output, but are used by any reference to `\linewidth`, etc. inside the virtual minipage being created here. `\LWR@minipagewidth` was the original then padded by 3em, which is restored here. This is done instead of settings back to #4, in case #4 was `\linewidth`, which was changed to 6in above.

```

12736 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
12737 \addtolength{\LWR@minipagewidth}{-3em}% undo frame padding
12738 }{%
12739 \setlength{\linewidth}{\LWR@minipagewidth}%
```

`\raggedright` cancels hyphenation, which will be done by HTML instead.

```

12740 \LWR@print@raggedright%

12741 \LWR@newautopagelabel{page}%
```

Set minipage footnotes:

```

12742 \def\@mpfn{mpfootnote}%
12743 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
12744 \let\@footnotetext\@mpfootnotetext%
```

Resume paragraph tag handling for the contents of the minipage:

```

12745 \LWR@startpars%
12746 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12747
12748 === begin minipage ===
```

```

12749
12750 }{}%
12751 \LWR@traceinfo{minipage: finished starting the minipage}%
12752 }% finished \minipage
12753 {% \endminipage

```

Print pending minipage footnotes:

```
12754 \LWR@printpendingmpfootnotes%
```

End the environment with closing tag:

```

12755 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12756
12757 === end minipage ===
12758
12759 }{}%
12760 \LWR@stoppars%
12761
12762 \ifbool{FormatWP}{%
12763
12764 \LWR@htmlElementend{div}%
12765
12766 }{}%
12767 \LWR@htmldivclassend{minipage}%
12768
12769 \end{LWR@setvirtualpage}%
12770 \LWR@startpars%
12771 \ifbool{FormatWP}{\newline}{}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12772 \global\booltrue{LWR@minipagethispar}%
12773 \LWR@traceinfo{LWR@minipage: done}%
12774 }
12775
12776 \NewDocumentEnvironment{LWR@HTML@minipage}{O{t} O{} O{t} m}
12777 {\LWR@HTML@sub@minipage{#1}{#2}{#3}{#4}}
12778 {\endLWR@HTML@sub@minipage}
12779
12780 \LWR@formattedenv{minipage}

```

## 94.5 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

for HTML output:

```
\parbox [pos] [height] [inner-pos] {width} {text}
```

A parbox uses the minipage code:

```

12781 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{} O{t} m +m}
12782 {

```

```

12783 \LWR@traceinfo{parbox of width #4}%
12784 \begin{minipage}[#1][#2][#3]{#4}%
12785 #5
12786 \end{minipage}%
12787 }
12788
12789 \LWR@formatted{parbox}

```

`\mbox {<text>}` Nullified for HTML.

```

12790 \newcommand*{\LWR@HTML@mbox}[1][{}]{#1}
12791
12792 \LWR@formatted{mbox}

```

`\LWR@makebox@paren {<width>}, {<height>}`

Adds to the style in `\LWR@temptwo`.

```

12793 \NewDocumentCommand{\LWR@makebox@paren}{m m}{%
12794 \IfValueTF{#2}{%
12795 \setlength{\LWR@tempwidth}{#1\unitlength}%
12796 \setlength{\LWR@tempheight}{#2\unitlength}%
12797 \appto{\LWR@temptwo}{%
12798 \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
12799 \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
12800 }%
12801 }{%
12802 \PackageError{lwarp}%
12803 {(width,height) is missing a comma ',' character}%
12804 {\protect\makebox\space and \protect\framebox\space accept
12805 a size in the format (width,height).}%
12806 }%
12807 }

```

`\LWR@makebox@align {<alignment character>}`

Adds to the style in `\LWR@temptwo`.

```

12808 \newcommand*{\LWR@makebox@align}[1]{%
12809 \def\LWR@align{center}%
12810 \ifstrequal{#1}{l}{\def\LWR@align{left}}{%
12811 \ifstrequal{#1}{r}{\def\LWR@align{right}}{%
12812 \ifstrequal{#1}{s}{\def\LWR@align{justify}}{%
12813 \appto{\LWR@temptwo}{%
12814 \LWR@print@mbox{text-align:\LWR@align} ; %
12815 }%
12816 }

```

`\makebox ((width,height)) [<width>] [<pos>] {<text>}`

```

12817 \NewDocumentCommand{\LWR@HTML@makebox}{>\SplitArgument{1}{,}}d() o o +m}{%

```

Build the style depending on arguments:

```

12818 \begin{LWR@setvirtualpage}%
12819 \def\LWR@temptwo{%
12820 \IfValueTF{#1}%
12821 {% (width,height) ..
12822 \LWR@makebox@paren #1%
12823 \IfValueT{#2}%
12824 {% (width,height) [posn]
12825 \LWR@makebox@align{#2}%
12826 }%
12827 }%
12828 {% [width]
12829 \IfValueT{#2}% [width]
12830 {%
12831 \setlength{\LWR@tempwidth}{#2}%
12832 \ifdimgreater{\LWR@tempwidth}{0pt}{%
12833 \appto{\LWR@temptwo}{%
12834 width:\LWR@printlength{\LWR@tempwidth} ; % space
12835 }%
12836 }{}%
12837 }%
12838 }%
12839 \IfValueT{#3}%
12840 {% [width] [posn]
12841 \LWR@makebox@align{#3}%
12842 }%
12843 \InlineClass[%
12844 \LWR@print@mbx{display:inline-block} ; %
12845 \LWR@temptwo%
12846]%
12847 {makebox}%
12848 {#4}%
12849 \end{LWR@setvirtualpage}%
12850 }
12851 \LWR@formatted{makebox}

```

`\framebox` (*(width,height)*) [*(width)*] [*(pos)*] {*(text)*}

```

12852 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
12853 \fbox{\makebox(#1)[#2][#3][#4]}%
12854 }
12855
12856 \LWR@formatted{framebox}

```

`\LWR@forceminwidth` {*(legth)*}

Sets `\LWR@atleastonept` to be at least 1pt.

```

12857 \newlength{\LWR@atleastonept}
12858
12859 \newcommand*{\LWR@forceminwidth}[1]{%
12860 \setlength{\LWR@atleastonept}{#1}%
12861 \ifthenelse{%

```

```

12862 \lengthtest{\LWR@atleastonept>0pt}\AND%
12863 \lengthtest{\LWR@atleastonept<1pt}%
12864 }%
12865 {\setlength{\LWR@atleastonept}{1pt}}%
12866 {}%
12867 }

```

`\LWR@fboxstyle` Prints the HTML attributes for a black border and padding.

`\LWR@forceminwidth` must be used first in order to set the border width.

```

12868 \newcommand*{\LWR@fboxstyle}{%
12869 \LWR@findcurrenttextcolor%
12870 \LWR@traceinfo{\LWR@fboxstyle B}%
12871 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
12872 padding:\LWR@printlength{\fboxsep} ; %
12873 color:\LWR@origpound\LWR@tempcolor%
12874 }

```

`\fbox`  $\{ \langle text \rangle \}$

Creates a framed inline span enclosing the text.

Create a new HTML version, but don't use it until after `xcolor` may have loaded:

```

12875 \newcommand{\LWR@HTML@fbox}[1]{%
12876 \LWR@traceinfo{HTML fbox}%
12877 \LWR@forceminwidth{\fboxrule}%
12878 \LWR@traceinfo{HTML fbox B}%
12879 \InlineClass[%
12880 \LWR@print@mbbox{display:inline-block} ; %
12881 \LWR@fboxstyle%
12882]{fbox}{#1}%
12883 \LWR@traceinfo{HTML fbox: done}%
12884 }

```

`xcolor` \lets things to `\fbox` when it is loaded, and this must remain even for HTML output while in a `lateximage`, so `\fbox` is not modified until `\AtBeginDocument`:

```

12885 \AtBeginDocument{\LWR@formatted{fbox}}

```

`\fboxBlock`  $\{ \langle text \rangle \}$  Creates a framed HTML `<div>` of the text.

First, a print-mode version. This is newly defined for print mode, so it is defined inside `warpall`.

**for HTML & PRINT:**

```

12886 \end{warpHTML}
12887 \begin{warpall}
12888 \let\fboxBlock\fbox
12889 \end{warpall}
12890
12891 \begin{warpHTML}

```

**for HTML output:** Next, an HTML version:

```

12892 \newcommand{\LWR@HTML@fboxBlock}[1]{%
12893 \LWR@forceminwidth{\fboxrule}%
12894 \LWR@stoppars%
12895 \begin{BlockClass}[%
12896 \LWR@fboxstyle%
12897]{fboxBlock}
12898 #1
12899 \end{BlockClass}
12900 \LWR@startpars%
12901 }
12902
12903 \LWR@formatted{fboxBlock}
12904
12905 \end{warpHTML}

```

Env fminipage [*align*] [*height*] [*align*] {*width*}

Creates a framed HTML <div> around its contents.

**for HTML & PRINT:** Print version:

```

12906 \begin{warpall}
12907
12908 \newsavebox{\LWR@fminipagebox}
12909
12910 \NewDocumentEnvironment{\LWR@print@fminipage}{0{t} o 0{t} m}
12911 {%

```

An outer minipage will be used for vertical alignment. An inner minipage will be framed with \fbox.

If the optional inner alignment is not given, use the outer instead:

```

12912 \IfValueTF{#3}%
12913 {\def\LWR@thisalign{#3}}
12914 {\def\LWR@thisalign{#1}}%

```

Form the outer minipage depending on whether a height was given. Make the outer minipage larger to compensate for the frame.

```

12915 \IfValueTF{#2}%
12916 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
12917 {\minipage[#1][#4+2\fboxsep+2\fboxrule]}%

```

Capture the contents of the environment:

```

12918 \begin{lrbox}{\LWR@fminipagebox}%

```

Nest the contents inside an inner minipage of the desired size:

```

12919 \IfValueTF{#2}%
12920 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
12921 {\minipage[#1]{#4}}%

```

```
12922 }
12923 {%
```

Close the inner minipage and the LR box with the contents:

```
12924 \endminipage%
12925 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
12926 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
12927 \endminipage%
12928 }
12929
12930 \LetLtxMacro\fminipage\LWR@print@fminipage
12931 \LetLtxMacro\endfminipage\endLWR@print@fminipage
12932 % \newenvironment{fminipage}{\LWR@print@fminipage}{\endLWR@print@fminipage}
12933
12934 \end{warpall}
```

HTML version:

```
for HTML output: 12935 \begin{warpHTML}
12936
12937 \NewDocumentEnvironment{LWR@HTML@fminipage}{0{t} o 0{t} m}
12938 {%
12939 \LWR@traceinfo{fminipage #1 #2 #3 #4}%
```

Locally change to the virtual page size before processing the requested sizes:

```
12940 \begin{LWR@setvirtualpage}*%
12941 \setlength{\LWR@tempwidth}{#4}%
12942 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%
```

Use a rule of at least one pixel in width:

```
12943 \LWR@forceminwidth{\fboxrule}%

12944 \LWR@stoppars%

12945 \begin{BlockClass}[%
12946 \LWR@fboxstyle ; %
12947 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
12948 \ifbool{LWR@minipagefullwidth}%
12949 {\global\boolfalse{LWR@minipagefullwidth}}%
12950 {%
12951 \ifbool{LWR@forceminipagefullwidth}%
12952 {}%
12953 {%
12954 \ifdimequal{\LWR@tempwidth}{\linewidth}%
```



```

12955 {}%
12956 {width:\LWR@printlength{\LWR@tempwidth} ; }%
12957 }%
12958 }%
12959]{fminipage}%
12960 }
12961 {%
12962 \end{BlockClass}%
12963 \end{LWR@setvirtualpage}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12964 \global\booltrue{LWR@minipagethispar}%
12965 \LWR@traceinfo{fminipage done}%
12966 }
12967
12968 \LWR@formattedenv{fminipage}

```

`\raisebox`  $\langle\textit{raiselen}\rangle$  [ $\langle\textit{height}\rangle$ ] [ $\langle\textit{depth}\rangle$ ]  $\langle\textit{text}\rangle$


```


12969 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
12970 #4%
12971 }
12972
12973 \LWR@formatted{raisebox}

12974 \end{warpHTML}

```

## 95 Direct formatting

 `\bfseries`, etc. `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.

 **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

**program listings** For program listings, the `listings` package is supported, and its `literate` option is used to convert `&`, `<`, and `>` to proper HTML entities.

**verbatim** The various `verbatim`-related environments do not convert `&`, `<`, and `>`, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

For high-level block and inline custom CSS classes, see section 52.10.

**for HTML & PRINT:** 12975 `\begin{warpall}`

**Bool** `FixSmallCaps` User may set `FixSmallCaps` to true if small caps are being incorrectly rendered as all caps.

```
12976 \newbool{FixSmallCaps}
12977 \boolfalse{FixSmallCaps}
```

```
12978 \end{warpall}
```

**for HTML output:** 12979 \begin{warpHTML}

\emph {<text>}

```
12980 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
12981 {%
12982 \LWR@HTML@itshape%
12983 \LWR@htmlspan{em}{#1}%
12984 }%
12985 }
12986
12987 \LWR@formatted{emph}
```

\textmd {<text>}

```
12988 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
12989 {%
12990 \LWR@HTML@mdseries%
12991 \InlineClass(font-weight:normal){textmd}{#1}%
12992 }%
12993 }
12994
12995 \LWR@formatted{textmd}
```

\textbf {<text>}

```
12996 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
12997 {%
12998 \LWR@HTML@bfseries%
12999 \LWR@htmlspan{b}{#1}%
13000 }%
13001 }
13002
13003 \LWR@formatted{textbf}
```

\texteb {<text>} From nfssex-*cfr*.

```
13004 \@ifpackageloaded{nfssex-cfr}{
13005 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
13006 {%
13007 \LWR@HTML@ebweight%
13008 \InlineClass{texteb}{#1}%
13009 }%
13010 }
13011
13012 \LWR@formatted{texteb}
13013 }{% if not loaded
```

```
13014 \providerobustcmd{\texteb}[1]{
13015 }
```

`\textlg` {*text*}

From `nfssect-cfr`.

```
13016 \@ifpackageloaded{nfssect-cfr}{
13017 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
13018 {%
13019 \LWR@HTML@lgweight%
13020 \InlineClass{textlg}{#1}%
13021 }%
13022 }
13023
13024 \LWR@formatted{textlg}
13025 }{% if not loaded
13026 \providerobustcmd{\textlg}[1]{
13027 }
```

`\textrm` {*text*}

```
13028 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
13029 {%
13030 \LWR@HTML@rmfamily%
13031 \InlineClass(font-family:serif){textrm}{#1}%
13032 }%
13033 }
13034
13035 \LWR@formatted{textrm}
```

`\textsf` {*text*}

```
13036 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
13037 {%
13038 \LWR@HTML@sffamily%
13039 \InlineClass(font-family:sans){textsf}{#1}%
13040 }%
13041 }
13042
13043 \LWR@formatted{textsf}
```

`\texttt` {*text*}

```
13044 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
13045 {%
13046 \LWR@HTML@ttfamily%
13047 \LWR@htmlspan{kbd}{#1}%
13048 }%
13049 }
13050
13051 \LWR@formatted{texttt}
```

`\textup` {*text*}

```

13052 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
13053 {%
13054 \LWR@HTML@upshape%
13055 \InlineClass(font-style:normal){textup}{#1}%
13056 }%
13057 }
13058
13059 \LWR@formatted{textup}

```

`\textit`  $\{\langle text \rangle\}$

```

13060 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
13061 {%
13062 \LWR@HTML@itshape%
13063 \LWR@htmlspan{i}{#1}%
13064 }%
13065 }
13066
13067 \LWR@formatted{textit}

```

`\textsc`  $\{\langle text \rangle\}$

```

13068 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
13069 {%
13070 \LWR@HTML@scshape%
13071 \InlineClass{textsc}{#1}%
13072 }%
13073 }
13074
13075 \LWR@formatted{textsc}

```

`\textulc`  $\{\langle text \rangle\}$  From fontaxes.

```

13076 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
13077 {%
13078 \LWR@HTML@ulcshape%
13079 \InlineClass{textulc}{#1}%
13080 }%
13081 }
13082
13083 \LWR@formatted{textulc}

```

`\textsi`  $\{\langle text \rangle\}$

```

13084 \@ifundefined{textsi}{
13085 \LetLtxMacro\LWR@print@textsi\LWR@print@textsc
13086 }{}
13087
13088 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
13089 {%
13090 \LWR@HTML@sishape%
13091 \textsc{\textit{#1}}%

```

```

13092 % \InlineClass(
13093 % font-style: italic;
13094 % font-variant: small-caps ;
13095 % font-variant-numeric: oldstyle-nums ;
13096 %){textsi}{#1}%
13097 }%
13098 }
13099
13100 \LWR@formatted{textsi}

```

`\textsl`  $\langle text \rangle$

```

13101 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
13102 {%
13103 \slshape%
13104 \InlineClass(font-style:oblique){textsl}{#1}%
13105 }%
13106 }
13107
13108 \LWR@formatted{textsl}

```

`\textssc`  $\langle text \rangle$

```

13109 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
13110 \LWR@formatted{textssc}

```

`\textnormal`  $\langle text \rangle$

```

13111 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{\textmd{\textrm{\textup{#1}}}}
13112
13113 \LWR@formatted{textnormal}

13114 \FilenameNullify{%
13115 \LetLtxMacro\emph\@firstofone%
13116 \LetLtxMacro\textmd\@firstofone%
13117 \LetLtxMacro\textbf\@firstofone%
13118 \LetLtxMacro\texteb\@firstofone%
13119 \LetLtxMacro\textlg\@firstofone%
13120 \LetLtxMacro\textrm\@firstofone%
13121 \LetLtxMacro\textsf\@firstofone%
13122 \LetLtxMacro\texttt\@firstofone%
13123 \LetLtxMacro\textup\@firstofone%
13124 \LetLtxMacro\textit\@firstofone%
13125 \LetLtxMacro\textsc\@firstofone%
13126 \LetLtxMacro\textulc\@firstofone%
13127 \LetLtxMacro\textsi\@firstofone%
13128 \LetLtxMacro\textsl\@firstofone%
13129 \LetLtxMacro\textssc\@firstofone%
13130 \LetLtxMacro\textnormal\@firstofone%
13131 }

```

Remembers the current font family, series, and shape. fontaxes support is integrated here.

```

13132 \newcommand*\LWR@family}{rm}
13133 \newcommand*\LWR@series}{md}
13134 \newcommand*\LWR@shape}{up}
13135 \newcommand*\LWR@shapecaps}{ulc}

```

`\LWR@textcurrentfont` `{\text}`

Prints the text with the current font choices. Avoids nesting repeated font selections.

```

13136 \newcounter{LWR@textcurrentfontdepth}
13137 \setcounter{LWR@textcurrentfontdepth}{0}
13138
13139 \newcommand*\LWR@textcurrentfont}[1]{%
13140 \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}%
13141 {%
13142 \addtocounter{LWR@textcurrentfontdepth}{1}%
13143 #1%
13144 \addtocounter{LWR@textcurrentfontdepth}{-1}%
13145 }%
13146 {%
13147 \addtocounter{LWR@textcurrentfontdepth}{1}%
13148 \InlineClass%
13149 text\LWR@family\LWR@origtilde{%
13150 text\LWR@series\LWR@origtilde{%
13151 text\LWR@shape\LWR@origtilde{%
13152 text\LWR@shapecaps%
13153 }%
13154 {#1}%
13155 \addtocounter{LWR@textcurrentfontdepth}{-1}%
13156 }%
13157 }

```

Env `LWR@blocktextcurrentfont` Prints the contents with the current font choices.

```

13158 \newenvironment*LWR@blocktextcurrentfont){%
13159 \LWR@stoppars%
13160 \BlockClass{%
13161 text\LWR@family\LWR@origtilde{%
13162 text\LWR@series\LWR@origtilde{%
13163 text\LWR@shape\LWR@origtilde{%
13164 text\LWR@shapecaps%
13165 }%
13166 }{\endBlockClass\LWR@startpars}

```

`\mdseries`

```

13167 \newrobustcmd*\LWR@HTML@mdseries){%
13168 \LWR@print@mdseries%
13169 \renewcommand*\LWR@series}{md}%
13170 }
13171 \LWR@formatted{mdseries}

```

`\bfseries`

```
13172 \newrobustcmd*{\LWR@HTML@bfseries}{%
13173 \LWR@print@bfseries%
13174 \renewcommand*{\LWR@f@series}{bf}%
13175 }
13176 \LWR@formatted{bfseries}
```

`\ebweight` From `nfssex-cfr`.

```
13177 \@ifpackageloaded{nfssex-cfr}{
13178 \newrobustcmd*{\LWR@HTML@ebweight}{%
13179 \LWR@print@ebweight%
13180 \renewcommand*{\LWR@f@series}{eb}%
13181 }
13182 \LWR@formatted{ebweight}
13183 }{}
```

`\lgweight` From `nfssex-cfr`.

```
13184 \@ifpackageloaded{nfssex-cfr}{
13185 \newrobustcmd*{\LWR@HTML@lgweight}{%
13186 \LWR@print@lgweight%
13187 \renewcommand*{\LWR@f@series}{lg}%
13188 }
13189 \LWR@formatted{lgweight}
13190 }{}
```

`\rmfamily`

```
13191 \newrobustcmd*{\LWR@HTML@rmfamily}{%
13192 \LWR@print@rmfamily%
13193 \renewcommand*{\LWR@f@family}{rm}%
13194 }
13195 \LWR@formatted{rmfamily}
```

`\sffamily`

```
13196 \newrobustcmd*{\LWR@HTML@sffamily}{%
13197 \LWR@print@sffamily%
13198 \renewcommand*{\LWR@f@family}{sf}%
13199 }
13200 \LWR@formatted{sffamily}
```

`\ttfamily`

```
13201 \newrobustcmd*{\LWR@HTML@ttfamily}{%
13202 \LWR@print@ttfamily%
13203 \renewcommand*{\LWR@f@family}{tt}%
13204 }
13205 \LWR@formatted{ttfamily}
```

The following use `\AtBeginDocument` due to the L<sup>A</sup>T<sub>E</sub>X core `\reinstall@nfss@defs`, which redefines these `\AtBeginDocument`. See **texdoc source2e**.

`\upshape`

```
13206 \newrobustcmd*{\LWR@HTML@upshape}{%
13207 \LWR@print@upshape%
13208 \renewcommand*{\LWR@f@shape}{up}%
13209 }
13210 \AtBeginDocument{\LWR@formatted{upshape}}
```

`\itshape`

```
13211 \newrobustcmd*{\LWR@HTML@itshape}{%
13212 \LWR@print@itshape%
13213 \renewcommand*{\LWR@f@shape}{it}%
13214 }
13215 \AtBeginDocument{\LWR@formatted{itshape}}
```

`\scshape` Note: `\LWR@print@scshape` is not used here since some fonts, such as `erewhon`, copy/paste as all-caps.

```
13216 \newrobustcmd*{\LWR@HTML@scshape}{%
13217 \ifbool{FixSmallCaps}{}{%
13218 \LWR@print@scshape%
13219 }%
13220 \renewcommand*{\LWR@f@shapecaps}{sc}%
13221 }
13222 \AtBeginDocument{\LWR@formatted{scshape}}
```

`\ulcshape` From `fontaxes`.

```
13223 \@ifundefined{ulcshape}{
13224 \LetLtxMacro\ulcshape\upshape
13225 }{}
13226 \newrobustcmd*{\LWR@HTML@ulcshape}{%
13227 \LWR@print@ulcshape%
13228 \renewcommand*{\LWR@f@shapecaps}{ulc}%
13229 }
13230 \AtBeginDocument{\LWR@formatted{ulcshape}}
```

`\sishape`

```
13231 \@ifundefined{sishape}{
13232 \LetLtxMacro\sishape\scshape
13233 }{}
13234 \newrobustcmd*{\LWR@HTML@sishape}{%
13235 \ifbool{FixSmallCaps}{}{%
13236 \LWR@print@sishape%
13237 }%
13238 \renewcommand*{\LWR@f@shape}{it}}
```



```

13239 \renewcommand*\LWR@f@shapecaps}{sc}%
13240 }
13241 \AtBeginDocument{\LWR@formatted{sishape}}

```

### \slshape

```

13242 \newrobustcmd*\LWR@HTML@slshape}{%
13243 \LWR@print@slshape%
13244 \renewcommand*\LWR@f@shape}{sl}%
13245 }
13246 \AtBeginDocument{\LWR@formatted{slshape}}

```

### \sscshape

```

13247 \newrobustcmd{\LWR@HTML@sscshape}{\LWR@HTML@scshape}
13248 \AtBeginDocument{\LWR@formatted{sscshape}}

```

### \normalfont

```

13249 \newrobustcmd*\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
13250 \LWR@formatted{normalfont}

13251 \FilenameNullify{%
13252 \LetLtxMacro\rmfamily\@empty%
13253 \LetLtxMacro\sffamily\@empty%
13254 \LetLtxMacro\ttfamily\@empty%
13255 \LetLtxMacro\bfseries\@empty%
13256 \LetLtxMacro\ebweight\@empty%
13257 \LetLtxMacro\lgweight\@empty%
13258 \LetLtxMacro\mdseries\@empty%
13259 \LetLtxMacro\upshape\@empty%
13260 \LetLtxMacro\slshape\@empty%
13261 \LetLtxMacro\sishape\@empty%
13262 \LetLtxMacro\sscshape\@empty%
13263 \LetLtxMacro\itshape\@empty%
13264 \LetLtxMacro\ulcshape\@empty%
13265 \LetLtxMacro\sscshape\@empty%
13266 \LetLtxMacro\normalfont\@empty%
13267 }

```

`\sp`  $\{ \langle text \rangle \}$

For siunitx. Must work in math mode.

```
13268 \renewcommand{\sp}[1]{\text{^{#1}}}
```

`\sb`  $\{ \langle text \rangle \}$

For siunitx. Must work in math mode.

```
13269 \renewcommand{\sb}[1]{\text{_{#1}}}
```

`\textsuperscript`  $\{\langle text \rangle\}$

```
13270 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
13271 \LWR@formatted{textsuperscript}
```

`\@textsuperscript`  $\{\langle text \rangle\}$

```
13272 \newcommand{\LWR@HTML@@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
13273 \LWR@formatted{@textsuperscript}
```

`\textsubscript`  $\{\langle text \rangle\}$

```
13274 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13275 \LWR@formatted{textsubscript}
```

`\@textsubscript`  $\{\langle text \rangle\}$

```
13276 \newcommand{\LWR@HTML@@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13277 \LWR@formatted{@textsubscript}
```

`\up`  $\{\langle text \rangle\}$  Prints superscript.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
13278 \AtBeginDocument{\let\up\textsuperscript}
```

`\fup`  $\{\langle text \rangle\}$  Prints superscript.

Supports `fntcount` package.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
13279 \AtBeginDocument{\let\fup\textsuperscript}
```

`\underline`  $\{\langle text \rangle\}$

```
13280 \renewcommand{\underline}[1]{%
13281 \InlineClass%
13282 (text-decoration:underline; text-decoration-skip: auto)%
13283 {underline}{#1}%
13284 }
```

`\LWR@overline`  $\{\langle text \rangle\}$

```
13285 \newcommand{\LWR@overline}[1]{%
13286 \InlineClass%
13287 (text-decoration:overline; text-decoration-skip: auto)%
13288 {overline}{#1}%
13289 }
```

`\LWR@currenttextcolor` The color to use for text and `\rule`, defaulting to black:

```
13290 \newcommand*{\LWR@currenttextcolor}{black}
```

`\LWR@tempcolor` The color converted to HTML colorspace.  
`\LWR@tempcolortwo`

```
13291 \newcommand*{\LWR@tempcolor}{}
13292 \newcommand*{\LWR@tempcolortwo}{}

```

`\LWR@findcurrenttextcolor` Sets `\LWR@tempcolor` to the current color.

```
13293 \newcommand*{\LWR@findcurrenttextcolor}{%
13294 \renewcommand{\LWR@tempcolor}{000000}%
13295 }
```

`\LWR@textcurrentcolor` `{\langle text \rangle}` Like `\textcolor` but uses the current `\color` instead.

```
13296 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
13297 \renewcommand*{\LWR@currenttextcolor}{black}%
13298 #1%
13299 }
```

```
13300 \end{warppHTML}
```

**for PRINT output:** 13301 `\begin{warpprint}`

`\LWR@textcurrentfont` `{\langle text \rangle}`

Prints the text with the current font choices.

```
13302 \newcommand*{\LWR@textcurrentfont}[1]{#1}
```

Env `LWR@blocktextcurrentfont` Prints the contents with the current font choices.

```
13303 \newenvironment*{LWR@blocktextcurrentfont}{}{}
```

`\FilenameNullify` `{\langle macros to nullify \rangle}`

```
13304 \newcommand*{\FilenameNullify}[1]{}

```

```
13305 \end{warpprint}
```

## 96 Skips, spaces, font sizes

**for HTML output:** 13306 `\begin{warppHTML}`

`\`, and `\thinspace` may be redefined by other packages, so are redefined `\AtBeginDocument` here.

Direct-formatting space commands become HTML entities:

```
13307 \AtBeginDocument{
13308 \renewrobustcmd*{\,}{\HTMLUnicode{202f}} % HTML thin non-breakable space
13309 \renewrobustcmd*{\thinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
13310 \renewrobustcmd*{\negthinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
13311 \renewrobustcmd*{~}{\HTMLentity{nbsp}}
13312 \renewrobustcmd*{\textellipsis}{\HTMLUnicode{2026}}
13313 \renewrobustcmd*{\vdots}{\HTMLUnicode{22EE}}
13314 }
```

Direct-formatting font sizes are remembered for future use:

```
13315 \newcommand*{\LWR@font@size}{normalsize}
13316
13317 \newrobustcmd*{\LWR@HTML@normalsize}{\renewcommand*{\LWR@font@size}{normalsize}}
13318 \LWR@formatted{normalsize}
13319
13320 \newrobustcmd*{\LWR@HTML@small}{\renewcommand*{\LWR@font@size}{small}}
13321 \LWR@formatted{small}
13322
13323 \newrobustcmd*{\LWR@HTML@footnotesize}{\renewcommand*{\LWR@font@size}{footnotesize}}
13324 \LWR@formatted{footnotesize}
13325
13326 \newrobustcmd*{\LWR@HTML@scriptsize}{\renewcommand*{\LWR@font@size}{scriptsize}}
13327 \LWR@formatted{scriptsize}
13328
13329 \newrobustcmd*{\LWR@HTML@tiny}{\renewcommand*{\LWR@font@size}{tiny}}
13330 \LWR@formatted{tiny}
13331
13332 \newrobustcmd*{\LWR@HTML@large}{\renewcommand*{\LWR@font@size}{large}}
13333 \LWR@formatted{large}
13334
13335 \newrobustcmd*{\LWR@HTML@Large}{\renewcommand*{\LWR@font@size}{Large}}
13336 \LWR@formatted{Large}
13337
13338 \newrobustcmd*{\LWR@HTML@LARGE}{\renewcommand*{\LWR@font@size}{LARGE}}
13339 \LWR@formatted{LARGE}
13340
13341 \newrobustcmd*{\LWR@HTML@huge}{\renewcommand*{\LWR@font@size}{huge}}
13342 \LWR@formatted{huge}
13343
13344 \newrobustcmd*{\LWR@HTML@Huge}{\renewcommand*{\LWR@font@size}{Huge}}
13345 \LWR@formatted{Huge}

13346 \DeclareDocumentCommand{\onecolumn}{}{}
13347
13348 \DeclareDocumentCommand{\twocolumn}{0}{}{
13349
13350 #1
13351 }
```

13352 }

### \hfill

```
13353 \newcommand*\LWR@HTML@hfill{\quad}
13354 \LWR@formatted{hfill}
```

### \hrulefill

```
13355 \newcommand*\LWR@HTML@hrulefill{%
13356 \ifbool{LWR@doingapar}%
13357 {\rule{1in}{1pt}}%
13358 {%
13359 \LWR@findcurrenttextcolor%
13360 \ifdefstring{LWR@tempcolor}{000000}%
13361 {%
13362 \begin{BlockClass}{hrule}%
13363 \end{BlockClass}%
13364 }%
13365 {%
13366 \begin{BlockClass}[%
13367 border-top: 1px solid \LWR@origpound\LWR@tempcolor % space
13368]{hrule}%
13369 \end{BlockClass}%
13370 }%
13371 }%
13372 }%
13373 \LWR@formatted{hrulefill}
```

### \dotfill

```
13374 \newcommand*\LWR@HTML@dotfill{\dots}
13375 \LWR@formatted{dotfill}
```

### \newpage

```
13376 \renewcommand*\newpage{}
13377
13378 }
```

\newline Uses the HTML `<br />` element.

```
13379 \newrobustcmd*\LWR@newlinebr{\unskip\LWR@htmltag{br /}\LWR@originewline}%
13380 \LetLtxMacro\newline\LWR@newlinebr
```

\\ Redefined to \LWR@endofline or \LWR@tabularendofline.

\LWR@endofline \* [*len*]

\\ is assigned to \LWR@endofline at \LWR@LwarpStart.

Inside tabular, \ is temporarily changed to \LWR@tabularendofline.

```

13381 \LetLtxMacro\LWR@origendofline\
13382 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}
13383 {%
13384 \newline%

13385 \setlength{\LWR@templengthone}{#2}%
13386 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{}%
13387 }

```

`\LWR@minipagestartpars` Minipages are often placed side-by-side inside figures, with a bit of horizontal space to separate them. Since HTML does not allow a `<div>` to be inside a `p`, paragraphs must be turned off during the generation of the minipage, then turned on after the minipage is complete. When this occurs between side-by-side minipages, `lwarp` correctly suppresses the paragraph tags between the minipages, unless some other text is between the minipages. Such text forms its own paragraph, resulting in text after a minipage to be on its own line. Since people often place small horizontal space between minipages, `lwarp` tries to do this by remembering that a minipage has been seen, in which case paragraph tags are suppressed around `\hspace`, `\enskip`, `\quad`, and `\qqquad` until the end of the paragraph, when the closing `p` tag is created.

When a minipage is seen, the boolean `LWR@minipagethispar` is set, telling the following horizontal whitespace commands to try to suppress their surrounding paragraph tags. `LWR@minipagethispar` is cleared at the next end of paragraph, when the HTML paragraph closing tag is generated.

Placed just before `\hspace`, `\quad`, or `\qqquad`'s HTML output.

```

13388 \newcommand*{\LWR@minipagestartpars}{%
13389 \ifbool{LWR@minipagethispar}{\LWR@startpars}{}%
13390 }

```

`\LWR@minipagestoppars` Placed just after `\hspace`, `\quad`, or `\qqquad`'s HTML output.

```

13391 \newcommand*{\LWR@minipagestoppars}{%
13392 \ifbool{LWR@minipagethispar}{\LWR@stoppars}{}%
13393 }

```

`\quad` Handles special minipage & horizontal space interactions. Uses 2003 EM SPACE to pass validation.

```

13394 \renewrobustcmd*{\quad}{%
13395 \LWR@minipagestoppars%
13396 \HTMLUnicode{2003}%
13397 \LWR@minipagestartpars%
13398 }

```

`\qqquad` Handles special minipage & horizontal space interactions.

```

13399 \renewrobustcmd*{\qqquad}{\quad\quad}

```

`\enskip` Handles special minipage & horizontal space interactions.

```
13400 \renewrobustcmd*{\enskip}{%
13401 \LWR@minipagestoppars%
13402 \HTMLUnicode{2002}%
13403 \LWR@minipagestartpars%
13404 }
```

Len `\LWR@tempwidth` Used to compute span width, height, raise for `\hspace` and `\rule`:

```
Len \LWR@tempheight 13405 \newlength{\LWR@tempwidth}
Len \LWR@tempraise 13406 \newlength{\LWR@tempheight}
13407 \newlength{\LWR@tempraise}
```

```
\LWR@select@html@hspace * {\langle length \rangle} * {\langle length \rangle}
\hspace
```

Handles special minipage & horizontal space interactions.

Prints a span of a given width. Ignores the optional star.

`\hspace{\fill}` is converted to `\hspace{2em}`, equal to `\quad`.

```
13408 \newcommand{\LWR@select@html@hspace}{%
13409 \RenewDocumentCommand{\hspace}{s m}{%
13410 \setlength{\LWR@tempwidth}{##2}%
```

If `\fill`, change to `\quad`:

```
13411 \ifnum\gluestretchorder\LWR@tempwidth>0%
13412 \setlength{\LWR@tempwidth}{2em}%
13413 \fi%
```

Only if the width is greater than zero:

```
13414 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13415 \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
13416 \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
13417 {%
13418 \HTMLUnicode{2009}% thin breakable space
13419 }%
```

Print the span with the converted width. Not rounded.

```
13420 {%
13421 \LWR@htmltagc{%
13422 span style=\textquotedbl{}width:\LWR@printlength{\LWR@tempwidth}; % extra space
```

```

13423 display:inline-block\textquotedbl%
13424 }%

```

If formatting for a word processor, approximate with a number of `\quads`, in case a span of a given width is not supported:

```

13425 \ifbool{FormatWP}{%
13426 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13427 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13428 \quad%
13429 \addtolength{\LWR@templengthone}{-1em}%
13430 }%
13431 }%

```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```

13432 {\LWR@htmlcomment{}}%

```

Close the span:

```

13433 \LWR@htmltagc{/span}%
13434 }%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

13435 \LWR@minipagestartpars%
13436 }{}% width greater than 0
13437 }%
13438 }

```

```

\LWR@select@html@nohspace *{\length}
\hspace

```

Used to disable `\hspace` while creating description `\items`.

```

13439 \newcommand{\LWR@select@html@nohspace}{%
13440 \RenewDocumentCommand{\hspace}{s m}{}%
13441 }

```

```

\LWR@select@print@hspace

```

```

13442 \newcommand*{\LWR@select@print@hspace}{%
13443 \renewrobustcmd\hspace{\@ifstar\@hspacer\@hspace}%
13444 }

```

```

\hspace *{\length}

```

Handles special minipage & horizontal space interactions.

```

13445 \LWR@select@html@hspace

```



`\LWR@vspace` \*  $\langle length \rangle$  Nullified `vspace`.

```
13446 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
13447
13448 \LWR@formatted{vspace}
```

`\linebreak` [ $\langle num \rangle$ ] Inserts an HTML `br` tag.

```
13449 \renewcommand*\linebreak[1][]{\newline}
```

`\nolinebreak` [ $\langle num \rangle$ ]

```
13450 \renewcommand*\nolinebreak[1][]{}
```

`\pagebreak` [ $\langle num \rangle$ ] Starts a new paragraph.

```
13451 \renewcommand*\pagebreak[1][]{
13452
13453 }
```

`\nopagebreak` [ $\langle num \rangle$ ]

```
13454 \renewcommand*\nopagebreak[1][]{}
```

`\enlargethispage` \*  $\langle len \rangle$

```
13455 \RenewDocumentCommand{\enlargethispage}{s m}{}

```

`\clearpage`

`\cleardoublepage`

```
13456 \renewcommand*\clearpage{}
13457 \renewcommand*\cleardoublepage{}

```

`\rule` [ $\langle raise \rangle$ ] [ $\langle width \rangle$ ] [ $\langle height \rangle$ ]

Handles special minipage & horizontal space interactions.

Creates a span of a given width and height. Ignores the optional star.

`\fill` is zero-width, so `\hspace{\fill}` is ignored.

```
13458 \newcommand*\LWR@HTML@rule[3][]{%
```

The width is copied into a temporary L<sup>A</sup>T<sub>E</sub>X length, from which comparisons and conversions may be made:

```
13459 \setlength{\LWR@tempwidth}{#2}%

```

If it's zero-width then skip the entire rule:

```
13460 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
13461 {}% zero- width
13462 {% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
13463 \ifthenelse{%
13464 \lengthtest{\LWR@tempwidth>0pt}\AND%
13465 \lengthtest{\LWR@tempwidth<1pt}}%
13466 }%
13467 {\setlength{\LWR@tempwidth}{1pt}}%
13468 {}%
```

Likewise with height:

```
13469 \setlength{\LWR@tempheight}{#3}%
13470 \ifthenelse{%
13471 \lengthtest{\LWR@tempheight>0pt}\AND%
13472 \lengthtest{\LWR@tempheight<1pt}}%
13473 }%
13474 {\setlength{\LWR@tempheight}{1pt}}%
13475 {}%
```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
13476 \LWR@minipagestoppars%
```

Print the span with the converted width and height. The width and height are NOT rounded, since a height of less than 1pt is quite common in L<sup>A</sup>T<sub>E</sub>X code.

```
13477 \LWR@findcurrenttextcolor%
13478 \LWR@htmltagc{%
13479 span\LWR@indentHTML%
13480 style=\textquotedbl%
```

The HTML background color is used to draw the filled rule according to the L<sup>A</sup>T<sub>E</sub>X foreground color set by `\textcolor`.

```
13481 \ifbool{FormatWP}{\background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
13482 width:\LWR@printlength{\LWR@tempwidth} ; %
13483 height:\LWR@printlength{\LWR@tempheight} ; %
```

The raise height is converted to a CSS transform. The \*2 raise multiplier is to approximately match HTML output's X height. Conversion to a L<sup>A</sup>T<sub>E</sub>X length allows a typical L<sup>A</sup>T<sub>E</sub>X expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a L<sup>A</sup>T<sub>E</sub>X length limits the

allowable syntax. To do: A superior method would compute a ratio of L<sup>A</sup>T<sub>E</sub>X ex height, then print that to HTML with an ex unit.

```

13484 \ifblank{#1}%
13485 {}%
13486 {%
13487 \setlength{\LWR@tempraise}{0pt-#1}%
13488 \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
13489 \LWR@indentHTML%
13490 -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13491 \LWR@indentHTML%
13492 -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13493 \LWR@indentHTML%
13494 transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13495 \LWR@indentHTML%
13496 }%

```

Display inline-block to place the span inline with the text:

```

13497 display:inline-block;\textquotedbl\LWR@orignewline%
13498 }%

```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```

13499 \ifbool{FormatWP}{%
13500 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13501 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13502 _{}%
13503 \addtolength{\LWR@templengthone}{-1em}%
13504 }%
13505 }%

```

If NOT formatting for a word processor, add a comment to avoid an empty <span>:

```

13506 {\LWR@htmlcomment{}}%

```

Close the span:

```

13507 \LWR@htmltagc{/span}%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

13508 \LWR@minipagestartpars%
13509 }% non-zero width
13510 }
13511
13512 \LWR@formatted{rule}

13513 \end{warpHTML}

```

## 97 \phantomsection

**for HTML output:** 13514 \begin{warpHTML}

\LWR@phantomsection Emulate the hyperref \phantomsection command, often used to insert the bibliography into the table of contents. Ignores \ForceHTMLTOC.

```
13515 \newrobustcmd*{\LWR@phantomsection}{%
13516 \begingroup%
13517 \boolfalse{LWR@forcinghtmltoc}%
13518 \section*{}}%
13519 \endgroup%
13520 }
```

```
13521 \end{warpHTML}
```

## 98 \LaTeX and other logos

Logos for HTML and print modes:

Some of these logos may be redefined in a later package, so after loading other packages, and at the beginning of the document, their definitions are finally set by \LWR@formatted.

For CSS conversions, see:

<http://edward.oconnor.cx/2007/08/tex-poshlet>

<http://nitens.org/taraborelli/texlogo>

and the spacing described in the metafont package documentation.

```
for HTML & PRINT: 13522 \begin{warpall}
13523 \newbool{LWR@warnXe}
13524 \boolfalse{LWR@warnXe}
13525
13526 \newrobustcmd*{\Xe}
13527 {%
13528 X\hspace{-.1667em}\raisebox{-.5ex}{E}%
13529 \global\booltrue{LWR@warnXe}%
13530 }
13531
13532 \AtBeginDocument{
13533 \@ifpackageloaded{graphics}{
13534 \@ifpackageloaded{metalogo}{%
13535 \renewrobustcmd*{\Xe}
13536 {X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}
13537 }
13538 }{}
13539 }
13540
13541 \AtEndDocument{
13542 \ifbool{LWR@warnXe}{
```

```

13543 \PackageWarningNoLine{lwarp}{Load graphicx or graphics
13544 for improved XeTeX logo}
13545 }{}
13546 }
13547
13548 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{- .125em}\TeX}}
13549 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{- .125em}\LaTeX}}
13550 \providerobustcmd*{\AmS}{%
13551 \leavevmode\hbox{$\mathcal A\kern-.2em\lower.376ex%
13552 \hbox{$\mathcal M$}\kern-.2em\mathcal S$}%
13553 }
13554 \newrobustcmd*{\LyX}{\textsf{LyX}}
13555 \providerobustcmd*{\LuaTeX}{\mbox{Lua\TeX}}
13556 \providerobustcmd*{\LuaLaTeX}{\mbox{Lua\LaTeX}}
13557 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
13558 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
13559 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{t}}}
13560 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
13561 \end{warpall}

```

**for HTML output:** 13562 \begin{warpHTML}

The print-mode versions of the following may be changed by `metalogo`, so their print formatting is recorded `\AtBeginDocument`.

`\TeX` `TEX`

`latexlogo` is a css class used to properly typeset the E and A in `LATEX` and friends.

`latexlogofont` is a css class used to select the font for the rest of the logo in `LATEX`, `LuaTeX`, `ConTeXt`, etc.

```

13563 \newrobustcmd*{\LWR@HTML@TeX}
13564 {%
13565 \InlineClass{latexlogofont}%
13566 {%
13567 \InlineClass{latexlogo}%
13568 {%
13569 T%
13570 \InlineClass{latexlogosub}{e}%
13571 X%
13572 }%
13573 }%
13574 }
13575 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo

```

`\LaTeX` `LATEX`, `LATEX 2ε`  
`\LaTeXe`

```

13576 \newrobustcmd*{\LWR@HTML@LaTeX}
13577 {%
13578 \InlineClass{latexlogofont}%
13579 {%
13580 \InlineClass{latexlogo}%
13581 {%

```

```

13582 L%
13583 \InlineClass{latexlogosup}{a}%
13584 T%
13585 \InlineClass{latexlogosub}{e}%
13586 X%
13587 }%
13588 }%
13589 }
13590
13591 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
13592
13593
13594 \newrobustcmd*{\LWR@HTML@LaTeXe}
13595 {%
13596 \LaTeX%
13597 \InlineClass{latexlogofont}{%
13598 \InlineClass{latexlogotwoe}{%
13599 2%
13600 \InlineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
13601 }%
13602 }%
13603 }
13604 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

```

\LuaTeX LuaTeX, Lua<sup>A</sup>TeX

\LuaLaTeX

```

13605 \newrobustcmd*{\LWR@HTML@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
13606 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
13607
13608 \newrobustcmd*{\LWR@HTML@LuaLaTeX}{\InlineClass{latexlogofont}{Lua}\LaTeX}
13609 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo

```

\XeTeX XeTeX, Xe<sup>A</sup>TeX

\XeLaTeX

xetexlogo is a css class which aligns the backwards E in XeTeX and spaces TeX appropriately.

xelatexlogo is a css class which aligns the backwards E in Xe<sup>A</sup>TeX and spaces <sup>A</sup>TeX appropriately.

```

13610 \newrobustcmd*{\LWR@HTML@Xe}
13611 {%
13612 X%
13613 \InlineClass{xelatexlogosub}{\HTMLUnicode{18e}}%
13614 }
13615 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
13616
13617 \newrobustcmd*{\LWR@HTML@XeTeX}{\InlineClass{xelatexlogo}{Xe}\TeX}
13618 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
13619
13620 \newrobustcmd*{\LWR@HTML@XeLaTeX}{\InlineClass{xelatexlogo}{Xe}\LaTeX}
13621 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo

```

`\ConTeXt` **ConTeXt**

```

13622 \newrobustcmd*{\LWR@HTML@ConTeXt}{%
13623 \InlineClass{latexlogofont}{Con}\TeX{}}%
13624 \InlineClass{latexlogofont}{t}%
13625 }
13626 \LWR@formatted{ConTeXt}

```

`\BibTeX` **BIB<sub>T</sub>X**, *MakeIndex*`\MakeIndex`

```

13627 \newrobustcmd*{\LWR@HTML@BibTeX}
13628 {\InlineClass{latexlogofont}{B\textsc{ib}}\TeX}
13629 \LWR@formatted{BibTeX}
13630
13631 \newrobustcmd*{\LWR@HTML@MakeIndex}
13632 {\InlineClass{latexlogofont}{\textit{MakeIndex}}}
13633 \LWR@formatted{MakeIndex}

```

`\AmS` ***AMS***

`amslogo` is a css class used for the *AMS* logo.

```

13634 \AtBeginDocument{%
13635 \newrobustcmd*{\LWR@HTML@AmS}
13636 {%
13637 \InlineClass{amslogo}{%
13638 \textit{%
13639 A%
13640 \InlineClass{latexlogosub}{M}%
13641 S%
13642 }}%
13643 }%
13644 }%
13645 \LWR@formatted{AmS}
13646 }

```

`\MiKTeX` **MiKTeX**

```

13647 \newrobustcmd*{\LWR@HTML@MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}
13648 \LWR@formatted{MiKTeX}

```

`\LyX` **LyX**

`lyxlogo` is a css class used for the LyX logo.

```

13649 \newrobustcmd*{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}
13650 \LWR@formatted{LyX}

13651 \end{warpHTML}

```

## 99 Starting and stopping lwarp

**for HTML output:** 13652 `\begin{warpHTML}`

`\LWR@LwarpStart` Automatically sets up the HTML-related actions for the start and end of the document.

```
\LWR@LwarpEnd
13653 \AfterEndPreamble{\LWR@LwarpStart}
13654 \AtEndDocument{\LWR@LwarpEnd}

13655 \end{warpHTML}
```

## 100 Loading array

`array` is required for lwarp's column parsing. It and its patches are now loaded.

**for HTML output:** 13656 `\begin{warpHTML}`  
13657 `\RequirePackage{array}`

The following are compared with the tabular preamble > to add CSS classes to adjust tabular cells. Defined here now that `\arraybackslash` is defined after `array` is loaded.

```
13658 \edef\LWR@detect@centeringarraybackslash{\centering\arraybackslash}
13659 \edef\LWR@detect@raggedrightarraybackslash{\raggedright\arraybackslash}
13660 \edef\LWR@detect@raggedleftarraybackslash{\raggedleft\arraybackslash}
13661 \def\LWR@detect@itshape{itshape}
13662 \def\LWR@detect@bfseries{bfseries}
13663 \def\LWR@detect@bfit{bfseries\itshape}
13664 \end{warpHTML}
```

## 101 Loading everyshi patches

`everyshi` is emulated by the L<sup>A</sup>T<sub>E</sub>X core, so its patches are loaded here. `\AtBeginDocument` is used in case an older version of L<sup>A</sup>T<sub>E</sub>X is used.

**for HTML output:** 13665 `\begin{warpHTML}`  
13666 `\AtBeginDocument{`  
13667  `\@ifpackageloaded{everyshi}{`  
13668  `\RequirePackage{lwarp-everyshi}`  
13669  `}{}`  
13670 `}`  
13671 `\end{warpHTML}`

## 102 Loading textcomp patches

`textcomp` has now been integrated into the L<sup>A</sup>T<sub>E</sub>X core, so its patches are loaded now.



**for HTML output:** 13672 \begin{warpHTML}  
 13673 \RequirePackage{lwarp-textcomp}  
 13674 \end{warpHTML}

## 103 Loading amsmath, amsthm patches, centernot

amsmath, amsthm, and centernot may have been preloaded, such as by newtx, so their patches are loaded now.

**for HTML output:** 13675 \begin{warpHTML}  
 13676 \ifpackageloaded{amsthm}{  
 13677     \RequirePackage{lwarp-amsthm}  
 13678 }{}  
  
 13679 \ifpackageloaded{amsmath}{  
 13680     \RequirePackage{lwarp-amsmath}  
 13681 }{}

amsthm may load centernot, so centernot must be checked second.

```
13682 \ifpackageloaded{centernot}{
13683 \RequirePackage{lwarp-centernot}
13684 }{}
13685 \end{warpHTML}
```

## 104 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

**for HTML output:** 13686 \begin{warpHTML}  
  
 13687 \ifclassloaded{scrbook}{\RequirePackage{lwarp-patch-komascript}}{}  
 13688 \ifclassloaded{scrartcl}{\RequirePackage{lwarp-patch-komascript}}{}  
 13689 \ifclassloaded{scrreprt}{\RequirePackage{lwarp-patch-komascript}}{}  
  
 13690 \end{warpHTML}

## 105 Loading MEMOIR class patches

Load patches to memoir.

**for PRINT output:** 13691 \begin{warpprint}  
 13692 \ifclassloaded{memoir}{\LWR@origRequirePackage{xcolor}}{}  
 13693 \end{warpprint}

**for HTML output:** 13694 \begin{warpHTML}  
 13695 \ifclassloaded{memoir}{\RequirePackage{lwarp-patch-memoir}}{}  
 13696 \end{warpHTML}

## 106 ut\* class patches

Load patches to uj\* and ut\* classes, as well as ltj\* classes.

**for HTML output:** 13697 \begin{warpHTML}

```
13698 \newcommand*\LWR@patchujtclasses}{
```

uj/t does not use \partname

```
13699 \def\@partnameformat{}

13700 \def\@partcntformat##1{%
13701 \prepartname%
13702 \csname the##1\endcsname%
13703 \postpartname%
13704 \quad%
13705 }
13706 \ifundefined{chapter}{}{
13707 \def\@chapcntformat##1{%
13708 \prechaptername%
13709 \csname the##1\endcsname%
13710 \postchaptername%
13711 \quad%
13712 }
13713 }
13714 \renewcommand*\LWR@printchaptername{}}
```

Use decimal points instead of centered dots:

```
13715 \renewcommand{\thepart}{\@Roman\c@part}
13716 \ifundefined{chapter}{
13717 \renewcommand{\thesection}{\@arabic\c@section}
13718 }{
13719 \renewcommand{\thechapter}{\@arabic\c@chapter}
13720 \renewcommand{\thesection}{\thechapter.\@arabic\c@section}
13721 }
13722 \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}
13723 \renewcommand{\thesubsubsection}{%
13724 \thesubsection.\@arabic\c@subsubsection}
13725 \renewcommand{\theparagraph}{%
13726 \thesubsubsection.\@arabic\c@paragraph}
13727 \renewcommand{\thesubparagraph}{%
13728 \theparagraph.\@arabic\c@subparagraph}
13729 \ifundefined{chapter}{
13730 \renewcommand{\thefigure}{\@arabic\c@figure}
13731 \renewcommand{\thetable}{\@arabic\c@table}
13732 }{
13733 \renewcommand{\thefigure}{%
13734 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
13735 \renewcommand{\thetable}{%
13736 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
13737 }
```

```

13738 }
13739
13740 \@ifclassloaded{ujarticle}{\LWR@patchujtclasses}{}
13741 \@ifclassloaded{ujbook}{\LWR@patchujtclasses}{}
13742 \@ifclassloaded{ujreport}{\LWR@patchujtclasses}{}
13743 \@ifclassloaded{utarticle}{\LWR@patchujtclasses}{}
13744 \@ifclassloaded{utbook}{\LWR@patchujtclasses}{}
13745 \@ifclassloaded{utreport}{\LWR@patchujtclasses}{}
13746 \@ifclassloaded{ltjarticle}{\LWR@patchujtclasses}{}
13747 \@ifclassloaded{ltjbook}{\LWR@patchujtclasses}{}
13748 \@ifclassloaded{ltjreport}{\LWR@patchujtclasses}{}
13749 \@ifclassloaded{ltjsarticle}{\LWR@patchujtclasses}{}
13750 \@ifclassloaded{ltjsbook}{\LWR@patchujtclasses}{}
13751 \@ifclassloaded{ltjsreport}{\LWR@patchujtclasses}{}
13752 \@ifclassloaded{ltjskiyou}{\LWR@patchujtclasses}{}
13753 \@ifclassloaded{ltjspf}{\LWR@patchujtclasses}{}
13754 \@ifclassloaded{ltjtarticle}{\LWR@patchujtclasses}{}
13755 \@ifclassloaded{ltjtbook}{\LWR@patchujtclasses}{}
13756 \@ifclassloaded{ltjtreport}{\LWR@patchujtclasses}{}

13757 \end{warpHTML}

```

## 107 CTEX patches

Patches for ctex and related classes, which are loaded before lwarp.

All CTEX classes and the ctex package seem to load ctexpatch, so its presence is used to decide whether to have lwarp patch CTEX.

**for HTML output:** 13758 \begin{warpHTML}

\AtBeginDocument in case the user set FileSectionNames in the preamble.

```

13759 \AtBeginDocument{
13760 \@ifpackageloaded{ctexpatch}{%
13761 \def\@partcntformat#1{%
13762 \LWR@isolate{\CTEX@partname}~%
13763 \CTEX@part@aftername%
13764 }%
13765
13766 \def\@partnameformat{}
13767
13768 \def\@chaptcntformat#1{%
13769 \LWR@isolate{\CTEX@chaptername}~%
13770 \CTEX@chapter@aftername%
13771 }%
13772
13773 \renewcommand*{\LWR@printchaptername}{}
13774 }{}
13775 }

13776 \end{warpHTML}

```

## 108 kotexutf patches

Patch for kotexutf, which is loaded before lwarp.

kotexutf's `\@setref` was conflicting with lwarp's cross references.

**for HTML output:** 13777 `\begin{warpHTML}`

If kotexutf's version of `\@setref` is detected, it is reverted to the original.

```

13778 \AtBeginDocument{
13779 \ifpackageloaded{kotexutf}{%
13780 \def\LWR@kotexutf@setref#1#2#3{%
13781 \@setref@dhuks@orig{#1}{#2}{#3}%
13782 \ifx#1\relax\else
13783 \bgroup
13784 \dhuks@make@cjckchar@null
13785 \edef\@temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
13786 \egroup
13787 \fi%
13788 }%
13789
13790 \ifdefequal{\@setref}{\LWR@kotexutf@setref}{
13791 \let\@setref\@setref@dhuks@orig
13792 }{}
13793 }{}
13794 }

13795 \end{warpHTML}

```

## 109 babel and polyglossia warnings

lwarp prints a message instructing the user how to avoid the following error.

(These are not `\PackageWarnings` because there may not be a problem.)

lwarp uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . __hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

```

for HTML output: 13796 \begin{warpHTML}
 13797 \AtBeginDocument{
 13798
 13799 \@ifpackageloaded{polyglossia}{
 13800 \PackageWarningNoLine{lwarp}
 13801 {%
 13802 Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak
 13803 See the cleveref documentation regarding\MessageBreak
 13804 polyglossia support. Some languages are not supported%
 13805 }
 13806 \typeout{---}
 13807 \typeout{Package lwarp:}
 13808 \typeout{If the error}
 13809 \typeout{\space\space‘! Undefined control sequence.
 13810 \space ... \space \protect__hook begindocument’’}
 13811 \typeout{occurs here, use the polyglossia macro:}
 13812 \typeout{\space\space\protect\setmainlanguage\protect{...\protect}}
 13813 \typeout{---}
 13814 }{
 13815 \@ifpackageloaded{babel}{
 13816 \PackageWarningNoLine{lwarp}
 13817 {%
 13818 Babel has been loaded. Lwarp also uses cleveref.\MessageBreak
 13819 See the cleveref documentation regarding\MessageBreak
 13820 babel support. Some languages are not supported%
 13821 }
 13822 }{}}
 13823 }
 13824
 13825 }
 13826 \end{warpHTML}

```

## 110 MATHJAX warnings

`\LWR@mathjaxwarn`  $\langle(packagename)\rangle$   $\langle(More\ text.)\rangle$

To be done `\AtBeginDocument`.

```

13827 \newcommand*{\LWR@mathjaxwarn}[2]{%
13828 \@ifpackageloaded{lwarp-#1}{%
13829 \ifblank{#2}{%
13830 \PackageWarningNoLine{lwarp}
13831 {%
13832 Lwarp provides emulation for MathJax when used\MessageBreak
13833 with the #1 package%
13834 }
13835 }{%
13836 \PackageWarningNoLine{lwarp}
13837 {%
13838 Lwarp provides emulation for MathJax when used\MessageBreak

```

```

13839 with the #1 package.\MessageBreak
13840 #2%
13841 }
13842 }%
13843 }{}%
13844 }
13845
13846 % \begin{macro}{\LWR@nomathjaxwarn} \marg{packagename} \marg{More text.}
13847 %
13848 % To be done \cs{AtBeginDocument}.
13849 %
13850 % \changes{v0.894}{2020/12/22}{Warn if using packages not supported by \brand{MathJax}.}
13851 % \changes{v0.895}{2021/01/08}{Improved \brand{MathJax} warning.}
13852 % \begin{macrocode}
13853 \newcommand*{\LWR@nomathjaxwarn}[2]{%
13854 \ifpackageloaded{lwarp-#1}{%
13855 \ifblank{#2}{%
13856 \PackageWarningNoLine{lwarp}
13857 {%
13858 Lwarp does not provide MathJax support for #1.\MessageBreak
13859 Use SVG math by removing the Lwarp mathjax option%
13860 }
13861 }{}%
13862 \PackageWarningNoLine{lwarp}
13863 {%
13864 Lwarp does not provide MathJax support for #1.\MessageBreak
13865 #2%
13866 }
13867 }%
13868 }{}%
13869 }

```

`\LWR@forceSVGmessage {<packagename>}`

```

13870 \newcommand*{\LWR@forceSVGmessage}[1]{%
13871 SVG math output may be enabled for select math\MessageBreak
13872 expressions to preserve #1 visual\MessageBreak
13873 features for those particular expressions.\MessageBreak
13874 Before the chosen inline math, use \protect\inlinemathother\MessageBreak
13875 to begin using SVG math, and \protect\inlinemathnormal\MessageBreak
13876 afterward to resume using MathJax math.\MessageBreak
13877 Before display math, use \protect\displaymathother\MessageBreak
13878 to begin using SVG math, and use \protect\displaymathnormal\MessageBreak
13879 after to resume using MathJax for the following math.\MessageBreak
13880 Or, use SVG math for all expressions by removing\MessageBreak
13881 the mathjax option for the lwarp package%
13882 }

```

If MATHJAX is being used, issue a warning for certain packages.

```

13883 \AtBeginDocument{
13884 \ifbool{mathjax}{
13885 \LWR@nomathjaxwarn{aligned-overset}{}
13886 \LWR@nomathjaxwarn{amscdx}

```

```

13887 {\LWR@forceSVGmessage{amscdx}}
13888 \LWR@mathjaxwarn{arydshln}
13889 {In a math array, do not use the optional argument\MessageBreak
13890 for \protect\cdashline.\space\space
13891 Furthermore, \protect\cline\space is not\MessageBreak
13892 supported by MathJax}
13893 \LWR@nomathjaxwarn{autoalign}{}
13894 \LWR@mathjaxwarn{autonum}
13895 {MathJax does not support equation+.\MessageBreak
13896 You may use the warpprint and warpHTML\MessageBreak
13897 environments to isolate the package load\MessageBreak
13898 and the equation+ environments}
13899 \LWR@mathjaxwarn{bigdelim}
13900 {Delimiters appear only of the first line}
13901 \LWR@nomathjaxwarn{boldtensors}{}
13902 \LWR@mathjaxwarn{booktabs}
13903 {\protect\cmidrule\space is not displayed}
13904 \LWR@mathjaxwarn{breqn}
13905 {Each environment becomes an SVG image}
13906 \LWR@mathjaxwarn{colortbl}
13907 {Colors are ignored in MathJax.\MessageBreak
13908 (Text mode tabular does support colortbl.)\MessageBreak
13909 \LWR@forceSVGmessage{colortbl}}
13910 \LWR@mathjaxwarn{delarray}
13911 {\LWR@forceSVGmessage{delarray}}
13912 \LWR@nomathjaxwarn{gauss}
13913 {\LWR@forceSVGmessage{gauss}}
13914 \LWR@mathjaxwarn{hhline}
13915 {A simple \protect\hline\space is used}
13916 \LWR@mathjaxwarn{isomath}
13917 {Some of the symbol font macros such as \protect\mathsfbit\MessageBreak
13918 do not use a sans font because MathJax does not yet\MessageBreak
13919 have sans Greek. Tensors may look like vectors%
13920 }
13921 \LWR@nomathjaxwarn{jkmath}
13922 {\LWR@forceSVGmessage{jkmath}}
13923 \LWR@mathjaxwarn{libertinustlmath}
13924 {Some of the symbol font macros such as \protect\mathsfbit\MessageBreak
13925 do not use a sans font because MathJax does not yet\MessageBreak
13926 have sans Greek. Tensors may look like vectors%
13927 }
13928 \LWR@mathjaxwarn{mathtools}
13929 {See the Lwarp manual regarding the disallowspace\MessageBreak
13930 and showonlyrefs options, the alignat environment,\MessageBreak
13931 and \protect\DeclarePairedDelimiter\space and related%
13932 }
13933 \LWR@mathjaxwarn{mathspec}
13934 {Double quotes are removed, even inside \protect\text}
13935 \LWR@mathjaxwarn{multirow}
13936 {Multirow works as expected in text mode, but\MessageBreak
13937 limited emulation is provided for MathJax math.\MessageBreak
13938 \protect\multirow\space ignores all arguments except\MessageBreak
13939 the text}
13940 \LWR@mathjaxwarn{nicematrix}
13941 {Keys/values are ignored in MathJax.\MessageBreak

```

```

13942 \protect\Cdots, etc. do not span multiple cells.\MessageBreak
13943 AutoNiceMatrix, etc. are not supported for MathJax.\MessageBreak
13944 \protect\CodeBefore\space cannot be done with MathJax.\MessageBreak
13945 \LWR@forceSVGmessage{nicematrix}%
13946 }
13947 \LWR@nomathjaxwarn{pb-diagram}
13948 {\LWR@forceSVGmessage{pb-diagram}}
13949 % \LWR@mathjaxwarn{physics}
13950 % {The third-party extension is not used.\MessageBreak
13951 % {The MathJax v3 extension is used.\MessageBreak
13952 % See the Lwarp manual for details}
13953 \LWR@nomathjaxwarn{tensind}{ }
13954 \LWR@mathjaxwarn{unicode-math}
13955 {Do not use embedded Unicode characters.\MessageBreak
13956 (Not all characters are encoded correctly.)\MessageBreak
13957 Some symbol fonts are not supported by MathJax,\MessageBreak
13958 and are only approximated.\MessageBreak
13959 Greek macros such as \protect\alpha\space respond to the math-style\MessageBreak
13960 option. Latin symbols does not, per MathJax\MessageBreak
13961 limitations, unless placed inside \protect\symbit\space or similar}
13962 \LWR@nomathjaxwarn{unitsdef}{ }
13963 \LWR@mathjaxwarn{witharrows}
13964 {Arrows can only point to the next line.\MessageBreak
13965 Text is only placed on a single line}
13966 \LWR@nomathjaxwarn{xy}
13967 {In text, xy works as-is. SVG images will be generated.\MessageBreak
13968 \LWR@forceSVGmessage{xy}}
13969 }{ }
13970 }

```



---

 File 2 **lwarp-2in1.sty**

§ 111 Package **2in1**

Pkg 2in1 2in1 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2in1}

---

 File 3 **lwarp-2up.sty**

§ 112 Package **2up**

Pkg 2up 2up is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2up}[2010/05/15]

```

2 \def\source#1#2#3{}
3 \def\target#1#2#3{}
4 \def\targetlayout#1{}
5 \newdimen\pageseplength
6 \newdimen\pagesepwidth
7 \newdimen\pagesepoffset
8 \def\twoupemptypage{}
9 \def\twoupclearpage{}
10 \def\twoupeject{}
11 \def\twouparticle{}
12 \def\twoupplain{}
13 \def\twouplegaltarget{}
14 \def\twouplandscape{}
15 \def\twoupwrites{}

```

---

 File 4 **lwarp-a4.sty**

§ 113 Package **a4**

Pkg a4 a4 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4}[2004/04/15]

```

2 \newcommand*{\WideMargins}{}

```

File 5 **lwarp-a4wide.sty**§ 114 Package **a4wide**

Pkg a4wide a4wide is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

File 6 **lwarp-a5comb.sty**§ 115 Package **a5comb**


Pkg a5comb a5comb is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a5comb}

File 7 **lwarp-abstract.sty**§ 116 Package **abstract**

*(Emulates or patches code by PETER WILSON.)*

Pkg abstract abstract is supported and patched by lwarp.

 **missing TOC** If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

**for HTML output:** memoir provides an abstract environment even though it is not an article or report class. Meanwhile, lwarp loads book to emulate memoir, but book does not have an abstract environment, so when the abstract package is loaded for emulation there is no pre-existing abstract to redefine, which would cause an error. Thus, a null abstract is provide here:

```
1 \ProvideDocumentEnvironment{abstract}{}{}{}
```

Accept all options for lwarp-abstract:

```
2 \LWR@ProvidesPackagePass{abstract}[2009/06/08]
```

```
3 \AtBeginDocument{
4 \BeforeBeginEnvironment{abstract}{
5 \LWR@forcenewpage
6 \BlockClass{abstract}
```

```

7 }
8 \AfterEndEnvironment{abstract}{\endBlockClass}
9 }
10
11 \renewcommand{@bsrunintitle}{%
12 \hspace*{\abstitleskip}%
13 {\abstractnamefont%
14 \InlineClass{abstractrunintitle}{\abstractname}%
15 \@bslabeldelim}%
16 }

17 \@ifclassloaded{memoir}
18 {
19 \renewenvironment{abstract}{%
20 % \titlepage
21 % \null\vfil
22 % \@beginparpenalty\@lowpenalty
23 \setupabstract
24 \if@bsrunin
25 \else
26 % \if@bsstyle
27 % \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
28 % \else
29 % \ifnumber@bs
30 % \num@bs
31 % \else
32 % \begin{\absnamepos}%
33 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
34 % \endparpenalty\@M
35 % \end\absnamepos%
36 % \vspace{\abstitleskip}%
37 % \fi
38 % \fi
39 % \vspace{\abstitleskip}%
40 \fi
41 \put@bsintoc%
42 \begin{@bsrunintitle}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
43 {\par\end{@bsrunintitle}\vfil\null%\endtitlepage
44 }
45 }{% not memoir
46 \if@titlepage
47 \renewenvironment{abstract}{%
48 % \titlepage
49 % \null\vfil
50 % \@beginparpenalty\@lowpenalty
51 % \if@bsrunin
52 % \else
53 % \if@bsstyle
54 % \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
55 % \else
56 % \ifnumber@bs
57 % \num@bs
58 % \else
59 % \begin{\absnamepos}%
60 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}

```

```

61 \endparpenalty\@M
62 \end\absnamepos%
63 %% \vspace{\abstitlekip}%
64 \fi
65 \fi
66 \vspace{\abstitlekip}%
67 \fi
68 \put@bsintoc%
69 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
70 {\par\end{@bstr@ctlist}\vfil\null%\endtitlepage
71 }
72 \else
73 \renewenvironment{abstract}{%
74 \if@bsrunin
75 \else
76 \if@bsstyle
77 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
78 \else
79 \ifnumber@bs
80 \num@bs
81 \else
82 \begin{\absnamepos}%
83 \abstractnamefont\BlockClassSingle{abstracttitle}{\abstractname}%
84 \end\absnamepos%
85 %% \vspace{\abstitlekip}%
86 \fi
87 \fi
88 \vspace{\abstitlekip}%
89 \fi
90 \put@bsintoc%
91 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
92 {\par\end{@bstr@ctlist}}
93 \fi
94 }% not memoir

```

---

## File 8 **lwarp-academics.sty**

### § 117 Package **academics**

*(Emulates or patches code by DIOGO A. B. FERNANDES.)*

Pkg academics **academics** is patched for use by **lwarp**.

If `\aiicon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{academics}[2018/06/27]
2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@academics@orig@AI\AI
5
6 \newcommand*{\LWR@academics@symbol}[1]{%

```

```

7 \begin{lateximage}*[academicon][academicons#1]%
8 \begingroup%
9 \LWR@academicons@orig@AI%
10 \LWR@orig@symbol{#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\AI}{%
16 \LetLtxMacro\symbol\LWR@academicons@symbol%
17 }
18
19 \renewcommand*{\aiicon}[1]
20 {%
21 \begin{lateximage}*[#1 icon][academicons#1]%
22 \AI\csname aiicon@#1\endcsname%
23 \end{lateximage}%
24 }

```

---

File 9 **lwarp-accents.sty**

§ 118 Package **accents**

(Emulates or patches code by JAVIER BEZOS.)

Pkg accents accents is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{accents}[2006/05/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{accents}
4
5 \CustomizeMathJax{\newcommand{\ring}[1]{\mathring{#1}}}
6 \CustomizeMathJax{\newcommand{\accentset}[2]{\overset{#1}{#2}}}

```

As of this writing, MATHJAX v3 does not yet support groups for macros, so for `\underaccent`, the originals are remembered here, then they are temporarily redefined and used inside `\underaccent`, then restored to their originals. `\LARGE` gives a reasonable size, and `\raise` is used to adjust vertically without introducing extra line space.

```

7 \CustomizeMathJax{\let\LWRgrave\grave}
8 \CustomizeMathJax{\let\LWRacute\acute}
9 \CustomizeMathJax{\let\LWRcheck\check}
10 \CustomizeMathJax{\let\LWRbreve\breve}
11 \CustomizeMathJax{\let\LWRbar\bar}
12 \CustomizeMathJax{\let\LWRhat\hat}
13 \CustomizeMathJax{\let\LWRdot\dot}
14 \CustomizeMathJax{\let\LWRtilde\tilde}
15 \CustomizeMathJax{\let\LWRddot\ddot}

```

```

16 \CustomizeMathJax{\let\LWRvec\vec}
17 \CustomizeMathJax{\let\LWRwidetilde\widetilde}
18
19 \CustomizeMathJax{\newcommand{\underaccent}[2]{%
20 {%
21 \renewcommand{\grave}[1]{\LARGE\LWRgrave{##1}}}%
22 \renewcommand{\acute}[1]{\LARGE\LWRacute{##1}}}%
23 \renewcommand{\check}[1]{\LARGE\LWRcheck{##1}}}%
24 \renewcommand{\breve}[1]{\LARGE\LWRbreve{##1}}}%
25 \renewcommand{\bar}[1]{\LARGE\LWRbar{##1}}}%
26 \renewcommand{\hat}[1]{\LARGE\LWRhat{##1}}}%
27 \renewcommand{\dot}[1]{\LARGE\LWRdot{##1}}}%
28 \renewcommand{\tilde}[1]{\LARGE\LWRtilde{##1}}}%
29 \renewcommand{\ddot}[1]{\LARGE\LWRddot{##1}}}%
30 \renewcommand{\vec}[1]{\LARGE\LWRvec{##1}}}%
31 \renewcommand{\widetilde}[1]{\LARGE\LWRwidetilde{\hphantom{#2}}}%
32 \underset{\raise 2pt {#1}}{#2}%
33 \let\grave\LWRgrave%
34 \let\acute\LWRacute%
35 \let\check\LWRcheck%
36 \let\breve\LWRbreve%
37 \let\bar\LWRbar%
38 \let\hat\LWRhat%
39 \let\dot\LWRdot%
40 \let\tilde\LWRtilde%
41 \let\ddot\LWRddot%
42 \let\vec\LWRvec%
43 \let\widetilde\LWRwidetilde%
44 }%
45 }}
46
47 \CustomizeMathJax{\newcommand{\undertilde}[1]{%
48 \underset{\raise 3pt {\widetilde{\hphantom{#1}}}}{#1}%
49 }}
50 \end{warpMathJax}

```

---

File 10 **lwarp-accessibility.sty**

§ 119 Package **accessibility**

Pkg accessibility accessibility is emulated.

**for HTML output:** Discard all options for lwarp-accessibility:

```

1 \LWR@ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}[1]{\ThisAltText{#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{#2}\LWR@href{#1}{#3}}%
4 \providecommand{\thead}[1]{\textbf{#1}}

```

For MATHJAX:

---

```

5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\alt}[1]{} }
7 \CustomizeMathJax{\newcommand{\thead}[1]{\text{\textbf{#1}}}}
8 \end{warpMathJax}

```

---

File 11 **lwarp-accsupp.sty**

§ 120 Package **accsupp**

Pkg accsupp accsupp is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{accsupp}[2018/03/28]

```

2 \newcommand*{\BeginAccSupp}[1]{}
3 \newcommand*{\EndAccSupp}[1]{}

```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\BeginAccSupp}[1]{} }
6 \CustomizeMathJax{\newcommand{\EndAccSupp}[1]{} }
7 \end{warpMathJax}

```


---

File 12 **lwarp-acro.sty**

§ 121 Package **acro**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg acro acro is patched for use by lwarp.

 **formats** Define acronymn formats using \textbf instead of \bfseries etc.

**for HTML output:** 1 \LWR@ProvidesPackagePass{acro}[2019/10/12]

\DeclareAcronym is used in the preamble, where lwarp has not yet made the dollar active, so temporarily enable lwarp math catcode just for this definition:

```

2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {mm}
4 {
5 \acro_declare_acronym:nn {#1} {#2}
6 \catcode'\$=3% lwarp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{}{
11 \catcode'\$=\active% lwarp
12 \LWR@DeclareAcronym
13 }

```

Replace dot fill with simple dots:

```

14 \ExplSyntaxOn
15 \cs_new_protected:Npn \LWR@HTML@acro_dot_fill: { \dots\space }
16 \LWR@formatted{acro_dot_fill:}
17 \ExplSyntaxOff

```

Modified to activate the current font:

```

18 \ExplSyntaxOn
19 \@ifpackagelater{acro}{2020/04/29}%
20 { }% v3 or later
21 { }% before v3
22 \@ifpackagelater{acro}{2019/09/23}%
23 { }% v2.10 or later
24 \cs_gset_protected:Npn __acro_typeset:nn #1#2
25 {
26 \mode_if_horizontal:F { \leavevmode }
27 \group_begin:
28 \use:x
29 {
30 \bool_if:cTF {l__acro_custom_#1_format_bool}
31 { \exp_not:v {l__acro_custom_#1_format_tl} }
32 { \exp_not:v {l__acro_#1_format_tl} }
33 { \exp_not:N\LWR@textcurrentfont{#2}}% lwarp
34 }
35 \group_end:
36 }
37
38 \cs_gset_protected:Npn __acro_ending_format:nn #1#2
39 {
40 \bool_if:NTF \l__acro_include_endings_format_bool
41 {
42 \str_case:nn {#1}
43 {
44 {long}
45 {
46 \bool_if:NTF \l__acro_custom_long_format_bool
47 { \l__acro_custom_long_format_tl }
48 {
49 \bool_if:NTF \l__acro_first_instance_bool
50 { \l__acro_first_long_format_tl }
51 { \l__acro_long_format_tl }
52 }
53 }
54 } {short}
55 {
56 \bool_if:NTF \l__acro_custom_short_format_bool
57 { \l__acro_custom_short_format_tl }
58 { \l__acro_short_format_tl }
59 }
60 } {alt}
61 {
62 \bool_if:NTF \l__acro_custom_alt_format_bool
63 { \l__acro_custom_alt_format_tl }

```



```

64 { \l__acro_alt_format_tl }
65 }
66 }
67 }
68 { \use:n }
69 {\exp_not:N\LWR@textcurrentfont{#2}}% lwarp
70 }
71}% v2.10 or later
72}% before v2.10
73\cs_gset_protected:Npn \acro_write_short:nn #1#2
74 {
75 \mode_if_horizontal:F { \leavevmode }
76 \group_begin:
77 \bool_if:NTF \l__acro_custom_format_bool
78 { \l__acro_custom_format_tl }
79 { \l__acro_short_format_tl }
80 {\LWR@textcurrentfont{#2}}% lwarp
81 \group_end:
82 }
83
84\cs_gset_protected:Npn \acro_write_alt:nn #1#2
85 {
86 \mode_if_horizontal:F { \leavevmode }
87 \group_begin:
88 \bool_if:NTF \l__acro_custom_format_bool
89 { \l__acro_custom_format_tl }
90 { \l__acro_alt_format_tl }
91 {\LWR@textcurrentfont{#2}}% lwarp
92 \group_end:
93 }
94
95\cs_gset_protected:Npn \acro_write_long:nn #1#2
96 {
97 \mode_if_horizontal:F { \leavevmode }
98 \group_begin:
99 \bool_if:NTF \l__acro_custom_long_format_bool
100 { \l__acro_custom_long_format_tl }
101 { \use:n }
102 {
103 \use:x
104 {
105 \exp_not:n {#1}
106 {
107 \bool_if:NTF \l__acro_first_upper_bool
108 { \exp_not:N __acro_first_upper_case:n { \exp_not:n {
109 \LWR@textcurrentfont{#2}}% lwarp
110 } } }
111 { \exp_not:n {\LWR@textcurrentfont{#2}} }% lwarp
112 }
113 }
114 }
115 \group_end:
116 }
117}% before v2.10
118}% before v3

```


119 \ExplSyntaxOff

File 13 **lwarp-acronym.sty**

§ 122 Package **acronym**

(Emulates or patches code by TOBIAS OETIKER.)

Pkg acronym acronym is patched for use by lwarp.

 **multiply-defined labels** \acresetall does not work with cleveref, causing multiply-defined labels. lwarp patches acronym for HTML, but not for print mode.

**for HTML output:** 1 \LWR@ProvidesPackagePass{acronym}[2015/03/21]

Uses \textit instead of \itshape:

```
2 \renewcommand{\acfia}[1]{%
3 {\textit{\AC@acl{#1}}} (\ifAC@starred\acs*{#1}\else\acs{#1}\fi)}
```

Removes the mbox to allow math inside:

```
4 \renewcommand*\AC@acs[1]{%
5 % \mbox{
6 \expandafter\AC@get\csname fn@#1\endcsname\@firstoftwo{#1}}
7 % }
```

Fix for acronym labels in the captions of floats.

```
8 \renewcommand{\@starttoc}[1]{
9 \LWR@html@elementclass{nav}{#1}
10 \LetLtxMacro\@verridelabel\@gobble
11 \LWR@orig@starttoc{#1}
12 \LWR@html@elementclassend{nav}{#1}
13 }
```

Modified for cleveref and lwarp:

```
14 \renewcommand*\AC@und@newl@bel[3]{%
15 \@ifundefined{#1@#3}%
16 {%
17 \global\expandafter\let\csname#2@#3\endcsname\@nnil
18 \global\expandafter\let\csname#2@#3@lwarp\endcsname\@nnil% lwarp
19 \global\expandafter\let\csname#2@#3@cref\endcsname\@nnil% lwarp
20 }%
21 {%
22 \global\expandafter\let\csname#1@#3\endcsname\relax
23 \global\expandafter\let\csname#1@#3@lwarp\endcsname\relax% lwarp
24 \global\expandafter\let\csname#1@#3@cref\endcsname\relax% lwarp
25 }%
26 }
```

File 14 **lwarp-adjmulticol.sty**

§ 123 Package **adjmulticol**

(Emulates or patches code by BORIS VEYTSMAN.)

Pkg adjmulticol adjmulticol is emulated.

Emulation similar to multicol is used, with adjusted margins. If the number of columns is specified as 1, it is set so, but if two or greater are used, lwarp allows a variable number of columns up to three.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{adjmulticol}[2012/01/20]

2 \RequirePackage{multicol}

adjmulticols \* {\numcols} {\left margin} {\right margin}

3 \NewDocumentEnvironment{adjmulticols}{s m m}

4 {%

Compute the margins, and limit to positive only:

5 \setlength{\LWR@templengthone}{#3}%

6 \ifdimcomp{\LWR@templengthone}{<}{0pt}{\setlength{\LWR@templengthone}{0pt}}{%

7 \setlength{\LWR@templengthtwo}{#4}

8 \ifdimcomp{\LWR@templengthtwo}{<}{0pt}{\setlength{\LWR@templengthtwo}{0pt}}{%

If one column is specified, use a <div> of class singlecolumn, else use multicol:

9 \newcommand\*\LWR@mcolstype{multicol}%

10 \ifnumcomp{#2}{=}{1}{\renewcommand\*\LWR@mcolstype{singlecolumn}}{%

Help avoid page overflow:

11 \LWR@forcenewpage%

Create the <div> with the given margin and class:

12 \BlockClass[%

13 \LWR@print@mbx{margin-left:\LWR@printlength{\LWR@templengthone}} ; %

14 \LWR@print@mbx{margin-right:\LWR@printlength{\LWR@templengthtwo}}%

15 ]{\LWR@mcolstype}%

16 }

17 {\endBlockClass}

File 15 **lwarp-addlines.sty**§ 124 Package **addlines***(Emulates or patches code by WILL ROBERTSON.)*

Pkg addlines addlines is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{addlines}[2018/12/05]

```

2 \newcommand\addlines{\@ifstar\addlines@a\addlines@a}
3 \newcommand\addlines@a[1][1]{}
4 \let\addline\addlines
5 \newcommand\removelines{\@ifstar\removelines@a\removelines@a}
6 \newcommand\removelines@a[1][1]{}
7 \let\removeline\removelines
8 \newcommand\squeezepage[1][0]{}

```

File 16 **lwarp-afterpage.sty**§ 125 Package **afterpage***(Emulates or patches code by DAVID CARLISLE.)*

Pkg afterpage afterpage is emulated.

**for HTML output:** Discard all options for lwarp-afterpage:

```

1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]
2 \newcommand{\afterpage}[1][#1]{}

```

File 17 **lwarp-algorithm2e.sty**§ 126 Package **algorithm2e***(Emulates or patches code by CHRISTOPHE FIORIO.)*

Pkg algorithm2e algorithm2e is patched for use by lwarp.

For print output, captions are placed according to package options, but for HTML output captions are placed where used. Therefore, to have captions appear at the top of the algorithms for both print and HTML, place each captions at the top of each algorithm.

**for HTML output:** 1 \LWR@ProvidesPackagePass{algorithm2e}[2017/07/18]

For the list-of entries:

```
2 \renewcommand{\l@algocf}[2]{\hypertocfloat{1}{algocf}{loa}{#1}{#2}}
```

Select the lwarp float style according to the algorithm2e style:

```
3 \newcommand*\LWR@floatstyle@algocf}{ruled}
4
5 \ifdefstring{\algocf@style}{boxed}{%
6 \renewcommand*\LWR@floatstyle@algocf}{boxed}
7 }{}
8
9 \ifdefstring{\algocf@style}{boxruled}{%
10 \renewcommand*\LWR@floatstyle@algocf}{boxruled}
11 }{}
12
13 \ifdefstring{\algocf@style}{plain}{%
14 \renewcommand*\LWR@floatstyle@algocf}{plain}
15 }{}
```

Paragraph handling to allow line numbers under certain conditions:

```
16 \newbool{LWR@algocf@dopars}
17 \booltrue{LWR@algocf@dopars}
18
19 \renewcommand{\algocf@everypar}{%
20 \ifbool{LWR@algocf@dopars}{%
21 \ifbool{LWR@doingstartpars}{%
22 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
23 }{%
24 }{%
25 \algocf@everypar\n\algocf@everyparhanging%
26 }%
27 }{}%
28 }{}%
29 }
```

lwarp caption handling:

```
30 \renewcommand{\algocf@makecaption}[2]{%
31 \LWR@HTML@caption@begin{algocf}%
32 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
33 \LWR@HTML@caption@end%
34 }
```

Print any caption where it is declared:

```
35 \renewcommand{\algocf@makecaption@plain}[2]{%
36 \LWR@HTML@caption@begin{algocf}%
37 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
38 \LWR@HTML@caption@end%
39 }
40
41 \renewcommand{\algocf@makecaption@boxed}[2]{%
42 \LWR@HTML@caption@begin{algocf}%
```

```

43 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
44 \LWR@HTML@caption@end%
45 }
46
47 \renewcommand{\algocf@makecaption@ruled}[2]{%
48 \LWR@HTML@caption@begin{\algocf}%
49 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
50 \LWR@HTML@caption@end%
51 }

```

Turn off line numbering while making the caption:

```

52 \long\def\algocf@latexcaption#1[#2]#3{% original definition of caption
53 \boolfalse{LWR@algocf@dopars}% lwarp
54 \par%
55 \addcontentsline{\csname ext@#1\endcsname}{#1}%
56 {\protect\numberline{\csname the#1\endcsname}{\ignorespaces \LWR@isolate{#2}}}%
57 \begingroup%
58 \@parboxrestore%
59 \if@minipage%
60 \setminipage%
61 \fi%
62 \normalsize%
63 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par%
64 \endgroup%
65 \booltrue{LWR@algocf@dopars}% lwarp
66 }

```

Line numbers are printed in a `<span>` of class `alg2elinenumber`:

```

67 \renewcommand{\algocf@printnl}[1]{%
68 \InlineClass{alg2elinenumber}{\NLSty{#1}}~%
69 }%

```

While initializing an algorithm environment, locally declare the style of a regular figure to be the same as the algorithm style, in case the `figure` option was used.

```

70 \preto\@algocf@init{%
71 \edef\LWR@floatstyle@figure{\LWR@floatstyle@algocf}%
72 }

```

For `lwarp`, the algorithm is not assembled inside a box, since `lateximages` would not work, so the captions are printed where declared.

```

73 \renewcommand{\@algocf@start}{%
74 \let\@mathsemicolon=\; \def\;{\ifmmode\@mathsemicolon\else\@endalgoln\fi}%
75 % \raggedright%
76 \ALFnt{}}%
77 \booltrue{LWR@algocf@dopars}% lwarp
78 }
79
80 \renewcommand{\@algocf@finish}{%
81 \boolfalse{LWR@algocf@dopars}% lwarp
82 \lineskip\normallineskip\setlength{\skiptotal}{\@defaultskiptotal}%

```

```

83 \let\;=\@mathsemicolon%
84 \let\]=\@emathdisplay%
85 }

```

Use an HTML break:

```

86 \renewcommand{\BlankLine}{%
87 \LWR@stoppars%
88 \LWR@htmltagc{br /}%
89 \LWR@startpars%
90 }

```

Simplified for HTML. The paragraph handling must be preserved.

```

91 \renewcommand{\SetKwInOut}[2]{%
92 \algocf@newcommand{#1}[1]{%
93 \ifthenelse{\boolean{algocf@hanginginout}}%
94 {\relax}%
95 {\algocf@seteveryparhanging{\relax}}%
96 \ifthenelse{\boolean{algocf@inoutnumbered}}%
97 {\relax}%
98 {\algocf@seteveryparnl{\relax}}%
99 {%
100 \KwSty{#2\algocf@typo:}%
101 ~##1\par%
102 }%
103 \algocf@linesnumbered% reset the numbering of the lines
104 \ifthenelse{\boolean{algocf@hanginginout}}%
105 {\relax}%
106 {\algocf@reseteveryparhanging}%
107 }%
108 }%
109
110 \renewcommand{\ResetInOut}[1]{%

```

Each of the following creates a <div> of a given class, and turns off line numbering while creating the <div> tags:

```

111 \renewcommand{\algocf@Vline}[1]{%
112 \boolfalse{LWR@algocf@dopars}%
113 \begin{BlockClass}{alg2evline}
114 \booltrue{LWR@algocf@dopars}%
115 #1
116 \boolfalse{LWR@algocf@dopars}%
117 \end{BlockClass}
118 \booltrue{LWR@algocf@dopars}%
119 }

```

```

120 \renewcommand{\algocf@Vsline}[1]{%
121 \boolfalse{LWR@algocf@dopars}%
122 \begin{BlockClass}{alg2evsline}
123 \booltrue{LWR@algocf@dopars}%
124 #1
125 \boolfalse{LWR@algocf@dopars}%
126 \end{BlockClass}

```

```

127 \booltrue{LWR@algocf@dopars}%
128 }

129 \renewcommand{\algocf@Noline}[1]{%
130 \boolfalse{LWR@algocf@dopars}%
131 \begin{BlockClass}{alg2enoline}
132 \booltrue{LWR@algocf@dopars}%
133 #1
134 \boolfalse{LWR@algocf@dopars}%
135 \end{BlockClass}
136 \booltrue{LWR@algocf@dopars}%
137 }

```

The [H] environment is converted to a regular float, which in HTML is placed where declared. Reusing the regular float allows the [H] version to reuse the ruled and boxed options.

```

138 \LetLtxMacro\algocf@Here\algocf
139 \LetLtxMacro\endalgocf@Here\endalgocf

```

---

## File 18 **lwarp-algorithmicx.sty**

### § 127 Package **algorithmicx**

*(Emulates or patches code by SZÁSZ JÁNOS.)*

Pkg algorithmicx algorithmicx is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{algorithmicx}[2005/04/27]

Inside the algorithmic environment, level indenting is converted to a <span> of the required length, and comments are placed inside a <span> which is floated right.

 **package conflicts** If using \newfloat, trivfloat, and/or algorithmicx together, see section 631.1.

```

2 \AtBeginEnvironment{algorithmic}{%
3 %
4 \let\origALG@doentity\ALG@doentity%
5 %
6 \renewcommand*{\ALG@doentity}{%
7 \origALG@doentity%
8 \LWR@htmltagc{%
9 span style=\textquotedbl{}%
10 width:\LWR@printlength{\ALG@thistlm}; display:inline-block;%
11 \textquotedbl%
12 }%
13 \ifbool{FormatWP}{%
14 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
15 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
16 \quad%
17 \addtolength{\LWR@templengthone}{-1em}%
18 }%

```



```

19 }{}%
20 \LWR@htmltagc{/span}%
21 }%
22
23 \let\LWR@origComment\Comment%
24
25 \renewcommand{\Comment}[1]{%
26 \InlineClass{floatright}{\LWR@origComment{#1}}%
27 }%
28 }
29
30 \renewcommand\algorithmiccomment[1]{%
31 \hfill\HTMLUnicode{25B7} #1% white right triangle
32 }%

```

---

## File 19 **lwarp-alltt.sty**

### § 128 Package **alltt**

*(Emulates or patches code by JOHANNES BRAAMS.)*

Pkg alltt alltt is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

```

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4
5 \AtBeginEnvironment{alltt}{%
6 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7 {}%
8 {%
9 \LWR@forcenewpage

```

Vertical spacing changes if inside a list.

```

10 \LWR@atbeginverbatim{alltt}%
11 }%
12 }
13
14 \AfterEndEnvironment{alltt}{%
15 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
16 {}%
17 {%

```

Vertical spacing changes if inside a list.

```


18 \LWR@afterendverbatim%
19 }%
20 }
21
22 }

```

File 20 **lwarp-amscdx.sty**§ 129 Package **amscdx**

(Emulates or patches code by MARTIN VERMEER.)

Pkg amscdx amscdx is used as-is for SVG math.

 **MATHJAX** For MATHJAX, a warning notes that the CD environment must be enclosed between `\displaymathother` and `\displaymathnormal`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{amscdx}[2019/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \renewenvironment{CD}
5 {\text{(Use \unicode{x005C}displaymathother before the CD enviroment.) \quad}}
6 {\quad \text{(Use \unicode{x005C}displaymathnormal after the CD enviroment.)}}
7 }
8
9 \CustomizeMathJax{\newcommand{\CDFattrue}{} }
10 \CustomizeMathJax{\newcommand{\CDFatfalse}{} }
11 \CustomizeMathJax{\newcommand{\CDashtrue}{} }
12 \CustomizeMathJax{\newcommand{\CDashfalse}{} }
13 \CustomizeMathJax{\newcommand{\CDlor}[1]{} }
14 \end{warpMathJax}

```

File 21 **lwarp-amsmath.sty**§ 130 Package **amsmath**

(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

Pkg amsmath amsmath is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{amsmath}[2017/09/02]

```

`\dotso` An HTML text-mode version.

```

2 \newcommand*{\LWR@HTML@dotso}{\textellipsis\ }
3 \LWR@formatted{dotso}

```

Patches to allow `\eqref` inside a caption:

```

4 \def\maketag@@@#1{\text{#1}}
5 \def\tagform@#1{\maketag@@@{\ignorespaces#1\unskip}}

```

Patches for  $\mathcal{AMS}$  math `\tag` macro to remember the first tag:

```

6 \ifbool{mathjax}{}{% not mathjax
7
8 \LetLtxMacro\LWR@origmake@df@tag@@\make@df@tag@@
9 \LetLtxMacro\LWR@origmake@df@tag@@@\make@df@tag@@@
10
11 \renewcommand*\make@df@tag@@}[1]{%
12 \LWR@remember@tag{#1}%
13 \LWR@origmake@df@tag@@{#1}%
14 }
15
16 \renewcommand*\make@df@tag@@@}[1]{%
17 \LWR@remember@tag{#1}%
18 \LWR@origmake@df@tag@@@{#1}%
19 }
20
21 }% not mathjax

```

For nesting  $\mathcal{AMS}$  environments:

```

22 \newcounter{LWR@amsmathdepth}
23 \setcounter{LWR@amsmathdepth}{0}

```

The following  $\mathcal{AMS}$  environments are patched in-place:

Ctrl LWR@maxfields@ A copy of `maxfields@` as it was passed. This is used to generate the mandatory argument for `alignat` and `alignat*` when using `MATHJAX`.

```

24 \newcounter{LWR@maxfields@}
25
26 \xpatchcmd{\start@align}
27 {\maxfields@#3\relax}
28 {%
29 \maxfields@#3\relax%
30 \setcounter{LWR@maxfields@}{#3}%
31 }
32 {}
33 {\LWR@patcherror{amsmath}{start@align}}

```

`\LWR@amsmathenv@@before` \*  $\langle environment\ name \rangle$

\* if the environment was starred.

Embeds the environment inside a `lateximage`.

```

34 \NewDocumentCommand{\LWR@amsmathenv@@before}{s m}{%
35 \IfBooleanTF{#1}{
36 \begin{BlockClass}{displaymath}
37 }{
38 \begin{BlockClass}{displaymathnumbered}
39 }
40 \LWR@newautoidanchor%
41 \booltrue{LWR@indisplaymathimage}%
42 \begin{lateximage}[\LWR@amsmathbodynumbered{#2}]*%
43 \LWR@applyxfakebold%

```

44 }

`\LWR@amsmathenv@before` \* {*environment name*}

\* if the environment was starred.

Embeds the environment with MATHJAX or a lateximage.

```
45 \NewDocumentCommand{\LWR@amsmathenv@before}{s m}{%
46 \ifnumequal{\value{LWR@amsmathdepth}}{0}{%
47 \LWR@stoppars%
48 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
49 {
50 \LWR@syncmathjax
51 \boolfalse{LWR@amsmultline}
52 \ifstrequal{#2}{multline}{\booltrue{LWR@amsmultline}}{}
53 \ifstrequal{#2}{multline*}{\booltrue{LWR@amsmultline}}{}
```



autonom's "+" environments are not supported by MATHJAX.

```
54 \LWR@beginhideamsmath
55 }
56 {
57 \IfBooleanTF{#1}{
58 \LWR@amsmathenv@@before*{#2}
59 }{
60 \LWR@amsmathenv@@before{#2}
61 }
62 }
63 }{}
64 \addtocounter{LWR@amsmathdepth}{1}
65 }
```

`\LWR@amsmathenv@@after`

Embeds the environment inside a lateximage.

```
66 \newcommand*{\LWR@amsmathenv@@after}{%
67 \end{lateximage}\end{BlockClass}\LWR@startpars%
68 }
```

`\LWR@amsmathenv@after` \* {*environment name*}

\* if the environment was starred. Ignored here, only used for a consistent syntax.

Embeds the environment with MATHJAX or a lateximage.

```
69 \NewDocumentCommand{\LWR@amsmathenv@after}{s m}{%
70 \ifnumequal{\value{LWR@amsmathdepth}}{1}{%
71 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
72 {
73 \LWR@endhideamsmath
74 \boolfalse{LWR@amsmultline}
75 \LWR@addmathjax{#2}{\the\@envbody}
76 }
77 {\LWR@amsmathenv@@after}
```

Clear the single-use alt text:

```
78 \gdef\LWR@ThisAltText{%
79 }{}
80 \addtocounter{LWR@amsmathdepth}{-1}
81 }
```

Env `multline`

```
82 \BeforeBeginEnvironment{multline}{\LWR@amsmathenv@before{multline}}
83
84 \AfterEndEnvironment{multline}{\LWR@amsmathenv@after{multline}}
```

Env `multline*`

```
85 \BeforeBeginEnvironment{multline*}{\LWR@amsmathenv@before*{multline*}}
86
87 \AfterEndEnvironment{multline*}{\LWR@amsmathenv@after*{multline*}}
88
```

Env `gather`

```
89 \BeforeBeginEnvironment{gather}{\LWR@amsmathenv@before{gather}}
90
91 \AfterEndEnvironment{gather}{\LWR@amsmathenv@after{gather}}
```

Env `gather*`

```
92 \BeforeBeginEnvironment{gather*}{\LWR@amsmathenv@before*{gather*}}
93
94 \AfterEndEnvironment{gather*}{\LWR@amsmathenv@after*{gather*}}
```

Env `align`

```
95 \BeforeBeginEnvironment{align}{\LWR@amsmathenv@before{align}}
96
97 \AfterEndEnvironment{align}{\LWR@amsmathenv@after{align}}
```

Env `align*`

```
98 \BeforeBeginEnvironment{align*}{\LWR@amsmathenv@before*{align*}}
99
100 \AfterEndEnvironment{align*}{\LWR@amsmathenv@after*{align*}}
```

Env `flalign`

```
101 \BeforeBeginEnvironment{flalign}{\LWR@amsmathenv@before{flalign}}
102
103 \AfterEndEnvironment{flalign}{\LWR@amsmathenv@after{flalign}}
```

Env `flalign*`

```

104 \BeforeBeginEnvironment{flalign*}{\LWR@amsmathenv@before*{flalign*}}
105
106 \AfterEndEnvironment{flalign*}{\LWR@amsmathenv@after*{flalign*}}

```

Env alignat

```

107 \BeforeBeginEnvironment{alignat}{\LWR@amsmathenv@before{alignat}}
108
109 \AfterEndEnvironment{alignat}{\LWR@amsmathenv@after{alignat}}

```

Env alignat\*

```

110 \BeforeBeginEnvironment{alignat*}{\LWR@amsmathenv@before*{alignat*}}
111
112 \AfterEndEnvironment{alignat*}{\LWR@amsmathenv@after*{alignat*}}

```

```

113 \AtBeginEnvironment{subequations}{
114 \renewcommand*\theMathJaxsubequations}{1}
115 \renewcommand*\theMathJaxsection}{\theparentequation}
116 \renewcommand*\theMathJaxequation}{\arabic{equation}}
117 }

```

For MATHJAX:

```

118 \begin{warpMathJax}
119 \CustomizeMathJax{\newcommand{\intertext}[1]{\text{#1}\notag \\\}}
120 \CustomizeMathJax{\let\Hat\hat}
121 \CustomizeMathJax{\let\Check\check}
122 \CustomizeMathJax{\let\Tilde\tilde}
123 \CustomizeMathJax{\let\Acute\acute}
124 \CustomizeMathJax{\let\Grave\grave}
125 \CustomizeMathJax{\let\Dot\dot}
126 \CustomizeMathJax{\let\Ddot\ddot}
127 \CustomizeMathJax{\let\Breve\breve}
128 \CustomizeMathJax{\let\Bar\bar}
129 \CustomizeMathJax{\let\Vec\vec}
130 \end{warpMathJax}

```

---

File 22 **lwarp-amsthm.sty**

§ 131 Package **amsthm**

(Emulates or patches code by PUBLICATIONS TECHNICAL GROUP — AMERICAN MATHEMATICAL SOCIETY.)

The original source code is located in `amscldx.dtx`, and printed in `amscldx.pdf`.

Pkg amsthm amsthm is patched for use by lwarp.

for HTML output: amsthm must be loaded before mdframed:

Table 19: amsthm package — css styling of theorems and proofs

**Theorem:** <div> of class amsthmbody<theoremstyle>

**Theorem Name:** <span> of class amsthmname<theoremstyle>

**Theorem Number:** <span> of class amsthmnumber<theoremstyle>

**Theorem Note:** <span> of class amsthmnote<theoremstyle>

**Proof:** <div> of class amsthmproof

**Proof Name:** <span> of class amsthmproofname

where <theoremstyle> is plain, definition, etc.

```

1 \@ifpackageloaded{mdframed}{
2 \PackageError{lwarp}
3 {%
4 Package mdframed must be loaded after package amsthm.\MessageBreak
5 Enter 'H' for solutions%
6 }
7 {%
8 Move ‘‘\protect\usepackage{amsthm}’’ before
9 ‘‘\protect\usepackage{mdframed}’’.\MessageBreak
10 Package amsthm may be loaded by something else,\MessageBreak
11 which must also be moved before mdframed.%
12 }
13 }
14 {\relax}

```

Necessary for `\text`, used by `\openbox`, etc., below:

```

15 \RequirePackage{amsmath}

16 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]

```

Storage for the style being used for new theorems:

```

17 \newcommand{\LWR@newtheoremstyle}{plain}

```

Patched to remember the style being used for new theorems:

```

18 \renewcommand{\theoremstyle}[1]{%
19 \@ifundefined{th#1}{%
20 \PackageWarning{amsthm}{Unknown theoremstyle ‘#1’}%
21 \thm@style{plain}%
22 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
23 }{%
24 \thm@style{#1}%
25 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
26 }%
27 }

```

Patched to remember the style for this theorem type:

```

28 \def\@xnthm#1#2{%
29 \csedef{LWR@thmstyle#2}{\LWR@newtheoremstyle}% lwarp
30 \let\@tempa\relax
31 \@xp\@ifdefinable\csname #2\endcsname{%
32 \global\@xp\let\csname end#2\endcsname\@endtheorem
33 \ifx *#1% unnumbered, need to get one more mandatory arg
34 \edef\@tempa##1{%
35 \gdef\@xp\@nx\csname#2\endcsname{%
36 \@nx\@thm{\@xp\@nx\csname th@\the\thm@style\endcsname}%
37 {##1}}}%
38 \else % numbered theorem, need to check for optional arg
39 \def\@tempa{\@oparg{\@ynthm{#2}}{}}%
40 \fi
41 \AtBeginEnvironment{#2}{%
42 \edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#2}}%
43 }% lwarp
44 }%
45 \@tempa%
46 }

```

Patched to enclose with css:

```

47 \newcommand{\LWR@haveamsthmname}{
48 \renewcommand{\thmname}[1]{%
49 \InlineClass{amsthmname\LWR@thisthmstyle}{##1}%
50 }
51 }
52
53 \newcommand{\LWR@haveamsthmnumber}{
54 \renewcommand{\thmnumber}[1]{%
55 \InlineClass{amsthmnumber\LWR@thisthmstyle}{##1}%
56 }
57 }
58
59 \newcommand{\LWR@haveamsthmnote}{
60 \renewcommand{\thmnote}[1]{%
61 \InlineClass{amsthmnote\LWR@thisthmstyle}{##1}%
62 }
63 }
64
65 \LWR@haveamsthmname
66 \LWR@haveamsthmnumber
67 \LWR@haveamsthmnote

```

Patched for css:

```

68 \def\@begintheorem#1#2[#3]{%
69 \GetTitleString{#3}% lwarp
70 \let\@currentlabelname\GetTitleStringResult% lwarp
71 \item[%

```



```

72 \LWR@newautopagelabel{page}%

73 % \deferred@thm@head{
74 % \the\thm@headfont \thm@indent
75 \@ifempty{#1}{\let\thmname@gobble}{\LWR@haveamsthmname}% lwarp
76 \@ifempty{#2}{\let\thmnumber@gobble}{\LWR@haveamsthmnumber}% lwarp
77 \@ifempty{#3}{\let\thmnote@gobble}{\LWR@haveamsthmnote}% lwarp
78 \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
79 \the\thm@headpunct % space
80 \thmheadnl % possibly a newline.
81 \hskip\thm@headsep
82 % }%
83]%
84 \ignorespaces}

```

Patched for css:

```

85 \def\@thm#1#2#3{%
86 \ifhmode\unskip\unskip\par\fi
87 \normalfont
88 \LWR@forcenewpage% lwarp

89 \LWR@printpendingfootnotes% lwarp

90 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp

```

Footnotes are redefined to work correctly inside the option brackets for a theorem environment.

```

91 \renewcommand{\footnote}[1][{}]{%
92 \ifblank{##1}%
93 {%
94 \stepcounter\@mpfn
95 \protected@xdef\@thefnmark{\thempfn}%
96 \@footnotemark\@footnotetext
97 }%
98 {%
99 \begingroup
100 \csname c@\@mpfn\endcsname ##1\relax
101 \unrestored@protected@xdef\@thefnmark{\thempfn}%
102 \endgroup
103 \@footnotemark\@footnotetext
104 }%
105 }%
106 %
107 \renewcommand{\footnotemark}[1][{}]{%
108 \ifblank{##1}%
109 {%
110 \stepcounter{footnote}%
111 \protected@xdef\@thefnmark{\thefootnote}%
112 \@footnotemark%
113 }%
114 {%
115 \begingroup%

```

```

116 \c@footnote ##1\relax%
117 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
118 \endgroup%
119 \@footnotemark%
120 }%
121 }%
122 %
123 \trivlist
124 \let\thmheadn\relax
125 \let\thm@swap\@gobble
126 \thm@notefont{\fontseries\mddefault\upshape}%
127 \thm@headpunct{.}% add period after heading
128 \thm@headsep 5\p@ plus\p@ minus\p@\relax
129 \thm@space@setup
130 #1% style overrides
131 \topsep \thm@preskip % used by thm head
132 \topsepadd \thm@postskip % used by \@endparenv
133 \def\@tempa{#2}\ifx\@empty\@tempa
134 \def\@tempa{\@oparg{\@begintheorem{#3}}{}}[]%
135 \else
136 \refstepcounter{#2}%
137 \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
138 \fi
139 \@tempa%
140 }

```

cleveref patches \@thm to do \cref@thmoptarg if an optional argument is given. lwarp then patches \cref@thmoptarg \AtBeginDocument.

```

141 \AtBeginDocument{%
142 \def\cref@thmoptarg[#1]#2#3#4{%
143 \ifhmode\unskip\unskip\par\fi%
144 \normalfont%
145 \LWR@forcenewpage% lwarp

146 \LWR@printpendingfootnotes% lwarp

147 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
148 \trivlist%
149 \let\thmheadn\relax%
150 \let\thm@swap\@gobble%
151 \thm@notefont{\fontseries\mddefault\upshape}%
152 \thm@headpunct{.}% add period after heading
153 \thm@headsep 5\p@ plus\p@ minus\p@\relax%
154 \thm@space@setup%
155 #2% style overrides
156 \topsep \thm@preskip % used by thm head
157 \topsepadd \thm@postskip % used by \@endparenv
158 \def\@tempa{#3}\ifx\@empty\@tempa%
159 \def\@tempa{\@oparg{\@begintheorem{#4}}{}}[]%
160 \else%
161 \refstepcounter[#1]{#3}% <<< cleveref modification
162 \def\@tempa{\@oparg{\@begintheorem{#4}{\csname the#3\endcsname}}[]%
163 \fi%
164 \@tempa

```

```

165 }%
166 }% AtBeginDocument
167
168 \def\@endtheorem{%
169 \endtrivlist%

170 \LWR@printpendingfootnotes% lwarp

171 \endBlockClass%
172 \@endpfalse%
173 }

```

Proof QED symbol:

```

174 \AtBeginDocument{
175 \ifundefined{LWR@orig@openbox}{
176 \LetLtxMacro\LWR@orig@openbox\openbox
177 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
178 \LetLtxMacro\LWR@orig@Box\Box
179
180 \def\openbox{\text{\HTMLunicode{25A1}}}% UTF-8 white box
181 \def\blacksquare{\text{\HTMLunicode{220E}}}% UTF-8 end-of-proof
182 \def\Box{\text{\HTMLunicode{25A1}}}% UTF-8 white box
183
184 \appto\LWR@restoreorigformatting{%
185 \LetLtxMacro\openbox\LWR@orig@openbox%
186 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
187 \LetLtxMacro\Box\LWR@orig@Box%
188 }% appto
189 }{}% @ifundefined
190 }% AtBeginDocument

```

Patched for css:

```

191 \renewenvironment{proof}[1][\proofname]{\par
192 \LWR@forcenewpage% lwarp

193 \LWR@printpendingfootnotes% lwarp

194 \BlockClass{amsthmproof}% lwarp
195 \LWR@newautopagelabel{page}%
196 \pushQED{\qed}%
197 \normalfont \topsep6\p@\@plus6\p@\relax
198 \trivlist
199 \item[
200 \InlineClass{amsthmproofname}{#1\@addpunct{.}}\ignorespaces% changes
201]{}%
202 \InlineClass{theoremdemark}{\popQED}\endtrivlist%

203 \LWR@printpendingfootnotes% lwarp

204 \endBlockClass% lwarp

```

```
205 \endpefalse
206 }
```

---

File 23 **lwarp-anonchap.sty**

§ 132 Package **anonchap**

(Emulates or patches code by PETER WILSON.)

Pkg anonchap anonchap is emulated.

Pkg tocloft If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its `titles` option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

△ tocloft & other packages

The code is shared by tocbibind.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{anonchap}[2009/08/03]

2 \newcommand{\simplechapter}[1][\@empty]{%
3 \def\@chapcntformat##1{%
4 #1~\csname the##1\endcsname\simplechapterdelim\quad%
5 }%
6 }
7
8 \newcommand{\restorechapter}{%
9 \let\@chapcntformat\@secCNTformat%
10 }
```

---

File 24 **lwarp-anysize.sty**

§ 133 Package **anysize**

(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)

Pkg anysize anysize is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{anysize}[1994/08/13]

2 \def\papersize#1#2{}
3 \def\marginsize#1#2#3#4{}
```


---

File 25 **lwarp-appendix.sty**

§ 134 Package **appendix**

(Emulates or patches code by PETER WILSON.)

Pkg appendix appendix is patched for use by lwarp.

 **incorrect toc link** During HTML conversion, the option toc without the option page results in a toc link to whichever section was before the appendices environment. It is recommended to use both toc and also page at the same time.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{appendix}[2009/09/02]

2 \renewcommand*{\@chap@pppage}{%
3 \part*{\appendixpagename}
4 \if@dotoc@pp
5 \addappheadtotoc
6 \fi
7 }
8
9 \renewcommand*{\@sec@pppage}{%
10 \part*{\appendixpagename}
11 \if@dotoc@pp
12 \addappheadtotoc
13 \fi
14 }
```

---

File 26 **lwarp-ar.sty**

§ 135 Package **ar**

*(Emulates or patches code by AGOSTINO DE MARCO.)*

Pkg ar ar is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{ar}[2012/01/23]
```

Measure and print the width of the supplied glyph.

```

2 \newlength{\LWR@ar@width}
3
4 \newcommand*{\LWR@ar@printwidth}[1]{%
5 \setlength{\LWR@ar@width}{\widthof{#1}}%
6 width:%
7 \LWR@convertto{em}{\the\LWR@ar@width}em%
8 }
```

The HTML version of \AR:

```

9 \newrobustcmd*{\LWR@HTML@AR}{%
```

Start a hashed lateximage, additionally hashed by the font series, with a width depending on the given glyph:

```

10 \begin{lateximage}*[AR][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@AR}]%
```

For text mode, set the font series according to the HTML font series:

```
11 \ifmode\else\csuse{LWR@orig\LWR@f@series series}\fi%
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{lateximage}%
14 }
```

Combine the print and HTML versions:

```
15 \LWR@formatted{AR}
```

```
16 \newrobustcmd*{\LWR@HTML@ARb}{%
17 \begin{lateximage}*[AR][b][\LWR@ar@printwidth{\LWR@print@ARb}]%
18 \LWR@print@ARb%
19 \end{lateximage}%
20 }
21 \LWR@formatted{ARb}
```

```
22 \newrobustcmd*{\LWR@HTML@ARss}{%
23 \begin{lateximage}*[ARss][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@ARss}]%
24 \ifmode\else\csuse{LWR@orig\LWR@f@series series}\fi%
25 \LWR@print@ARss%
26 \end{lateximage}%
27 }
28 \LWR@formatted{ARss}
```

```
29 \newrobustcmd*{\LWR@HTML@ARssb}{%
30 \begin{lateximage}*[AR][ssb][\LWR@ar@printwidth{\LWR@print@ARssb}]%
31 \LWR@print@ARssb%
32 \end{lateximage}%
33 }
34 \LWR@formatted{ARssb}
```

```
35 \newrobustcmd*{\LWR@HTML@ARtt}{%
36 \begin{lateximage}*[AR][tt][\LWR@ar@printwidth{\LWR@print@ARtt}]%
37 \LWR@print@ARtt%
38 \end{lateximage}%
39 }
40 \LWR@formatted{ARtt}
```

For MATHJAX:

```
41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\AR}{\mathit{A\!\!R}}}
43 \CustomizeMathJax{\newcommand{\ARb}{\boldsymbol{A\!\!R}}}
44 \end{warpMathJax}
```

File 27 **lwarp-arabicfront.sty**§ 136 Package **arabicfront**

Pkg arabicfront arabicfront is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

File 28 **lwarp-array.sty**§ 137 Package **array**

Pkg array array is used as-is for print output, and emulated for HTML.

plarray and plectarray do not affect \firstline or \lasthline, and so are not affected by the following.

**for HTML output:** If array is not yet loaded, remove the default nullfied macros:

```
1 \@ifpackageloaded{array}{}{%
2 \let\firstline\relax
3 \let\lasthline\relax
4 }
5
6 \LWR@ProvidesPackagePass{array}[2018/12/30]
```

Provide simplified column types for HTML:

```
7 \HTMLnewcolumnntype{w}[2]{#1}
8 \HTMLnewcolumnntype{W}[2]{#1}
```

More HTML versions:

```
9 \newcommand*\LWR@HTML@firstline{\LWR@HTMLhline}%
10 \LWR@expandableformatted{firstline}
11
12 \newcommand*\LWR@HTML@lasthline{\LWR@HTMLhline}%
13 \LWR@expandableformatted{lasthline}

14 \let\tabularnewline\
15 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
16 \LWR@formatted{tabularnewline}
```

For MATHJAX:

```
17 \CustomizeMathJax{
18 \newcommand{\multicolumn}[3]{#3}% only uses one cell
19 }
```

File 29 **lwarp-arydshln.sty**

§ 138 Package **arydshln**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg arydshln **arydshln** heavily patches tabular code, so the actual package is not used. **arydshln** is emulated for HTML `tabular`, and reverts to solid rules for `svg math array` and `tabular` in a `lateximage`.

css is not able to display a double-dashed border, so a single-dashed rule is displayed as a single-dashed border, and a double-dashed rule is displayed as a thicker single-dashed border.

For MATHJAX, limited emulation is provided for math mode.

**for HTML output:** `array` is required to allow `\newcolumn` below.

```
1 \RequirePackage{array}
2 \LWR@ProvidesPackageDrop{arydshln}[2018/09/26]
```

Ignored, but included for source compatibility:

```
3 \newdimen\dashlinedash \dashlinedash4pt %
4 \newdimen\dashlinegap \dashlinegap4pt %
5 \let\hdashlinewidth\dashlinedash
6 \let\hdashlinegap\dashlinegap
7
8 \def\ADLnullwide{}
9 \def\ADLsomewide{}
10 \def\ADLnullwidehline{}
11 \def\ADLsomewidehline{}
12
13 \def\ADLactivate{}
14 \def\ADLinactivate{}
15 \newcommand*{\ADLdrawingmode}[1]{}
16 \newcommand*{\ADLnoshorthanded}{}
17 \newcommand*{\dashgapcolor}[2][{}]{ }
18 \newcommand*{\nodashgapcolor}{}{ }
```

In a `lateximage`, revert to solid vertical rules:

```
19 \appto\LWR@restoreorigformatting{%
20 \newcolumnntype{:}{|}%
21 \newcolumnntype{;}[1]{|}%
22 \let\LTxMacro\hdashline\hline%
23 }
```

Some of these macros are already defined as temporary placeholders in the `lwarp` core, so they must be redefined here.



The emulated defaults also work for an emulated print mode inside a lateximage:

```

24 \def\hdashline{
25 % \adl@hdashline\adl@ihdashline
26 \adl@hdashline\adl@inactivehdl
27 }
28 \def\adl@hdashline#1{\noalign{\ifnum0='}\fi
29 % \ifadl@zwhrule \vskip-\arrayrulewidth
30 % \else
31 % \adl@hline\adl@connect\arrayrulewidth
32 % \hrule \@height \arrayrulewidth% lwarp
33 % \fi
34 \@ifnextchar[%
35 {#1}%
36 {#1[%
37 % \dashlinedash/\dashlinegap
38 % 1pt/1pt
39 %]}}
40 \def\adl@ihdashline[#1/#2]{\ifnum0='{ \fi}%
41 % \multispan{\adl@columns}\unskip \adl@hcline\z@[#1/#2]%
42 % \noalign{\ifnum0='}\fi
43 % \futurelet\@tempa\adl@xhline}
44 \def\adl@inactivehdl[#1/#2]{
45 % \ifadl@zwhrule \vskip-\arrayrulewidth \fi
46 % \hrule \@height\arrayrulewidth
47 % \futurelet\@tempa\adl@xhline}
48 \def\adl@xhline{\ifx\@tempa\hline \adl@ixhline\fi
49 % \ifx\@tempa\hdashline \adl@ixhline\fi
50 % \ifnum0='{ \fi}}
51 \def\adl@ixhline{\vskip\doublerulesep \adl@hline\relax\doublerulesep}
52 \def\adl@hline#1#2{%
53 % \@tempcnta#2
54 % \global\advance\adl@totalheight\@tempcnta
55 % \xdef\adl@rowsL{\adl@rowsL
56 % (#1/\number\@tempcnta);}
57 % \xdef\adl@rowsR{\adl@rowsR
58 % (#1/\number\@tempcnta);}
59 }
60
61 \def\cdashline#1{\noalign{\ifnum0='}\fi
62 \@ifnextchar[%
63 % {\adl@cdline[#1]}%
64 % {\adl@cdline[#1][\dashlinedash/\dashlinegap]}
65 % {\adl@inactivecdl[#1]}%
66 % {\adl@inactivecdl[#1][\dashlinedash/\dashlinegap]}
67 }
68
69 \def\adl@inactivecdl[#1-#2][#3]{\ifnum0='{ \fi}\cline{#1-#2}}

70 \begin{warpMathJax}
71 \CustomizeMathJax{\newcommand{\firsthdashline}[1][\hdashline]}
72 \CustomizeMathJax{\let\lasthdashline\firsthdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}

```

File 30 **lwarp-asymptote.sty**

§ 139 Package **asymptote**

*(Emulates or patches code by ANDY HAMMERLINDL, JOHN BOWMAN, TOM PRINCE.)*

Pkg asymptote asymptote is patched for use by lwarp.

To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex
```

```
lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1
```

```
lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{asymptote}[2016/11/26]
2 \BeforeBeginEnvironment{asy}{%
3 \begin{lateximage}[-asymptote-~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{asy}{\end{lateximage}}
6
7 \xpatchcmd{\asyinclude}
8 {\begingroup}
9 {\begin{lateximage}[-asymptote-~\PackageDiagramAltText]}
10 {}
11 {\LWR@patcherror{asymptote}{asyinclude-begingroup}}
12
13 \xpatchcmd{\asyinclude}
14 {\endgroup}
15 {\end{lateximage}}
16 {}
17 {\LWR@patcherror{asymptote}{asyinclude-endgroup}}
```

---

File 31 **lwarp-atbegshi.sty**

§ 140 Package **atbegshi**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg atbegshi atbegshi is ignored.

**for HTML output:** Discard all options for lwarp-atbegshi:

```

1 \LWR@ProvidesPackageDrop{atbegshi}[2011/10/05]

2 \let\AtBeginShipout\relax
3 \let\AtBeginShipoutNext\relax
4 \let\AtBeginShipoutFirst\relax
5 \let\AtBeginShipoutDiscard\relax
6 \let\AtBeginShipoutInit\relax
7 \let\AtBeginShipoutAddToBox\relax
8 \let\AtBeginShipoutAddToBoxForeground\relax
9 \let\AtBeginShipoutUpperLeft\relax
10 \let\AtBeginShipoutUpperLeftForeground\relax
11 \let\AtBeginShipoutOriginalShipout\relax
12
13 \newcommand*\AtBeginShipout}[1]{}
14 \newbox\AtBeginShipoutBox
15 \newcommand*\AtBeginShipoutNext}[1]{}
16 \newcommand*\AtBeginShipoutFirst}[1]{}
17 \newcommand*\AtBeginShipoutDiscard[1]{}
18 \newcommand*\AtBeginShipoutInit[1]{}
19 \newcommand*\AtBeginShipoutAddToBox[1]{}
20 \newcommand*\AtBeginShipoutAddToBoxForeground[1]{}
21 \newcommand*\AtBeginShipoutUpperLeft[1]{}
22 \newcommand*\AtBeginShipoutUpperLeftForeground[1]{}
23 \newcommand*\AtBeginShipoutOriginalShipout[1]{}
24 \def\AtBeginShipoutBoxWidth{0pt}
25 \def\AtBeginShipoutBoxHeight{0pt}
26 \def\AtBeginShipoutBoxDepth{0pt}

```

---

File 32 **lwarp-attachfile.sty**

§ 141 Package **attachfile**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg attachfile attachfile is patched for use by lwarp.



Metadata is ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackagePass{attachfile}[2016/09/18]

Encloses each icon:

```

2 \newenvironment*{LWR@attachfile@icon}
3 {
4 \begin{lateximage}*%
5 [-attachfile-]%
6 [%
7 \detokenize\expandafter{\atfi@icon@icon}-%
8 \detokenize\expandafter{\atfi@color@rgb}%
9]%
10 }
11 {
12 \end{lateximage}
13 }

```

Each icon is enclosed inside a LWR@attachfile@icon environment:

```

14 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
16
17 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
18 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
19
20 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
21 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
22
23 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
24 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```

25 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an \attachfile reference:

```

26 \newcommand*{\LWR@attachfile@appearance}{}
27
28 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
29 \def\LWR@attachfile@appearance{#1}%
30 }

```

A file annotation becomes a reference:

```

31 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
32 \LWR@href{#1}{\LWR@attachfile@appearance}%
33 }

```

---

File 33 **lwarp-attachfile2.sty**

§ 142 Package **attachfile2**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg attachfile2 attachfile2 is patched for use by lwarp.



Metadata is ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackagePass{attachfile2}[2016/05/16]

Adds memory of the selected color:

```

2 \def\LWR@attachfiletwo@color{%
3
4 \define@key{AtFi}{color}{%
5 \def\LWR@attachfiletwo@color{#1}% lwarp
6 \HyColor@AttachfileColor{#1}%
7 \atfi@color@tex\atfi@color@inline\atfi@color@annot
8 {attachfile2}{color}%
9 }

```

Encloses each icon:

```

10 \newenvironment*{LWR@attachfile@icon}
11 {
12 \begin{lateximage}*%
13 [-attachfile-]%
14 [%
15 \detokenize\expandafter{\atfi@icon@icon}-%
16 \detokenize\expandafter{\LWR@attachfiletwo@color}%
17]%
18 }
19 {
20 \end{lateximage}
21 }

```

Each icon is enclosed inside a LWR@attachfile@icon environment:

```

22 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
23 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
24
25 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
26 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
27
28 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
29 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
30
31 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
32 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```
33 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an \attachfile reference:

```
34 \newcommand*{\LWR@attachfile@appearance}{}
35

```

```

36 \def\atfi@set@appearance@icon{%
37 \atfi@set@appearance{\csname atfi@acro\atfi@icon@icon\endcsname}%
38 }
39
40 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
41 \def\LWR@attachfile@appearance{#1}%
42 }

```

A file annotation becomes a reference:

```

43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
44 \LWR@href{#1}{\LWR@attachfile@appearance}%
45 }

```

Modified for text color:

```

46 \DeclareRobustCommand{\notextattachfile}[2][[]]{%
47 \begingroup
48 \atfi@setup{#1}%
49 \ifatfi@print
50 \leavevmode
51 \begingroup
52 \HyColor@UseColor\atfi@color@tex
53 \LWR@textcurrentcolor{#2}% lwarp
54 % \strut
55 \endgroup
56 % \else
57 % \sbox\ltx@zero{#2\strut}%
58 % \makebox[\wd0]{}%
59 \fi
60 \endgroup
61 }

```

Modified to draw the icon:

```

62 \DeclareRobustCommand{\noattachfile}[1][[]]{%
63 \begingroup
64 \atfi@setup{#1}%
65 \atfi@set@appearance@icon
66 \ifatfi@print
67 \LWR@attachfile@appearance% lwarp
68 % \expandafter
69 % \atfi@refxform\csname atfi@appobj\atfi@icon@icon\endcsname
70 % \else
71 % \makebox[\atfi@appearancewidth]{}%
72 \fi
73 \endgroup
74 }

```

File 34 **lwarp-authblk.sty**

§ 143 Package **authblk**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg authblk authblk is patched for HTML.

**package support** lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages  
**△ load order** authblk and titling. If both are used, authblk should be loaded before titling.

**\published and \subtitle** If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 69.8.

*(Emulates or patches code by PATRICK W. DALY.)*

**for HTML output:** Require that authblk be loaded before titling:

```

1 \@ifpackageloaded{titling}{
2 \PackageError{lwarp-authblk}
3 {Package authblk must be loaded before titling}
4 {%
5 Titling appends authblk's author macro,
6 so authblk must be loaded first.%
7 }
8 }
9 {\relax}

```

Load authblk:

```
10 \LWR@ProvidesPackagePass{authblk}[2001/02/27]
```

Patch to add a class for the affiliation:

```

11 \LetLtxMacro\LWRAB@affil\affil
12
13 \renewcommand{\affil}[2][]{%
14 \LWRAB@affil[#1]{\protect\InlineClass{affiliation}{#2}}
15 }

```

Create an HTML break for an \authorcr:

```
16 \renewcommand*{\authorcr}{\protect\LWR@newlinebr}
```

File 35 **lwarp-autobreak.sty**

§ 144 Package **autobreak**

*(Emulates or patches code by TAKAHIRO UEDA.)*

Pkg autobreak **autobreak** is used as-is for SVG math, and nullified for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{autobreak}[2017/02/23]

For MATHJAX. The modified align environment is used for SVG math, but is reverted to its original for MATHJAX. (Extraneous commas were appearing in the result.)

```

2 \begin{warpMathJax}
3 \renewenvironment{autobreak}{\newcommand{\MoveEqLeft}[1]{}{}}
4 \let\start@align\@autobreak@oldstart@align
5 \let\end@align\@autobreak@oldend@align
6 \CustomizeMathJax{\newenvironment{autobreak}{}{}}
7 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1]{}{}}
8 \CustomizeMathJax{\newcommand{\everybeforeautobreak}[1]{}{}}
9 \CustomizeMathJax{\newcommand{\everyafterautobreak}[1]{}{}}
10 \end{warpMathJax}


```

---

### File 36 **lwarp-autonum.sty**

## § 145 Package **autonum**

Pkg autonum **autonum** is ignored.

 **numbering, +** All equations are numbered in HTML output. MATHJAX does not support the “+” environments.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{autonum}[2015/01/18]

```

2 \RequirePackage{amsmath}
3
4
5 \newenvironment{equation+}{\equation}{\endequation}
6
7
8 \newenvironment{gather+}{\gather}{\endgather}
9
10 \BeforeBeginEnvironment{gather+}{\LWR@amsmathenv@@before{gather+}}
11
12 \AfterEndEnvironment{gather+}{\LWR@amsmathenv@@after}
13
14
15 \newenvironment{multline+}{\multline}{\endmultline}
16
17 \BeforeBeginEnvironment{multline+}{\LWR@amsmathenv@@before{multline+}}
18
19 \AfterEndEnvironment{multline+}{\LWR@amsmathenv@@after}

20 \newenvironment{flalign+}{\flalign}{\endflalign}
21
22 \BeforeBeginEnvironment{flalign+}{\LWR@amsmathenv@@before{flalign+}}
23

```



```

24 \AfterEndEnvironment{flalign+}{\LWR@amsmathenv@@after}
25
26
27 \newenvironment{align+}{\align}{\endalign}
28
29 \BeforeBeginEnvironment{align+}{\LWR@amsmathenv@@before{aline+}}
30
31 \AfterEndEnvironment{align+}{\LWR@amsmathenv@@after}
32
33
34 \newenvironment{alignat+}{\alignat}{\endalignat}
35
36 \BeforeBeginEnvironment{alignat+}{\LWR@amsmathenv@@before{alineat+}}
37
38 \AfterEndEnvironment{alignat+}{\LWR@amsmathenv@@after}
39
40
41 \newenvironment{split+}{\split}{\endsplit}

```

---

File 37 **lwarp-awesomebox.sty**

§ 146 Package **awesomebox**

(Emulates or patches code by ÉTIENNE DEPARIS.)

Pkg awesomebox awesomebox is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{awesomebox}[2019/07/27]
2 \newcommand*{\LWR@awesomebox@boxborders}{}%
3 \newcommand*{\LWR@awesomebox@contentsborders}{}%
4
5 \newcommand*{\LWR@awesomebox@ruleborders}{}%
6 border-top: 1px solid black ;
7 border-bottom: 1px solid black%
8 }
9
10 % \awesomebox[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}{7:content}
11 \RenewDocumentCommand \awesomebox { O{abvrulecolor} O{} o m m m +m }{%
12 \begin{awesomeblock}[#1][#2][#3]{#4}{#5}{#6}
13 #7
14 \end{awesomeblock}
15 }
16
17 \begin{awesomeblock}[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}
18 % <contents>
19 % \end{awesomeblock}
20 \RenewDocumentEnvironment{awesomeblock}{ O{abvrulecolor} O{} o m m m }
21 {%
22 \LWR@forceminwidth{#4}%
23 \convertcolorspec{named}{#1}{HTML}\LWR@tempcolor%
24 \renewcommand*{\LWR@awesomebox@boxborders}{}%
25 \renewcommand*{\LWR@awesomebox@contentsborders}{}%

```

```

26 \ifdefstrequal{\abShortLine}{#2}{%
27 \renewcommand*{\LWR@awesomebox@contentsborders}{\LWR@awesomebox@ruleborders}%
28 }{%
29 \ifdefstrequal{\abLongLine}{#2}{%
30 \renewcommand*{\LWR@awesomebox@boxborders}{\LWR@awesomebox@ruleborders}%
31 }{%
32 \begin{BlockClass}[\LWR@awesomebox@boxborders]{awesomebox}
33 \begin{BlockClass}[%
34 margin-left: 2\% ;
35 vertical-align: top
36]{minipage}
37 \color{#6}\Huge #5
38 \end{BlockClass}
39 \begin{BlockClass}[%
40 width:75\% ;
41 vertical-align: top ;
42 padding-left: 1em ;
43 \LWR@awesomebox@contentsborders ;
44 border-left: \LWR@printlength{\LWR@atleastonept} %
45 solid \LWR@origpound\LWR@tempcolor%
46]{minipage}
47 \IfValueTF{#3}{#3\newline}{}
48 }
49 {%
50 \end{BlockClass}
51 \end{BlockClass}
52 }

```

---

File 38 **lwarp-axessibility.sty**

§ 147 Package **axessibility**

Pkg axessibility axessibility is ignored.

**for HTML output:**

```

1 \PackageInfo{lwarp}{Using the lwarp version of package 'axessibility'.}%
2 \ProvidesPackage{lwarp-axessibility}% no date is declared by the original
3
4 \newif\iftagpdfopt
5
6 \DeclareOption{accsupp}{
7 \tagpdfoptfalse
8 }
9
10 \DeclareOption{tagpdf}{
11 \tagpdfopttrue
12 }
13
14 \ProcessOptions\relax
15
16 \iftagpdfopt
17 \RequirePackage{tagpdf}
18 \else
19 \RequirePackage{accsupp}

```

```

20 \fi

21 \long\def\wrap#1{}
22 \long\def\wrapml#1{}
23 \long\def\wrapmlstar#1{}
24 \long\def\wrapmlalt#1{}

```

For MATHJAX. These usually will not be needed.

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\wrap}[1]{} }
27 \CustomizeMathJax{\newcommand{\wrapml}[1]{} }
28 \CustomizeMathJax{\newcommand{\wrapmlstar}[1]{} }
29 \CustomizeMathJax{\newcommand{\wrapmlalt}[1]{} }
30 \end{warpMathJax}

```

---

File 39 **lwarp-axodraw2.sty**

§ 148 Package **axodraw2**

(Emulates or patches code by JOHN C. COLLINS, J.A.M. VERMASEREN.)

Pkg axodraw2 axodraw2 is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{axodraw2}[2018/02/15]

2 \BeforeBeginEnvironment{axopicture}{%
3 \begin{lateximage}[-axopicture--\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{axopicture}{\end{lateximage}}

```

---

File 40 **lwarp-backnaur.sty**

§ 149 Package **backnaur**

(Emulates or patches code by ADRIAN P. ROBSON.)

Pkg backnaur backnaur is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{backnaur}[2019/06/18]

2 \renewenvironment{bnf}{\eqnarray}{\endeqnarray}
3 \renewenvironment{bnf*}{\csuse{eqnarray*}}{\csuse{endeqnarray*}}

```

For MATHJAX:

```

4 \begin{warpMathJax}

```

```

5 \CustomizeMathJax{\newcommand{\bnfpm}[1]{\langle \text{\texttrm{#1}} \rangle}}
6 \CustomizeMathJax{\newcommand{\bnfor}{\; \mid \;}}
7 \CustomizeMathJax{\newcommand{\bnfsp}{\;}}
8 \@ifpackagewith{backnaur}{perp}{
9 \CustomizeMathJax{\newcommand{\bnfes}{\perp}}
10 }{
11 \@ifpackagewith{backnaur}{epsilon}{
12 \CustomizeMathJax{\newcommand{\bnfes}{\epsilon}}
13 }{
14 \CustomizeMathJax{\newcommand{\bnfes}{\lambda}}
15 }
16 }
17 \@ifpackagewith{backnaur}{tsrm}{
18 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{#1}}}
19 }{
20 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{\texttt{#1}}}}
21 }
22 \CustomizeMathJax{\newcommand{\bnftd}[1]{\text{\textit{#1}}}}
23 \CustomizeMathJax{\newcommand{\bnfks}{\dots}}
24 \@ifpackagewith{backnaur}{altpo}{
25 \CustomizeMathJax{\newcommand{\bnfpo}{\text{:=}}}
26 }{
27 \CustomizeMathJax{\newcommand{\bnfpo}{\models}}
28 }
29 \CustomizeMathJax{\newcommand{\bnfprod}{\ifstar{\LWRbnfprodnn}{\LWRbnfprodyn}}}
30 \CustomizeMathJax{\newcommand{\LWRbnfprodyn}[2]{\bnfpm{#1} & \bnfpo & #2}}
31 \CustomizeMathJax{\newcommand{\LWRbnfprodnn}[2]{\nonumber \bnfpm{#1} & \bnfpo & #2}}
32 \CustomizeMathJax{\newcommand{\bnfmore}{\ifstar{\LWRbnfmorenn}{\LWRbnfmoreyn}}}
33 \CustomizeMathJax{\newcommand{\LWRbnfmoreyn}[1]{& & #1}}
34 \CustomizeMathJax{\newcommand{\LWRbnfmorenn}[1]{\nonumber & & #1}}
35 \end{warpMathJax}

```


---

File 41 **lwarp-backref.sty**

§ 150 Package **backref**

*(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)*

Pkg backref **backref** is patched for use by **lwarp**.

 **loading** Note that **backref** must be explicitly loaded, and is not automatically loaded by **hyperref** when generating HTML output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{backref}[2016/05/21]

Force the **hyperref** option:

```

2 \def\backref{}
3
4 \long\def\hyper@section@backref#1#2#3{%
5 \LWR@refwithsection{#3}%
6 }
7

```

---

8 \let\backrefxxx\hyper@section@backref

---

File 42 **lwarp-balance.sty**

§ 151 Package **balance**

(Emulates or patches code by PATRICK W. DALY.)

Pkg balance balance is ignored.

**for HTML output:** Discard all options for lwarp-balance:

```
1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]

2 \newcommand*{\balance}{}
3 \newcommand*{\nobalance}{}

```

---

File 43 **lwarp-bbding.sty**

§ 152 Package **bbding**

(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)

Pkg bbding bbding is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{bbding}[1999/04/15]

2 \newcommand*{\LWR@bbdingsymbol}[2]{\HTMLunicode{#2}}
3
4 \newcommand{\LWR@HTML@ScissorRightBrokenBottom}{\LWR@bbdingsymbol{000} {2701}}
5 \newcommand{\LWR@HTML@ScissorRight}{\LWR@bbdingsymbol{001} {2702}}
6 \newcommand{\LWR@HTML@ScissorRightBrokenTop}{\LWR@bbdingsymbol{002} {2703}}
7 \newcommand{\LWR@HTML@ScissorLeftBrokenBottom}{\LWR@bbdingsymbol{003} {2701}}
8 \newcommand{\LWR@HTML@ScissorLeft}{\LWR@bbdingsymbol{004} {2702}}
9 \newcommand{\LWR@HTML@ScissorLeftBrokenTop}{\LWR@bbdingsymbol{005} {2703}}
10 \newcommand{\LWR@HTML@ScissorHol lowRight}{\LWR@bbdingsymbol{006} {2704}}
11 \newcommand{\LWR@HTML@ScissorHol lowLeft}{\LWR@bbdingsymbol{007} {2704}}
12 \newcommand{\LWR@HTML@Phone}{\LWR@bbdingsymbol{010} {260E}}
13 \newcommand{\LWR@HTML@PhoneHandset}{\LWR@bbdingsymbol{011} {2706}}
14 \newcommand{\LWR@HTML@Tape}{\LWR@bbdingsymbol{012} {2707}}
15 \newcommand{\LWR@HTML@Plane}{\LWR@bbdingsymbol{013} {2708}}
16 \newcommand{\LWR@HTML@Envelope}{\LWR@bbdingsymbol{014} {2709}}
17 \newcommand{\LWR@HTML@HandCuffRight}{\LWR@bbdingsymbol{015} {261B}}
18 \newcommand{\LWR@HTML@HandCuffLeft}{\LWR@bbdingsymbol{016} {261A}}
19 \newcommand{\LWR@HTML@HandCuffRightUp}{\LWR@bbdingsymbol{017} {261D}}
20 \newcommand{\LWR@HTML@HandCuffLeftUp}{\LWR@bbdingsymbol{020} {261F}}
21 \newcommand{\LWR@HTML@HandRight}{\LWR@bbdingsymbol{021} {261E}}
22 \newcommand{\LWR@HTML@HandLeft}{\LWR@bbdingsymbol{022} {261C}}
23 \newcommand{\LWR@HTML@HandRightUp}{\LWR@bbdingsymbol{023} {261D}}
24 \newcommand{\LWR@HTML@HandLeftUp}{\LWR@bbdingsymbol{024} {261F}}

```

|    |                                                                       |         |
|----|-----------------------------------------------------------------------|---------|
| 25 | \newcommand{\LWR@HTML@Peace}{\LWR@bbdingsymbol{025}}                  | {270C}} |
| 26 | \newcommand{\LWR@HTML@HandPencilLeft}{\LWR@bbdingsymbol{026}}         | {270D}} |
| 27 | \newcommand{\LWR@HTML@PencilRight}{\LWR@bbdingsymbol{027}}            | {270F}} |
| 28 | \newcommand{\LWR@HTML@PencilLeft}{\LWR@bbdingsymbol{030}}             | {270F}} |
| 29 | \newcommand{\LWR@HTML@PencilRightUp}{\LWR@bbdingsymbol{031}}          | {2710}} |
| 30 | \newcommand{\LWR@HTML@PencilLeftUp}{\LWR@bbdingsymbol{032}}           | {2710}} |
| 31 | \newcommand{\LWR@HTML@PencilRightDown}{\LWR@bbdingsymbol{033}}        | {270E}} |
| 32 | \newcommand{\LWR@HTML@PencilLeftDown}{\LWR@bbdingsymbol{034}}         | {270E}} |
| 33 | \newcommand{\LWR@HTML@NibRight}{\LWR@bbdingsymbol{035}}               | {2711}} |
| 34 | \newcommand{\LWR@HTML@NibLeft}{\LWR@bbdingsymbol{036}}                | {2711}} |
| 35 | \newcommand{\LWR@HTML@NibSolidRight}{\LWR@bbdingsymbol{037}}          | {2712}} |
| 36 | \newcommand{\LWR@HTML@NibSolidLeft}{\LWR@bbdingsymbol{040}}           | {2712}} |
| 37 | \newcommand{\LWR@HTML@Checkmark}{\LWR@bbdingsymbol{041}}              | {2713}} |
| 38 | \newcommand{\LWR@HTML@CheckmarkBold}{\LWR@bbdingsymbol{042}}          | {2714}} |
| 39 | \newcommand{\LWR@HTML@XSolid}{\LWR@bbdingsymbol{043}}                 | {2715}} |
| 40 | \newcommand{\LWR@HTML@XSolidBold}{\LWR@bbdingsymbol{044}}             | {2716}} |
| 41 | \newcommand{\LWR@HTML@XSolidBrush}{\LWR@bbdingsymbol{045}}            | {2717}} |
| 42 | \newcommand{\LWR@HTML@PlusOutline}{\LWR@bbdingsymbol{046}}            | {2719}} |
| 43 | \newcommand{\LWR@HTML@Plus}{\LWR@bbdingsymbol{047}}                   | {271A}} |
| 44 | \newcommand{\LWR@HTML@PlusCenterOpen}{\LWR@bbdingsymbol{050}}         | {271C}} |
| 45 | \newcommand{\LWR@HTML@PlusThinCenterOpen}{\LWR@bbdingsymbol{051}}     | {271B}} |
| 46 | \newcommand{\LWR@HTML@Cross}{\LWR@bbdingsymbol{052}}                  | {271D}} |
| 47 | \newcommand{\LWR@HTML@CrossOpenShadow}{\LWR@bbdingsymbol{053}}        | {271E}} |
| 48 | \newcommand{\LWR@HTML@CrossOutline}{\LWR@bbdingsymbol{054}}           | {271F}} |
| 49 | \newcommand{\LWR@HTML@CrossBoldOutline}{\LWR@bbdingsymbol{055}}       | {271F}} |
| 50 | \newcommand{\LWR@HTML@CrossMaltese}{\LWR@bbdingsymbol{056}}           | {2720}} |
| 51 | \newcommand{\LWR@HTML@DavidStarSolid}{\LWR@bbdingsymbol{057}}         | {2721}} |
| 52 | \newcommand{\LWR@HTML@DavidStar}{\LWR@bbdingsymbol{060}}              | {2721}} |
| 53 | \newcommand{\LWR@HTML@FourAsterisk}{\LWR@bbdingsymbol{061}}           | {2722}} |
| 54 | \newcommand{\LWR@HTML@JackStar}{\LWR@bbdingsymbol{062}}               | {2723}} |
| 55 | \newcommand{\LWR@HTML@JackStarBold}{\LWR@bbdingsymbol{063}}           | {2724}} |
| 56 | \newcommand{\LWR@HTML@CrossCLowerTips}{\LWR@bbdingsymbol{064}}        | {2725}} |
| 57 | \newcommand{\LWR@HTML@FourStar}{\LWR@bbdingsymbol{065}}               | {2726}} |
| 58 | \newcommand{\LWR@HTML@FourStarOpen}{\LWR@bbdingsymbol{066}}           | {2727}} |
| 59 | \newcommand{\LWR@HTML@FiveStarLines}{\LWR@bbdingsymbol{067}}          | {2729}} |
| 60 | \newcommand{\LWR@HTML@FiveStar}{\LWR@bbdingsymbol{070}}               | {2605}} |
| 61 | \newcommand{\LWR@HTML@FiveStarOpen}{\LWR@bbdingsymbol{071}}           | {2729}} |
| 62 | \newcommand{\LWR@HTML@FiveStarOpenCircled}{\LWR@bbdingsymbol{072}}    | {272A}} |
| 63 | \newcommand{\LWR@HTML@FiveStarCenterOpen}{\LWR@bbdingsymbol{073}}     | {272B}} |
| 64 | \newcommand{\LWR@HTML@FiveStarOpenDotted}{\LWR@bbdingsymbol{074}}     | {272C}} |
| 65 | \newcommand{\LWR@HTML@FiveStarOutline}{\LWR@bbdingsymbol{075}}        | {272D}} |
| 66 | \newcommand{\LWR@HTML@FiveStarOutlineHeavy}{\LWR@bbdingsymbol{076}}   | {272E}} |
| 67 | \newcommand{\LWR@HTML@FiveStarConvex}{\LWR@bbdingsymbol{077}}         | {272F}} |
| 68 | \newcommand{\LWR@HTML@FiveStarShadow}{\LWR@bbdingsymbol{100}}         | {2730}} |
| 69 | \newcommand{\LWR@HTML@AsteriskBold}{\LWR@bbdingsymbol{101}}           | {2731}} |
| 70 | \newcommand{\LWR@HTML@AsteriskCenterOpen}{\LWR@bbdingsymbol{102}}     | {2732}} |
| 71 | \newcommand{\LWR@HTML@AsteriskThin}{\LWR@bbdingsymbol{103}}           | {273B}} |
| 72 | \newcommand{\LWR@HTML@AsteriskThinCenterOpen}{\LWR@bbdingsymbol{104}} | {273C}} |
| 73 | \newcommand{\LWR@HTML@EightStarTaper}{\LWR@bbdingsymbol{105}}         | {2733}} |
| 74 | \newcommand{\LWR@HTML@EightStarConvex}{\LWR@bbdingsymbol{106}}        | {2735}} |
| 75 | \newcommand{\LWR@HTML@SixStar}{\LWR@bbdingsymbol{107}}                | {2736}} |
| 76 | \newcommand{\LWR@HTML@EightStar}{\LWR@bbdingsymbol{110}}              | {2737}} |
| 77 | \newcommand{\LWR@HTML@EightStarBold}{\LWR@bbdingsymbol{111}}          | {2738}} |
| 78 | \newcommand{\LWR@HTML@TwelveStar}{\LWR@bbdingsymbol{112}}             | {2739}} |
| 79 | \newcommand{\LWR@HTML@SixteenStarLight}{\LWR@bbdingsymbol{113}}       | {273A}} |

80 \newcommand{\LWR@HTML@SixFlowerPetalRemoved}{\LWR@bbdingsymbol{114}} {273B}}  
 81 \newcommand{\LWR@HTML@SixFlowerOpenCenter}{\LWR@bbdingsymbol{115}} {273C}}  
 82 \newcommand{\LWR@HTML@Asterisk}{\LWR@bbdingsymbol{116}} {273D}}  
 83 \newcommand{\LWR@HTML@SixFlowerAlternate}{\LWR@bbdingsymbol{117}} {273E}}  
 84 \newcommand{\LWR@HTML@FiveFlowerPetal}{\LWR@bbdingsymbol{120}} {273F}}  
 85 \newcommand{\LWR@HTML@SixFlowerPetalDotted}{\LWR@bbdingsymbol{121}} {2740}}  
 86 \newcommand{\LWR@HTML@FiveFlowerOpen}{\LWR@bbdingsymbol{122}} {2740}}  
 87 \newcommand{\LWR@HTML@EightFlowerPetal}{\LWR@bbdingsymbol{123}} {2741}}  
 88 \newcommand{\LWR@HTML@SunshineOpenCircled}{\LWR@bbdingsymbol{124}} {2742}}  
 89 \newcommand{\LWR@HTML@SixFlowerAltPetal}{\LWR@bbdingsymbol{125}} {2743}}  
 90 \newcommand{\LWR@HTML@FourCflowerOpen}{\LWR@bbdingsymbol{126}} {273F}}  
 91 \newcommand{\LWR@HTML@FourCflowerSolid}{\LWR@bbdingsymbol{127}} {273F}}  
 92 \newcommand{\LWR@HTML@AsteriskRoundedEnds}{\LWR@bbdingsymbol{130}} {2749}}  
 93 \newcommand{\LWR@HTML@EightFlowerPetalRemoved}{\LWR@bbdingsymbol{131}} {274A}}  
 94 \newcommand{\LWR@HTML@EightAsterisk}{\LWR@bbdingsymbol{132}} {274B}}  
 95 \newcommand{\LWR@HTML@SixFlowerRemovedOpenPetal}{\LWR@bbdingsymbol{133}} {2740}}  
 96 \newcommand{\LWR@HTML@SparkleBold}{\LWR@bbdingsymbol{134}} {2748}}  
 97 \newcommand{\LWR@HTML@Sparkle}{\LWR@bbdingsymbol{135}} {2747}}  
 98 \newcommand{\LWR@HTML@SnowflakeChevron}{\LWR@bbdingsymbol{136}} {2744}}  
 99 \newcommand{\LWR@HTML@SnowflakeChevronBold}{\LWR@bbdingsymbol{137}} {2746}}  
 100 \newcommand{\LWR@HTML@Snowflake}{\LWR@bbdingsymbol{140}} {2744}}  
 101 \newcommand{\LWR@HTML@CircleSolid}{\LWR@bbdingsymbol{141}} {25CF}}  
 102 \newcommand{\LWR@HTML@Ellipse}{\LWR@bbdingsymbol{142}} {274D}}  
 103 \newcommand{\LWR@HTML@EllipseSolid}{\LWR@bbdingsymbol{143}} {25CF}}  
 104 \newcommand{\LWR@HTML@CircleShadow}{\LWR@bbdingsymbol{144}} {274D}}  
 105 \newcommand{\LWR@HTML@EllipseShadow}{\LWR@bbdingsymbol{145}} {274D}}  
 106 \newcommand{\LWR@HTML@Square}{\LWR@bbdingsymbol{146}} {25A1}}  
 107 \newcommand{\LWR@HTML@SquareSolid}{\LWR@bbdingsymbol{147}} {25A0}}  
 108 \newcommand{\LWR@HTML@SquareShadowBottomRight}{\LWR@bbdingsymbol{150}} {2751}}  
 109 \newcommand{\LWR@HTML@SquareShadowTopRight}{\LWR@bbdingsymbol{151}} {2752}}  
 110 \newcommand{\LWR@HTML@SquareShadowTopLeft}{\LWR@bbdingsymbol{152}} {2752}}  
 111 \newcommand{\LWR@HTML@SquareCastShadowBottomRight}{\LWR@bbdingsymbol{153}} {2751}}  
 112 \newcommand{\LWR@HTML@SquareCastShadowTopRight}{\LWR@bbdingsymbol{154}} {2752}}  
 113 \newcommand{\LWR@HTML@SquareCastShadowTopLeft}{\LWR@bbdingsymbol{155}} {2752}}  
 114 \newcommand{\LWR@HTML@TriangleUp}{\LWR@bbdingsymbol{156}} {25B2}}  
 115 \newcommand{\LWR@HTML@TriangleDown}{\LWR@bbdingsymbol{157}} {25BC}}  
 116 \newcommand{\LWR@HTML@DiamondSolid}{\LWR@bbdingsymbol{160}} {25C6}}  
 117 \newcommand{\LWR@HTML@OrnamentDiamondSolid}{\LWR@bbdingsymbol{161}} {2756}}  
 118 \newcommand{\LWR@HTML@HalfCircleRight}{\LWR@bbdingsymbol{162}} {25D7}}  
 119 \newcommand{\LWR@HTML@HalfCircleLeft}{\LWR@bbdingsymbol{163}} {25D6}}  
 120 \newcommand{\LWR@HTML@RectangleThin}{\LWR@bbdingsymbol{164}} {2758}}  
 121 \newcommand{\LWR@HTML@Rectangle}{\LWR@bbdingsymbol{165}} {2759}}  
 122 \newcommand{\LWR@HTML@RectangleBold}{\LWR@bbdingsymbol{166}} {275A}}  
 123 \newcommand{\LWR@HTML@ArrowBoldRightStrobe}{\LWR@bbdingsymbol{167}} {27A0}}  
 124 \newcommand{\LWR@HTML@ArrowBoldUpRight}{\LWR@bbdingsymbol{170}} {27A6}}  
 125 \newcommand{\LWR@HTML@ArrowBoldDownRight}{\LWR@bbdingsymbol{171}} {27A5}}  
 126 \newcommand{\LWR@HTML@ArrowBoldRightShort}{\LWR@bbdingsymbol{172}} {27A7}}  
 127 \newcommand{\LWR@HTML@ArrowBoldRightCircled}{\LWR@bbdingsymbol{173}} {27B2}}  
 128  
 129  
 130 \LWR@formatted{ScissorRightBrokenBottom}  
 131 \LWR@formatted{ScissorRight}  
 132 \LWR@formatted{ScissorRightBrokenTop}  
 133 \LWR@formatted{ScissorLeftBrokenBottom}  
 134 \LWR@formatted{ScissorLeft}

```
135 \LWR@formatted{ScissorLeftBrokenTop}
136 \LWR@formatted{ScissorHollowRight}
137 \LWR@formatted{ScissorHollowLeft}
138 \LWR@formatted{Phone}
139 \LWR@formatted{PhoneHandset}
140 \LWR@formatted{Tape}
141 \LWR@formatted{Plane}
142 \LWR@formatted{Envelope}
143 \LWR@formatted{HandCuffRight}
144 \LWR@formatted{HandCuffLeft}
145 \LWR@formatted{HandCuffRightUp}
146 \LWR@formatted{HandCuffLeftUp}
147 \LWR@formatted{HandRight}
148 \LWR@formatted{HandLeft}
149 \LWR@formatted{HandRightUp}
150 \LWR@formatted{HandLeftUp}
151 \LWR@formatted{Peace}
152 \LWR@formatted{HandPencilLeft}
153 \LWR@formatted{PencilRight}
154 \LWR@formatted{PencilLeft}
155 \LWR@formatted{PencilRightUp}
156 \LWR@formatted{PencilLeftUp}
157 \LWR@formatted{PencilRightDown}
158 \LWR@formatted{PencilLeftDown}
159 \LWR@formatted{NibRight}
160 \LWR@formatted{NibLeft}
161 \LWR@formatted{NibSolidRight}
162 \LWR@formatted{NibSolidLeft}
163 \LWR@formatted{Checkmark}
164 \LWR@formatted{CheckmarkBold}
165 \LWR@formatted{XSolid}
166 \LWR@formatted{XSolidBold}
167 \LWR@formatted{XSolidBrush}
168 \LWR@formatted{PlusOutline}
169 \LWR@formatted{Plus}
170 \LWR@formatted{PlusCenterOpen}
171 \LWR@formatted{PlusThinCenterOpen}
172 \LWR@formatted{Cross}
173 \LWR@formatted{CrossOpenShadow}
174 \LWR@formatted{CrossOutline}
175 \LWR@formatted{CrossBoldOutline}
176 \LWR@formatted{CrossMaltese}
177 \LWR@formatted{DavidStarSolid}
178 \LWR@formatted{DavidStar}
179 \LWR@formatted{FourAsterisk}
180 \LWR@formatted{JackStar}
181 \LWR@formatted{JackStarBold}
182 \LWR@formatted{CrossClowerTips}
183 \LWR@formatted{FourStar}
184 \LWR@formatted{FourStarOpen}
185 \LWR@formatted{FiveStarLines}
186 \LWR@formatted{FiveStar}
187 \LWR@formatted{FiveStarOpen}
188 \LWR@formatted{FiveStarOpenCircled}
189 \LWR@formatted{FiveStarCenterOpen}
```



190 \LWR@formatted{FiveStarOpenDotted}  
191 \LWR@formatted{FiveStarOutline}  
192 \LWR@formatted{FiveStarOutlineHeavy}  
193 \LWR@formatted{FiveStarConvex}  
194 \LWR@formatted{FiveStarShadow}  
195 \LWR@formatted{AsteriskBold}  
196 \LWR@formatted{AsteriskCenterOpen}  
197 \LWR@formatted{AsteriskThin}  
198 \LWR@formatted{AsteriskThinCenterOpen}  
199 \LWR@formatted{EightStarTaper}  
200 \LWR@formatted{EightStarConvex}  
201 \LWR@formatted{SixStar}  
202 \LWR@formatted{EightStar}  
203 \LWR@formatted{EightStarBold}  
204 \LWR@formatted{TwelveStar}  
205 \LWR@formatted{SixteenStarLight}  
206 \LWR@formatted{SixFlowerPetalRemoved}  
207 \LWR@formatted{SixFlowerOpenCenter}  
208 \LWR@formatted{Asterisk}  
209 \LWR@formatted{SixFlowerAlternate}  
210 \LWR@formatted{FiveFlowerPetal}  
211 \LWR@formatted{SixFlowerPetalDotted}  
212 \LWR@formatted{FiveFlowerOpen}  
213 \LWR@formatted{EightFlowerPetal}  
214 \LWR@formatted{SunshineOpenCircled}  
215 \LWR@formatted{SixFlowerAltPetal}  
216 \LWR@formatted{FourCLowerOpen}  
217 \LWR@formatted{FourCLowerSolid}  
218 \LWR@formatted{AsteriskRoundedEnds}  
219 \LWR@formatted{EightFlowerPetalRemoved}  
220 \LWR@formatted{EightAsterisk}  
221 \LWR@formatted{SixFlowerRemovedOpenPetal}  
222 \LWR@formatted{SparkleBold}  
223 \LWR@formatted{Sparkle}  
224 \LWR@formatted{SnowflakeChevron}  
225 \LWR@formatted{SnowflakeChevronBold}  
226 \LWR@formatted{Snowflake}  
227 \LWR@formatted{CircleSolid}  
228 \LWR@formatted{Ellipse}  
229 \LWR@formatted{EllipseSolid}  
230 \LWR@formatted{CircleShadow}  
231 \LWR@formatted{EllipseShadow}  
232 \LWR@formatted{Square}  
233 \LWR@formatted{SquareSolid}  
234 \LWR@formatted{SquareShadowBottomRight}  
235 \LWR@formatted{SquareShadowTopRight}  
236 \LWR@formatted{SquareShadowTopLeft}  
237 \LWR@formatted{SquareCastShadowBottomRight}  
238 \LWR@formatted{SquareCastShadowTopRight}  
239 \LWR@formatted{SquareCastShadowTopLeft}  
240 \LWR@formatted{TriangleUp}  
241 \LWR@formatted{TriangleDown}  
242 \LWR@formatted{DiamondSolid}  
243 \LWR@formatted{OrnamentDiamondSolid}  
244 \LWR@formatted{HalfCircleRight}

```

245 \LWR@formatted{HalfCircleLeft}
246 \LWR@formatted{RectangleThin}
247 \LWR@formatted{Rectangle}
248 \LWR@formatted{RectangleBold}
249 \LWR@formatted{ArrowBoldRightStrobe}
250 \LWR@formatted{ArrowBoldUpRight}
251 \LWR@formatted{ArrowBoldDownRight}
252 \LWR@formatted{ArrowBoldRightShort}
253 \LWR@formatted{ArrowBoldRightCircled}

```

---

File 44 **lwarp-biblatex.sty**

§ 153 Package **biblatex**

*(Emulates or patches code by PHILIPP LEHMAN.)*

Pkg biblatex When biblatex is used, modifications from newfloat may have to be undone.

**for HTML output:**

1. lwarp uses newfloat.
2. For classes with chapters which newfloat does not know about, such as CTEX-related classes, newfloat may modify \addtocontents.
3. biblatex, though, wants to patch \addtocontents, which causes an error if \addtocontents has been changed.
4. Therefore, \addtocontents is restored to its original here, since biblatex is about to be loaded.
5. This means that the newfloat's chapterlistsgaps option may no longer work.

```

1 \ifdef{\newfloat@addtocontents@ORI}{
2 \let\addtocontents\newfloat@addtocontents@ORI
3 }{}

```

hyperref emulation is loaded \AtBeginDocument to avoid an options clash.

```

4 \AtBeginDocument{\RequirePackage{hyperref}}
5
6 \LWR@ProvidesPackagePass{biblatex}[2018/03/04]

```

The following create hyperlinks to the references. The original code to use hyperref is recreated here, because hyperref is emulated.

```

7 \AfterPreamble{
8
9 \let\blx@anchors\@empty
10 \protected\def\blx@anchor{%
11 \xifinlist{\the\c@refsection @\abx@field@entrykey}{\blx@anchors}
12 {}
13 {\listxadd\blx@anchors{\the\c@refsection @\abx@field@entrykey}%
14 \hypertarget{cite.\the\c@refsection @\abx@field@entrykey}{}}}

```

```

15
16 \protected\def\blx@imc@bibhyperref{%
17 \@ifnextchar[%
18 {\blx@bibhyperref}
19 {\blx@bibhyperref[\abx@field@entrykey]}}%
20
21 \long\def\blx@bibhyperref[#1]#2{%
22 % \blx@sfsave
23 \hyperlink{cite.\the\c@refsection @#1}{%
24 % \blx@sfrest
25 #2%
26 % \blx@sfsave
27 }%
28 % \blx@sfrest%
29 }%% \def\blx@nohyperref[#1]#2{#2}%
30
31 \protected\long\def\blx@imc@bibhyperlink#1#2{%
32 % \blx@sfsave
33 \hyperlink{cite.\the\c@refsection:#1}{%
34 % \blx@sfrest
35 #2%
36 % \blx@sfsave
37 }%
38 % \blx@sfrest%
39 }%
40
41 \protected\long\def\blx@imc@bibhypertarget#1#2{%
42 % \blx@sfsave%
43 \hypertarget{cite.\the\c@refsection:#1}{%
44 % \blx@sfrest
45 #2%
46 % \blx@sfsave%
47 }%
48 % \blx@sfrest%
49 }
50
51 \let\blx@imc@ifhyperref\@firstoftwo

```

Ensure that an autopage reference is current where each `\cite` is used, although this is nullified inside footnotes since they now use a  $\LaTeX$  box.

```

52 \xpretocmd{\blx@citecmdinit}
53 {\LWR@newautopagelabel{page}}%
54 {}
55 {\LWR@patcherror{biblatex}{blx@citecmdinit}}

```

Ensure that an autopage reference is current for each backref. If the citation is in a footnote, the backref will point to whatever preceded the footnotes.

```

56 \xpatchcmd{\blx@addbackref@i}
57 {\thepage}
58 {\theLWR@previousautopagelabel}% ref to the most recent object
59 {}
60 {\LWR@patcherror{biblatex}{blx@addbackref@i A}}
61

```

```

62 \xpatchcmd{\blx@addbackref@i}
63 {\c@page}
64 {\c@LWR@previousautopagelabel}% refto the most recent object
65 {}
66 {\LWR@patcherror{biblatex}{blx@addbackref@i B}}

```

The following patches are for back page references.

```

67 \DeclareListFormat{pageref}{%
68 \ifnumless{\abx@pagerefstyle}{0}
69 {\usebibmacro{list:plain}%
70 \ifhyperref
71 {%
72 % \hyperlink{page.#1}{#1}%
73 \LWR@refwithsection{\BaseJobname-autopage-#1}% lwarp
74 }
75 {#1}}
76 {\ifnumequal{\value{listcount}}{1}
77 {\usebibmacro{pageref:init}}
78 {}%
79 \usebibmacro{pageref:comp}{#1}%
80 \ifnumequal{\value{listcount}}{\value{liststop}}
81 {\usebibmacro{pageref:dump}}
82 {}}
83
84 \renewbibmacro*{pageref:comp}[1]{%
85 \numdef\abx@range@prev{\abx@range@prev+1}%
86 \ifinteger{#1}
87 {\def\abx@range@num{#1}%
88 \def\abx@range@this{1}%
89 \ifnumequal{\abx@range@this}{\abx@range@last}
90 {}
91 {\def\abx@range@prev{-1}}}
92 {\ifrmnum{#1}
93 {\numdef\abx@range@num{\rmntonum{#1}}%
94 \def\abx@range@this{2}%
95 \ifnumequal{\abx@range@this}{\abx@range@last}
96 {}
97 {\def\abx@range@prev{-1}}}
98 {\undef\abx@range@num
99 \def\abx@range@this{0}%
100 \def\abx@range@prev{-1}}}%
101 \ifdef\abx@range@num
102 {\ifnumequal{\abx@range@num}{\abx@range@prev}
103 {\def\abx@range@hold{#1}%
104 \numdef\abx@range@diff{\abx@range@diff+1}}
105 {\usebibmacro{pageref:dump}%
106 \ifnumgreater{\abx@range@last}{-1}
107 {\printdelim{multilistdelim}}
108 {}%
109 \ifhyperref
110 % {\hyperlink{page.#1}{#1}}
111 {\LWR@refwithsection{\BaseJobname-autopage-#1}}% lwarp
112 {#1}}%
113 \edef\abx@range@prev{\abx@range@num}}

```

```

114 {\usebibmacro{pageref:dump}%
115 \ifnumgreater{\abx@range@last}{-1}
116 {\printdelim{multilistdelim}}
117 }%
118 \ifhyperref
119 % {\hyperlink{page.#1}{#1}}
120 {\LWR@refwithsection{\BaseJobname-autopage-#1}}% lwarp
121 {#1}%
122 \def\abx@range@prev{-1}%
123 \edef\abx@range@last{\abx@range@this}
124
125 \renewbibmacro*{pageref:dump}{%
126 \ifnumgreater{\abx@range@diff}{0}
127 {\ifcase\abx@pagerefstyle\relax % two
128 \bibrangedash
129 \ifhyperref
130 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
131 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
132 {\abx@range@hold}%
133 \or % three
134 \ifnumless{\abx@range@diff}{2}
135 {\printdelim{multilistdelim}}
136 {\bibrangedash}%
137 \ifhyperref
138 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
139 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
140 {\abx@range@hold}%
141 \or % two+
142 \ifnumless{\abx@range@diff}{2}
143 {\sqspace
144 \ifhyperref
145 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
146 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
147 {\bibstring{sequens}}}
148 {\bibrangedash
149 \ifhyperref
150 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
151 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
152 {\abx@range@hold}}%
153 \or % three+
154 \ifnumless{\abx@range@diff}{2}
155 {\sqspace
156 \ifhyperref
157 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
158 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
159 {\bibstring{sequens}}}
160 {\ifnumless{\abx@range@diff}{3}
161 {\sqspace
162 \ifhyperref
163 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
164 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
165 {\bibstring{sequentes}}}
166 {\bibrangedash
167 \ifhyperref
168 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}

```

```

169 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
170 {\abx@range@hold}}}%
171 \else % all+
172 \ifnumLess{\abx@range@diff}{2}
173 {\sqspace
174 \ifhyperref
175 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
176 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
177 {\bibstring{sequens}}}
178 {\sqspace
179 \ifhyperref
180 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
181 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
182 {\bibstring{sequentes}}}%
183 \fi
184 \def\abx@range@diff{0}}
185 {}}}
186
187 }% \AfterPreamble

```

---

File 45 **lwarp-bibunits.sty**

§ 154 Package **bibunits**

(Emulates or patches code by THORSTEN HANSEN.)

Pkg bibunits bibunits is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]

2 \def\bu@bibdata{\BaseJobname}

---


File 46 **lwarp-bigdelim.sty**

§ 155 Package **bigdelim**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg bigdelim bigdelim is used as-is for print or lateximage, and patched for HTML.

The delimiters are displayed in HTML by printing the delimiter, the text, and a thick border across the side of the `\multirow` which indicates the actual height of the delimiter. The delimiter character is given a `<span>` class of `ldelim` or `rdelim`, and the default CSS sets this to `font-size:200%`

 **use `\mrowcell`** `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

---

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\{}{3}{.25in}[left] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

---

```

<-> a b
 {
left { c d
 { e f
 { g h
<-> i j

```

---

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

**for HTML output:**

First, remove the temporary definitions of `\ldelim` and `\rdelim`, which were previously defined for tabular scanning in case `bigdelim` was not loaded:

```

1 \let\ldelim\relax
2 \let\rdelim\relax

```

Next, load the package's new definitions:

```

3 \LWR@ProvidesPackagePass{bigdelim}[2021/03/15]

```

```

\ldelim {(1:delimiter)} {(2:#rows)} [(3: vmove)] {(4:width)} [(5:text)]
\rdelim

```

```

4 \NewDocumentCommand{\LWR@HTML@ldelim}{m m o m O{}}{%
5 \renewcommand{\LWR@multirowborder}{right}%
6 \multirow{#2}{#4}{#5 \InlineClass{ldelim}{#1}}%
7 }
8
9 \LWR@formatted{ldelim}
10
11 \NewDocumentCommand{\LWR@HTML@rdelim}{m m o m O{}}{%
12 \renewcommand{\LWR@multirowborder}{left}%
13 \multirow{#2}{#4}{\InlineClass{rdelim}{#1} #5}%
14 }
15
16 \LWR@formatted{rdelim}

```

Limited emulation for MATHJAX. The delimiter is printed on the first row, along with any optional text.

```

17 \begin{warpMathJax}
18 % \ldelim ({n}{width}[text]
19 \CustomizeMathJax{\newcommand{\LWRldelimtwo}[1][]{\text{#1}~\LWRbigdelim}}
20 \CustomizeMathJax{\newcommand{\LWRldelimone}[2][]{\LWRldelimtwo}}
21 \CustomizeMathJax{\def\ldelim#1#2{\def\LWRbigdelim{#1}\LWRldelimone}}

```

---

```

22% \rdelim) {n}{width}[text]
23 \CustomizeMathJax{\newcommand{\LWRrdelimitwo}[1][\LWRbigdelim~\text{#1}]}
24 \CustomizeMathJax{\newcommand{\LWRrdelimone}[2][\LWRrdelimitwo]}
25 \CustomizeMathJax{\def\rdelim#1#2{\def\LWRbigdelim{#1}\LWRrdelimone}}
26 \end{warpMathJax}

```

---

File 47 **lwarp-bigfoot.sty**

§ 156 Package **bigfoot**

Pkg bigfoot bigfoot is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bigfoot}[2015/08/30]

```

2 \RequirePackage{manyfoot}
3 \RequirePackage{perpage}
4
5 \def\RestyleFootnote#1#2{}
6 \def\FootnoteSpecific#1{}
7 \def\DefineFootnoteStack#1{}
8 \def\PushFootnoteMark#1{}
9 \def\PopFootnoteMark#1{}
10 \def\hfootfraction{0.9}
11 \def\vtypefraction{0.7}
12 \def\FootnoteMinimum{1sp}
13 \def\FootnoteMainMinimum{0pt}
14 \newcount\bigfoottolerance
15 \bigfoottolerance=100
16 \providecommand\footnotecarryratio{2}

```

---

File 48 **lwarp-bigstrut.sty**

§ 157 Package **bigstrut**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg bigstrut bigstrut is used as-is for print or lateximage, and patched for HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bigstrut}[2018/08/03]

```

2 \LetLtxMacro\LWR@origbigstrut\bigstrut
3
4 \renewcommand\bigstrut[1][x]{}
5
6 \appto\LWR@restoreorigformatting{%
7 \LetLtxMacro\bigstrut\LWR@origbigstrut%
8 }
9

```



```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\bigstrut}[1][{}]}
12 \end{warpMathJax}

```

---

File 49 **lwarp-bitpattern.sty**

§ 158 Package **bitpattern**

*(Emulates or patches code by JEAN-MARC BOURGUET.)*

Pkg bitpattern bitpattern is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bitpattern}[2015/12/11]

```

2 \xpatchcmd{\bitpattern}
3 {\begingroup}
4 {\begin{lateximage}[-bitpattern-~\PackageDiagramAltText]}
5 {}
6 {\LWR@patcherror{bitpattern}{bitpattern}}
7
8 \xpatchcmd{\bp@Done}
9 {\endgroup}
10 {\end{lateximage}}
11 {}
12 {\LWR@patcherror{bitpattern}{bp@Done}}

```

---

File 50 **lwarp-blowup.sty**

§ 159 Package **blowup**

Pkg blowup blowup is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]

```

2 \newcommand*\blowUp[1]{}

```

---

File 51 **lwarp-bm.sty**

§ 160 Package **bm**

*(Emulates or patches code by DAVID CARLISLE, FRANK MITTELBACH.)*

Pkg bm bm is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bm}[2019/07/24]

`\DeclareBoldMathCommand` must only be used in the preamble, since it adds to the `MATHJAX` setup code.

```

2 \begin{warpMathJax}
3 \LetLtxMacro\LRW@orig@DeclareBoldMathCommand\DeclareBoldMathCommand
4
5 \renewcommand\DeclareBoldMathCommand[3][bold]{%
6 \LRW@orig@DeclareBoldMathCommand[#1]{#2}{#3}%
7 \CustomizeMathJax{\newcommand{#2}{\boldsymbol{#3}}}%
8 }
9
10 \@onlypreamble\DeclareBoldMathCommand
11
12 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}
13 \end{warpMathJax}

```

---

File 52 **lwarp-booklet.sty**

§ 161 Package **booklet**

(Emulates or patches code by PETER WILSON.)

Pkg booklet booklet is ignored.

**for HTML output:** 1 \LRW@ProvidesPackageDrop{booklet}[2009/09/02]

```

2 \newdimen\pageseplength
3 \newdimen\pagesepwidth
4 \newdimen\pagesepoffset
5 \newif\ifsidebyside \sidebysidetrue
6 \newif\ifuselandscape \uselandscapefalse
7 \newif\ifprintoption \printoptionfalse
8 \newcommand*\pagespersignature[1]{}
9 \def\magstepminus#1{}
10 \newcommand*\target[3]{}
11 \newcommand*\source[3]{}
12 \newcommand*\setpdftargetpages{}
13 \newcommand*\setdvipstargetpages{}
14 \newcommand*\targettopbottom{}
15 \newcommand*\twoupemptypage{}
16 \newcommand*\twoupclearpage{}
17 \newcommand*\checkforlandscape{}

```

---

File 53 **lwarp-bookmark.sty**

§ 162 Package **bookmark**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg bookmark bookmark is ignored.

**for HTML output:** Discard all options for lwarp-bookmark:

```

1 \LWR@ProvidesPackageDrop{bookmark}[2016/05/17]

2 \newcommand*{\bookmarksetup}[1]{}
3 \newcommand*{\bookmarksetupnext}[1]{}
4 \newcommand*{\bookmark}[2][{}]{
5 \newcommand*{\bookmarkdefinestyle}[2]{}
6 \newcommand*{\bookmarkget}[1]{}
7 \newcommand{\BookmarkAtEnd}[1]{}

```


---

File 54 **lwarp-booktabs.sty**

§ 163 Package **booktabs**

*(Emulates or patches code by SIMON FEAR.)*

Pkg booktabs **booktabs** is emulated during HTML output, and used as-is during print output and inside an HTML lateximage.

 **\cmidrule** For MATHJAX, emulation is provided in math mode, but **\cmidrule trim** must not be used.

**for HTML output:** If **booktabs** has already been loaded before **lwarp**, such as by **memoir**, use it as-is. If not, the **lwarp** core will have placed some dummy macros which should be removed before loading the actual **booktabs** definitions.

```

1 \@ifpackageloaded{booktabs}{
2 \LetLtxMacro\toprule\relax
3 \LetLtxMacro\midrule\relax
4 \LetLtxMacro\cmidrule\cline
5 \LetLtxMacro\bottomrule\relax
6 \LetLtxMacro\addlinespace\relax
7 \LetLtxMacro\morecmidrules\relax
8 \LetLtxMacro\specialrule\relax
9 }

```

Next, load the **booktabs** package:

```
10 \LWR@ProvidesPackagePass{booktabs}[2019/10/08]
```

Adjust to work even if **xltabular** is loaded:

```

11 % \def\LWR@HTML@@BLTrule{\@BTnormal}
12 %
13 % \LWR@formatted{@BLTrule}
14 \LetLtxMacro@BLTrule\@BTnormal

15 \DeclareDocumentCommand{\LWR@HTML@toprule}{o d()}%
16 {%
17 \IfValueTF{#1}%
18 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}%

```

```

19 {%
20 \ifbool{FormatWP}%
21 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
22 {\booltrue{LWR@doingtbrule}}}%
23 }%
24 \LWR@getmynexttoken}
25
26 \LWR@expandableformatted{toprule}
27
28 \DeclareDocumentCommand{\LWR@HTML@midrule}{o d()}%
29 {%
30 \IfValueTF{#1}%
31 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
32 {%
33 \ifbool{FormatWP}%
34 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
35 {\defaddtocounter{LWR@hlines}{1}}}%
36 }%
37 \LWR@getmynexttoken}
38
39 \LWR@expandableformatted{midrule}
40
41 \DeclareDocumentCommand{\LWR@HTML@cmidrule}{O{\LWR@cmidrulewidth} d() m}{%
42 \LWR@docmidrule[#1](#2){#3}%
43 \LWR@getmynexttoken%
44 }%
45
46 \LWR@expandableformatted{cmidrule}
47
48 \DeclareDocumentCommand{\LWR@HTML@bottomrule}{o d()}{%
49 \IfValueTF{#1}%
50 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
51 {%
52 \ifbool{FormatWP}%
53 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
54 {\booltrue{LWR@doingtbrule}}}%
55 }%
56 \LWR@getmynexttoken%
57 }%
58
59 \LWR@expandableformatted{bottomrule}
60
61 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{}%
62
63 \LWR@expandableformatted{addlinespace}
64
65 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{o}{}%
66
67 \LWR@expandableformatted{morecmidrules}
68
69 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m m d()}%
70 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}\LWR@getmynexttoken}%
71
72 \LWR@expandableformatted{specialrule}

```

For MATHJAX:

```

73 \begin{warpMathJax}
74 \CustomizeMathJax{\newcommand{\toprule}[1][\hline]}
75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}
77 \CustomizeMathJax{\def\LWRbooktabscmidruleparen(#1)#2{}}
78 \CustomizeMathJax{\newcommand{\LWRbooktabscmidrulenoparen}[1]{}}
79 \CustomizeMathJax{\newcommand{\cmidrule}[1][\%
80 \ifnextchar(\LWRbooktabscmidruleparen\LWRbooktabscmidrulenoparen%
81]}}
82 \CustomizeMathJax{\newcommand{\morecmidrules}{}}
83 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
84 \CustomizeMathJax{\newcommand{\addlinespace}[1][{}]}
85 \end{warpMathJax}

```

---

File 55 **lwarp-bophook.sty**

§ 164 Package **bophook**

Pkg bophook bophook is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bophook}[2001/03/29]

```

2 \newcommand*{\AtBeginPage}[1]{ }
3 \newcommand*{\PageLayout}[1]{ }

```

---

File 56 **lwarp-bounddvi.sty**

§ 165 Package **bounddvi**

Pkg bounddvi bounddvi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

---

File 57 **lwarp-boxedminipage.sty**

§ 166 Package **boxedminipage**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg boxedminipage boxedminipage is emulated for HTML, and used as-is for lateximages.

**for HTML output:** 1 \LWR@ProvidesPackagePass{boxedminipage}[2020/04/19]

---

```

2 \newenvironment{LWR@HTML@boxedminipage}{%
3 \LWR@stoppars%
4 \begin{BlockClass}{framebox}%
5 \minipage%
6 }
7 {%
8 \endminipage%
9 \end{BlockClass}%
10 \LWR@startpars%
11 }
12 \LWR@formattedenv{boxedminipage}

```

---

File 58 **lwarp-boxedminipage2e.sty**

§ 167 Package **boxedminipage2e**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg boxedminipage2e boxedminipage2e has been renamed boxedminipage by the author.

**for HTML output:** Automatically loads boxedminipage:

```
1 \LWR@ProvidesPackagePass{boxedminipage2e}
```

---

File 59 **lwarp-braket.sty**

§ 168 Package **braket**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg braket braket works as-is for HTML with SVG math. For MATHJAX, the MATHJAX extension is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{braket}}
4 \end{warpMathJax}

```

---

File 60 **lwarp-breakurl.sty**

§ 169 Package **breakurl**

*(Emulates or patches code by VILAR CAMARA NETO.)*

Pkg breakurl breakurl is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{breakurl}[2013/04/10]

```

2 \LetLtxMacro\ Burl\ LWR@url
3
4 \NewDocumentCommand{\ LWR@ Burl@laltb}{0{ } +m m}{%
5 \ LWR@ensuredoingapar%
6 \ LWR@subhyperref{#2}%
7 \ LWR@subhyperrefreftext{#3}%
8 \endgroup% restore catcodes
9 }
10
11 \newrobustcmd*{\ Burl@lalt}{%
12 \beginingroup%
13 \ LWR@linkcatcodes%
14 \ LWR@ Burl@laltb%
15 }
16
17 \LetLtxMacro\ url@lalt\ Burl@lalt

```


---

File 61 **lwarp-breqn.sty**

§ 170 Package **breqn**

(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHOLM.)

Pkg breqn breqn is patched for use by lwarp.

 darray darray is not supported, and in fact does not work in the print version either.

While using MATHJAX, breqn objects are converted to svg images.

**for HTML output:**

```

1 \ LWR@ProvidesPackagePass{breqn}[2017/01/27]
2 \setkeys{breqn}{spread={5pt}}
3
4 \def\eqnumside{R}
5 % \def\eqnumplace{T}
6
7 \BeforeBeginEnvironment{dmath}{
8 \begin{BlockClass}{displaymathnumbered}
9 \ LWR@newautoidanchor%
10 \booltrue{\ LWR@indisplaymathimage}%
11 \begin{lateximage}[-breqn dmath- \MathImageAltText]
12 }
13
14 \AfterEndEnvironment{dmath}{
15 \end{lateximage}\end{BlockClass}
16 }
17
18 \BeforeBeginEnvironment{dmath*}{
19 \begin{BlockClass}{displaymath}
20 \ LWR@newautoidanchor%
21 \booltrue{\ LWR@indisplaymathimage}%
22 \begin{lateximage}[-breqn dmath*- \MathImageAltText]
23 }

```

```
24
25 \AfterEndEnvironment{dmath*}{
26 \end{lateximage}\end{BlockClass}
27 }
28
29 \BeforeBeginEnvironment{dseries}{
30 \begin{BlockClass}{displaymathnumbered}
31 \LWR@newautoidanchor%
32 \booltrue{LWR@indisplaymathimage}%
33 \begin{lateximage}[-breqn dseries- \MathImageAltText]
34 }
35
36 \AfterEndEnvironment{dseries}{
37 \end{lateximage}\end{BlockClass}
38 }
39
40 \BeforeBeginEnvironment{dseries*}{
41 \begin{BlockClass}{displaymath}
42 \LWR@newautoidanchor%
43 \booltrue{LWR@indisplaymathimage}%
44 \begin{lateximage}[-breqn dseries* \MathImageAltText]
45 }
46
47 \AfterEndEnvironment{dseries*}{
48 \end{lateximage}\end{BlockClass}
49 }
50
51 \BeforeBeginEnvironment{dgroup}{
52 \begin{BlockClass}{displaymath}
53 \LWR@newautoidanchor%
54 \booltrue{LWR@indisplaymathimage}%
55 \begin{lateximage}[-breqn dgroup- \MathImageAltText]
56 }
57
58 \AfterEndEnvironment{dgroup}{
59 \end{lateximage}\end{BlockClass}
60 }
61
62 \BeforeBeginEnvironment{dgroup*}{
63 \begin{BlockClass}{displaymath}
64 \LWR@newautoidanchor%
65 \booltrue{LWR@indisplaymathimage}%
66 \begin{lateximage}[-breqn dgroup* \MathImageAltText]
67 }
68
69 \AfterEndEnvironment{dgroup*}{
70 \end{lateximage}\end{BlockClass}
71 }
```



File 62 **lwarp-bsheaders.sty**§ 171 Package **bsheaders**


Pkg bsheaders bsheaders is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]

File 63 **lwarp-bussproofs.sty**§ 172 Package **bussproofs**

*(Emulates or patches code by SAMUEL R. BUSS.)*

Pkg bussproofs bussproofs is used as-is for HTML, and emulated by MATHJAX's extension.

 **\DisplayProof** If not using MATHJAX, inline proofs with `\DisplayMath` must be placed inside a math expression.

If using MATHJAX, only the `prooftree` environment may be used, not `\DisplayProof`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bussproofs}% no date in file

```

2 \ifbool{mathjax}{
3 \CustomizeMathJax{\require{bussproofs}}
4
5 \NewEnviron{LWR@HTML@prooftree}%
6 {\LWR@doequation{\BODY}{prooftree}}%
7 [\LWR@doendequation{prooftree}]
8 \LWR@formattedenv{prooftree}
9 }{% SVG HTML
10 \BeforeBeginEnvironment{prooftree}{%
11 \begin{lateximage}[-bussproofs-~\PackageDiagramAltText]%
12 }
13 \AfterEndEnvironment{prooftree}{\end{lateximage}}
14 }
```

File 64 **lwarp-bxpapersize.sty**§ 173 Package **bxpapersize**

Pkg bxpapersize bxpapersize is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bxpapersize}[2017/10/08]

```
2 \providecommand*\papersizesetup{\bxpapersizesetup}
3 \newcommand*\bxpapersizesetup[1]{}

```

---

File 65 **lwarp-bytefield.sty**

§ 174 Package **bytefield**

(Emulates or patches code by SCOTT PAKIN.)

Pkg bytefield bytefield is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{bytefield}[2017/09/15]

2 \BeforeBeginEnvironment{bytefield}{%
3 \begin{lateximage}[-bytefield-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{bytefield}{\end{lateximage}}

```

---

File 66 **lwarp-cancel.sty**

§ 175 Package **cancel**

Pkg cancel cancel is used as-is for SVG math, and emulated for HTML text output.

**for HTML output:**

```
1 \LWR@origRequirePackage{lwarp-xcolor}% for \convertcolorspec
2 \LWR@ProvidesPackagePass{cancel}[2013/04/12]

```

\cancelto is math-only, so is used as-is.

```
3 \LetLtxMacro\LWR@origcancel\cancel
4 \LetLtxMacro\LWR@origbcancel\bcancel
5 \LetLtxMacro\LWR@origxcancel\xcancel
6
7 \appto\LWR@restoreorigformatting{%
8 \LetLtxMacro\cancel\LWR@origcancel%
9 \LetLtxMacro\bcancel\LWR@origbcancel%
10 \LetLtxMacro\xcancel\LWR@origxcancel%
11 }

```

\LWR@cancelcolor {<text>} {<color>} {<class>} {<colorstyle>} {<FormatWPstyle>}

Add colors if not empty:

```
12 \newcommand{\LWR@cancelcolor}[5]{%
13 \ifcsempy{#2}%
14 {\InlineClass{#5}{#3}{#1}}%
15 {\LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}}%
16 }

```

```

\cancel {<text>}

17 \DeclareRobustCommand{\cancel}[1]{%
18 \begingroup%
19 \CancelColor%
20 \LWR@findcurrenttextcolor%
21 \color{black}%
22 \LWR@cancelcolor{#1}{LWR@tempcolor}{sout}{text-decoration-color}%
23 {text-decoration:line-through}%
24 \endgroup%
25 }
26
27 \LetLtxMacro\bcancel\cancel
28 \LetLtxMacro\xcancel\cancel

For MATHJAX:

29 \begin{warpMathJax}
30 \PackageWarningNoLine{lwarp, cancel}{The MathJax v3 extension will be used}
31 \CustomizeMathJax{\require{cancel}}
32 \end{warpMathJax}

```

---

File 67 **lwarp-canoniclayout.sty**

§ 176 Package **canoniclayout**

Pkg canoniclayout canoniclayout is ignored.

**for HTML output:** s1 \LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

```

2 \newcommand*{\currentfontletters}{}
3 \newcommand*{\charactersperpage}{}

```

---

File 68 **lwarp-caption.sty**

§ 177 Package **caption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg caption caption is patched for use by lwarp.

**for HTML output:**

```

1 \typeout{---}
2 \typeout{Packages lwarp and caption:}
3 \typeout{If a ‘Missing \protect\begin\protect{document\protect}’ error occurs here,}
4 \typeout{try using: \space \protect\usepackage\protect{caption\protect}\space%
5 \protect\captionsetup{options}}
6 \typeout{instead of: \protect\usepackage[options]\protect{caption\protect}.}
7 \typeout{---}
8
9 \LWR@ProvidesPackagePass{caption}[2020/10/26]

```

```

10 \long\def\caption@iiibox@#1#2#3#4{%
11 % \setbox\@tempboxa\hbox{#4}%
12 \caption@iiibox{#1}{#2}{#3}%
13 % [\wd\@tempboxa]%
14 []% lwarp
15 [\captionbox@hj@default]%
16 % {\unhbox\@tempboxa}%
17 {#4}% lwarp
18 }

```

```

19 \long\def\caption@iiiiibox#1#2#3#4#5[#6][#7]#8{%
20 \begingroup
21 #1*% set \caption@position
22 \caption@iftop{%
23 \endgroup

```

```

24 \minipagefullwidth% lwarp
25 \parbox[t]{\linewidth}{%
26 #1\relax
27 \caption@setposition t%
28 % #2%
29 {\caption#4{#5}}%
30 % \captionbox@hrule
31 % \csname caption@hj@#7\endcsname
32 #8%
33 }%
34 }{%
35 \endgroup

```

```

36 % \parbox[b]{#6}{%
37 \minipagefullwidth% lwarp
38 \parbox[b]{\linewidth}{% lwarp
39 #1\relax
40 \caption@setposition b%
41 % \csname caption@hj@#7\endcsname
42 #8%
43 % \captionbox@hrule
44 % #3%
45 {\caption#4{#5}}%
46 }%
47 }%
48 }

```

#### \caption@makecaption

```

49 \long\def\caption@makecaption#1#2{%
50 % \caption@make@above
51 \caption@make{#1}{#2}%
52 % \caption@make@below
53 }
54
55 \AtBeginDocument{
56 \let\@makecaption\caption@makecaption
57 }

```

Appended to look ahead to the next token for \centering, etc:

```

58 \AtBeginDocument{
59 \xapptocmd{\@xfloat}
60 {\LWR@futurenonspacel\LWR@mynexttoken\LWR@floatalignment}
61 {}
62 {\LWR@patcherror{caption}{@xfloat}}
63
64 \xapptocmd{\@xdblfloat}
65 {\LWR@futurenonspacel\LWR@mynexttoken\LWR@floatalignment}
66 {}
67 {\LWR@patcherror{caption}{@xdblfloat}}
68 }

```

Updates for late patches for scrextend:

```

69 \caption@AtBeginDocument{
70 \@ifpackageloaded{lwarp-scrextend}{
71 \LetLtxMacro\captionbelow\caption
72 \LetLtxMacro\captionabove\caption
73 \LetLtxMacro\captionofbelow\captionof
74 \LetLtxMacro\captionofabove\captionof
75 }{}
76 }

```

---

File 69 **lwarp-caption3.sty**

§ 178 Package **caption3**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg caption3 **caption3** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{caption3}[2020/10/21]

```

\caption@@@make {\langle caption label\rangle} {\langle caption text\rangle}

2 \@ifpackagelater{caption3}{2020/08/23}{
3 \renewcommand\caption@@@make[2]{%
4 \LWR@traceinfo{caption@@@make}%

5 \LWR@stoppars% lwarp

6 % \sbox\@tempboxa{#1}%
7 % \ifdim\wd\@tempboxa=\z@
8 % \caption@set{labelseparator}{none}%
9 % \fi
10 \caption@ifempty{#2}{%
11 \caption@set{labelseparator}{none}%
12 \caption@set{textformat}{simple}%
13 }%
14 \caption@labelseparator % defines \caption@iflabelfont,

```

```

15 % \caption@labelsep and \caption@labelsep@name
16 % (the latter is needed by \caption@fmt)
17 %

18 % \@setpar{\@@par\caption@@par}\caption@@par
19 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

20 % \caption@fmt
21 {\ifcaption@star\else
22 \beginingroup
23 \caption@labelfont

24 \LWR@isolate{#1}% lwarp
25 \endgroup
26 \fi}%
27 {\ifcaption@star\else
28 \beginingroup
29 \caption@iflabelfont\caption@labelfont
30 \relax\caption@labelsep
31 \endgroup
32 \fi}%
33 {{\caption@textfont

34 \let\\newline% lwarp
35 %
36 \caption@textstart

37 % \caption@ifstrut
38 % {\vrule\@height\ht\strutbox\@width\z@}%
39 % {}}%
40 % \nobreak\hskip\z@skip % enable hyphenation

41 \LWR@isolate{\caption@textformat{#2}}% lwarp

42 % \caption@ifstrut
43 % {\ifhmode\@finalstrut\strutbox\fi}%
44 % {}}%
45 \caption@textend}}%

46 \LWR@startpars% lwarp
47 \LWR@traceinfo{caption@@@make done}%
48 }
49 }% later than 2020/08/23
50 {% earlier than 2020/08/23
51 \renewcommand\caption@@@make[2]{%
52 \LWR@traceinfo{caption@@@make}%
53 \LWR@stoppars% lwarp
54 % \sbox\@tempboxa{#1}%
55 % \ifdim\wd\@tempboxa=\z@
56 % \let\caption@lsep\relax
57 % \fi
58 \caption@ifempty{#2}{%
59 \let\caption@lsep\@empty
60 \let\caption@tfmt\@firstofone
61 }%
62 % \@setpar{\@@par\caption@@par}\caption@@par
63 \caption@applyfont

```

\caption@fmt with plain format is defined as {#1#2#3\par}:

```

64 % \caption@fmt
65 { \ifcaption@star\else
66 \begingroup
67 \captionlabelfont
68 \LWR@isolate{#1}% lwarp
69 \endgroup
70 \fi}%
71 { \ifcaption@star\else
72 \begingroup
73 \caption@iflf\captionlabelfont
74 \relax
75 \caption@lsep
76 \endgroup
77 \fi}%
78 { {%
79 \captiontextfont
80 \let\\newline% lwarp
81 % \caption@ifstrut
82 % {\vrule\@height\ht\strutbox\@width\z}%
83 % { }%
84 % \nobreak\hskip\z@skip % enable hyphenation
85 \LWR@isolate{\caption@tfmt{#2}}% lwarp
86 % \caption@ifstrut
87 % {\ifhmode\@finalstrut\strutbox\fi}%
88 % { }%
89 }}%
90 \LWR@startpars% lwarp
91 \LWR@traceinfo{caption@@@make done}%
92 }
93 }% earlier than 2020/08/23

```

```

\caption@@make@ {<>} {<>}

94 \renewcommand{\caption@@make@[2]}{%
95 \caption@stepthecounter%
96 \caption@beginhook%
97 \caption@@@make{#1}{#2}%
98 \caption@endhook%
99 }

100 \DeclareCaptionBox{none}{#2}
101 \DeclareCaptionBox{parbox}{%
102 #2%
103 }

104 \DeclareCaptionBox{colorbox}{%
105 #2%
106 }

```

File 70 **lwarp-cases.sty**§ 179 Package **cases**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg cases cases is patched for use by lwarp.

While using MATHJAX, cases objects are converted to svg math images. The MathJax 3.2 cases package does not yet work with lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{cases}[2002/05/02]

2 \BeforeBeginEnvironment{numcases}{
3 \begin{BlockClass}{displaymathnumbered}
4 \LWR@newautoidanchor%
5 \booltrue{LWR@indisplaymathimage}%
6 \begin{lateximage}[-cases- \MathImageAltText]
7 }
8
9 \AfterEndEnvironment{numcases}{
10 \end{lateximage}\end{BlockClass}
11 }
12
13 \BeforeBeginEnvironment{subnumcases}{
14 \begin{BlockClass}{displaymathnumbered}
15 \LWR@newautoidanchor%
16 \booltrue{LWR@indisplaymathimage}%
17 \begin{lateximage}[-cases- \MathImageAltText]
18 }
19
20 \AfterEndEnvironment{subnumcases}{
21 \end{lateximage}\end{BlockClass}
22 }
```

File 71 **lwarp-ccicons.sty**§ 180 Package **ccicons**

(Emulates or patches code by MICHAEL UMMELS.)

Pkg ccicons ccicons is used as SVG images for HTML.

**for HTML output:** Discard all options for lwarp-ccicons:

```

1 \LWR@ProvidesPackagePass{ccicons}[2017/10/30]

2 \newcommand{\LWR@ccicons}[2]{%
```



```

3 {\begin{lateximage}*[#1]\ccicons@font\char#2\end{lateximage}}
4 }
5 \renewcommand{\ccicons@logo}{\LWR@ccicons{ccLogo}{0}}
6 \renewcommand{\ccicons@by}{\LWR@ccicons{ccAttribution}{1}}
7 \renewcommand{\ccicons@sa}{\LWR@ccicons{ccShareALike}{2}}
8 \renewcommand{\ccicons@end}{\LWR@ccicons{ccNoDerivatives}{3}}
9 \renewcommand{\ccicons@nc}{\LWR@ccicons{ccNonCommercial}{4}}
10 \renewcommand{\ccicons@nceu}{\LWR@ccicons{ccNonCommercialEU}{5}}
11 \renewcommand{\ccicons@ncjp}{\LWR@ccicons{ccNonCommercialJP}{6}}
12 \renewcommand{\ccicons@pd}{\LWR@ccicons{ccPublicDomain}{7}}
13 \renewcommand{\ccicons@zero}{\LWR@ccicons{ccZero}{8}}
14 \renewcommand{\ccicons@sampling}{\LWR@ccicons{ccSampling}{9}}
15 \renewcommand{\ccicons@share}{\LWR@ccicons{ccShare}{10}}
16 \renewcommand{\ccicons@remix}{\LWR@ccicons{ccRemix}{11}}
17 \renewcommand{\ccicons@copy}{\LWR@ccicons{ccCopy}{12}}
18 \renewcommand{\ccicons@pdalt}{\LWR@ccicons{ccPublicDomainAlt}{13}}

```

---

#### File 72 **lwarp-centerlastline.sty**

### § 181 Package **centerlastline**

Pkg centerlastline centerlastline is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{centerlastline}[2020/10/12]

2 \providecommand{\centerlastline}{}
3 \def\endcenterlastline{\par}

```

---

#### File 73 **lwarp-centernot.sty**

### § 182 Package **centernot**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg centernot centernot is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{centernot}[2016/05/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{centernot}}
4 \end{warpMathJax}

```

---

#### File 74 **lwarp-changebar.sty**

### § 183 Package **changebar**

Pkg changebar changebar is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{changebar}[2018/03/09]

```

2 \newcommand*\cbstart{}
3 \newcommand*\cbend{}
4 \newenvironment*\changebar{}{}
5 \newcommand*\cbdelete{}
6 \newcommand*\nochnagebars{}
7 \newcommand*\cbccolor[1]{}
8 \newlength\changebarwidth
9 \newlength\deletebarwidth
10 \newlength\changebarsep
11 \newcounter{changebargrey}

```

---

File 75 **lwarp-changelayout.sty**

§ 184 Package **changelayout**

*(Emulates or patches code by AHMED MUSA.)*

Pkg changelayout changelayout is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{changelayout}[2009/10/07]

```

2 \renewrobustcmd\cpl@backtodefaults{}
3
4 \renewrobustcmd\cpl@checkifoddpagelayout{%
5 \cpl@oddpagelayoutfalse%
6 }
7
8 \renewrobustcmd\changepagelayout[1]{%
9 \setkeys[KV]{changelayout}{#1}%
10 }
11
12 \renewrobustcmd{\changetextlayout}[1]{\changepagelayout{#1}}
13
14 \renewrobustcmd\adjustpagelayout[1]{%
15 \setkeys[KV@X]{changelayout}{#1}%
16 }
17
18 \renewrobustcmd{\adjusttextlayout}[1]{\adjustpagelayout{#1}}
19
20 \renewrobustcmd\adjusttextwidth[1]{%
21 \setkeys[KV]{changelayout}{#1}%
22 \begin{BlockClass}[color:\LWR@colorstyle{named}{\cpl@textcolor}]{changelayout}
23 \color{\cpl@textcolor}%
24 \cpl@content
25 \end{BlockClass}
26 }

```

File 76 **lwarp-changepage.sty**

§ 185 Package **changepage**

*(Emulates or patches code by PETER WILSON.)*

Pkg changepage changepage is ignored.

**for HTML output:** Discard all options for lwarp-changepage:

```

1 \LWR@ProvidesPackageDrop{changepage}[2009/10/20]

2 \newif\ifoddpge
3 \DeclareRobustCommand{\checkoddpge}{\oddpge>true}
4 \DeclareRobustCommand{\changetext}[5]{}
5 \DeclareRobustCommand{\changepage}[9]{}
6
7 \@ifundefined{adjustwidth}{
8 \newenvironment{adjustwidth}[2]{}{}
9 \newenvironment{adjustwidth*}[2]{}{}
10 }{
11 \renewenvironment{adjustwidth}[2]{}{}
12 \renewenvironment{adjustwidth*}[2]{}{}
13 }

14 \DeclareDocumentCommand{\strictpagecheck}{}{}
15 \DeclareDocumentCommand{\easypagecheck}{}{}


```

File 77 **lwarp-changes.sty**

§ 186 Package **changes**

*(Emulates or patches code by EKKART KLEINOD.)*

Pkg changes changes is patched for use by lwarp.

 **\comment** Use commandnameprefix=ifneeded to avoid a conflict with the \comment command when using lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{changes}[2021/07/15]

\BaseJobname is added to the label in case xr or xr-hyper are used.

```

2 \renewcommand{\ChangesListline}[4]{%
3 \IfIsInList{#1}{\Changes@loc@show}{%
4 \LWR@startpars%
5 #2: #3 \quad

```

```

6 \nameref{\BaseJobname-autopage-#4}%
7 \LWR@stoppars%
8 }{}%
9 }
10
11 \renewcommand{\listofchanges}[1][\@empty]{%
12 \setkeys{Changes@loc}{#1}%
13 \ifbool{Changes@optiondraft}%
14 {%
15 \IfIsInList{\Changes@loc@style}{list|summary|compactsummary}%
16 }{}%
17 {%
18 \PackageWarning{changes}{Wrong style for list of changes: '\Changes@loc@style', using 'list' instead.}%
19 \def\Changes@loc@style{list}%
20 }%
21 \IfIsEmpty{\Changes@loc@style}%
22 {\def\Changes@loc@style{list}}%
23 }{}%
24 \IfStrEq{\Changes@loc@show}{all}%
25 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
26 }{}%
27 \IfIsInList{\Changes@loc@show}{added|deleted|replaced|highlight|comment}%
28 }{}%
29 {%
30 \PackageWarning{changes}{Wrong show-value for list of changes: '\Changes@loc@show', using 'all' instead.}%
31 \def\Changes@loc@show{}%
32 }%
33 \IfIsEmpty{\Changes@loc@show}%
34 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
35 }{}%
36 \IfIsEmpty{\Changes@loc@title}%
37 {%
38 \IfStrEq{\Changes@loc@style}{list}%
39 {\def\Changes@heading{\listofchangesname}}{}%
40 \IfStrEq{\Changes@loc@style}{summary}%
41 {\def\Changes@heading{\summaryofchangesname}}{}%
42 \IfStrEq{\Changes@loc@style}{compactsummary}%
43 {\def\Changes@heading{\compactsummaryofchangesname}}{}%
44 }%
45 {\def\Changes@heading{\Changes@loc@title}}%
46 \section*{\Changes@heading}
47 \IfIsInList{\Changes@loc@style}{list}%
48 {%
49 \IfFileExists{\jobname.\Changes@loc@extension}%
50 {%
51 \newread\Changes@InFile%
52 \openin\Changes@InFile=\jobname.\Changes@loc@extension%
53 \loop\unless\ifeof\Changes@InFile%
54 \read\Changes@InFile to \Changes@Line%
55 \ifeof\Changes@InFile\else%
56 \Changes@Line%
57 \fi
58 \repeat
59 \closein\Changes@InFile%
60 }{}%

```

```

61 \emph{\changesnocloc}%
62 \PackageWarning{changes}{LaTeX rerun needed for list of changes}%
63 }%
64 }{}%
65 \IfIsInList{\Changes@loc@style}{summary|compactsummary}%
66 {%
67 \IfFileExists{\jobname.\Changes@socextension}%
68 {%
69 \newread\Changes@InFile%
70 \openin\Changes@InFile = \jobname.\Changes@socextension%
71 \loop\unless\ifeof\Changes@InFile%
72 \read\Changes@InFile to \Changes@Line%
73 \ifeof\Changes@InFile\else%
74 \expandafter\changes@chopline\Changes@Line\\%
75 \textbf{%
76 \IfIsColored%
77 {\color{\Changes@Incolor}}%
78 }%
79 \IfIsAnonymous{\Changes@Inid}%
80 {%
81 \LWR@textcurrentcolor{% lwarp
82 \changesauthorname: \changesanonymousname%
83 }% lwarp
84 }%
85 {%
86 \LWR@textcurrentcolor{% lwarp
87 \changesauthorname: \Changes@Inid%
88 }% lwarp
89 \IfIsEmpty{\Changes@Inname}%
90 }%
91 { %
92 \LWR@textcurrentcolor{% lwarp
93 (\Changes@Inname)%
94 }% lwarp
95 }%
96 }%
97 }\\%
98 \numdef{\Changes@InSum}{0}%
99 \renewcommand*{\do}[1]{%
100 \numdef{\Changes@InSum}{\Changes@InSum + \csuse{Changes@In#####1}}%
101 }%
102 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
103 \ifnumcomp{\Changes@InSum}{=}{0}%
104 {%
105 % \parbox{\Changes@summary@width}{% lwarp
106 \changesnochanges%
107 }% lwarp
108 % \[1ex]% lwarp
109 \par% \lwarp
110 }%
111 {%
112 \numdef{\Changes@InCount}{0}%
113 \renewcommand*{\do}[1]{%
114 \numdef{\Changes@InCount}{\Changes@InCount + \csuse{Changes@In#####1}}%
115 \ifboolexpr{%

```

```

116 not test {\IfStrEq{\Changes@loc@style}{compactsummary}} or%
117 test {\ifnumgreater{\csuse{Changes@In#####1}}{0}}%
118 }%
119 {%
120 % \parbox{\Changes@summary@width}{% lwarp
121 \csuse{changes#####1name}~%
122 % \let\cleaders\leaders\dotfill~% lwarp
123 \dotfill~% \lwarp
124 \csuse{Changes@In#####1}%
125 % }% lwarp
126 % \ifnumLess{\Changes@InCount}{\Changes@InSum}% lwarp
127 {\}%
128 % {\[1ex]}% lwarp
129 }%
130 {}%
131 }%
132 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
133 \par% lwarp
134 }%
135 \fi%
136 \repeat
137 \closein\Changes@InFile%
138 }{%
139 \emph{\changesnosoc}%
140 \PackageWarning{changes}{LaTeX rerun needed for summary of changes}%
141 }%
142 }{}%
143 }{}%
144 }
145
146
147 \renewcommand{\Changes@Markup@comment}[3]{%
148 \IfStrEq{\Changes@optioncommentmarkup}{todo}%
149 {%
150 \IfIsColored%
151 {\colorlet{Changes@todocolor}{authorcolor}}%
152 {\colorlet{Changes@todocolor}{black}}%
153 \todo[color=Changes@todocolor!10, bordercolor=Changes@todocolor, linecolor=Changes@todocolor!70, nolist
154]{}%
155 \IfStrEq{\Changes@optioncommentmarkup}{margin}%
156 {%
157 \marginpar{%
158 \IfIsColored%
159 {\leavevmode\color{authorcolor}}%
160 }{}%
161 \LWR@textcurrentcolor{% lwarp
162 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}}:} #1%
163 }% lwarp
164 }%
165 }{}%
166 \IfStrEq{\Changes@optioncommentmarkup}{footnote}%
167 {%
168 \footnote{%
169 \LWR@textcurrentcolor{% lwarp
170 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}}:} #1%

```

```
171 }% lwarp
172 }%
173 }{}%
174 \IfStrEq{\Changes@optioncommentmarkup}{uwave}%
175 {%
176 {%
177 \IfIsColored%
178 {\color{authorcolor}}%
179 }{}%
180 \allowbreak%
181 \uwave{%
182 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}}:} #1%
183 }%
184 }%
185 }{}%
186 }
187
188 \renewrobustcmd{\Changes@output}[7]{%
189 \ifbool{Changes@optiondraft}%
190 {%
191 \Changes@check@author{#2}%
192 \Changes@set@color{#2}%
193 {%
194 \IfIsInList{#1}{added|deleted|replaced|highlight}%
195 {%
196 \IfIsEmpty{#5}%
197 {%
198 \IfIsAuthorEmptyAtPosition{#2}{left}%
199 }{}%
200 }{}%
201 \IfIsColored%
202 {\color{authorcolor}}%
203 }{}%
204 \LWR@textcurrentcolor{% lwarp
205 \Changes@Markup@author{\Changes@output@author@position{#2}{left}}%
206 }% lwarp
207 }}%
208 }{}%
209 {%
210 \IfStrEq{#1}{highlight}%
211 }{}%
212 \IfIsColored%
213 {\color{authorcolor}}%
214 }{}%
215 }%
216 \LWR@textcurrentcolor{% lwarp
217 \IfStrEq{#1}{added}{\Changes@Markup@added{#3}}{}%
218 \IfStrEq{#1}{deleted}{\Changes@Markup@deleted{#4}}{}%
219 \IfStrEq{#1}{replaced}{\Changes@Markup@added{#3}\allowbreak\Changes@Markup@deleted{#4}}{}%
220 \IfStrEq{#1}{highlight}{\Changes@Markup@highlight{#3}}{}%
221 }% lwarp
222 }%
223 \IfIsEmpty{#5}%
224 {%
225 \IfIsAuthorEmptyAtPosition{#2}{right}%
```

```

226 {}%
227 {{%
228 \IfIsColored%
229 {\color{authorcolor}}%
230 {}%
231 \LWR@textcurrentcolor{% lwarp
232 \Changes@Markup@author{\Changes@output@author@position{#2}{right}}%
233 }% lwarp
234 }}%
235 {}%
236 \stepcounter{Changes@#1Count#2}%
237 {}%
238 \IfIsEmpty{#5}%
239 {}%
240 {%
241 \stepcounter{Changes@commentCount#2}%
242 \Changes@set@commentcount{#2}%
243 \Changes@Markup@comment%
244 {#5}%
245 {#2}%
246 {\Changes@output@author{#2}}%
247 }%
248 }%
249 \IfIsEmpty{#2}%
250 {\def\Changes@locid{}}%
251 {\def\Changes@locid{~(##)}}%
252 \addtocontents{\Changes@locextension}{\protect\ChangesListline{#1}{#6\Changes@locid}{#7}{\thepage}}%
253 }%
254 {%
255 \IfIsEmpty{#3}%
256 {\@bsphack\@esphack}%
257 {#3}}%
258 }%
259 }

```

---

File 78 **lwarp-chappg.sty**

§ 187 Package **chappg**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg chappg chappg is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{chappg}[2006/05/09]

2 \renewcommand{\pagenumbering}[2][{}]{
3 \providecommand{\chappgsep}{--}

```



File 79 **lwarp-chapterbib.sty**§ 188 Package **chapterbib**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg chapterbib chapterbib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{chapterbib}[2010/09/18]

2 \xdef\@savedjobname{\BaseJobname}
3 \let\@currentipfile\@savedjobname

```

File 80 **lwarp-chemfig.sty**§ 189 Package **chemfig**

(Emulates or patches code by CHRISTIAN TELLECHEA.)

Pkg chemfig chemfig is patched for use by lwarp.

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```

\begin{lateximage}[-chemfig~\PackageDiagramAltText]
\chemfig{. . .}
\polymerdelim[. . .]{. . .}
\end{lateximage}

```

The images are not hashed because they depend on external settings which may be changed at any time, and are unlikely to be reused inline anyhow.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{chemfig}[2021/02/28]

2 \catcode'_ =11
3
4 \@ifpackagelater{chemfig}{2020/03/05}
5 {
6 \xpretocmd\charge{\begin{lateximage}[-chemfig~\PackageDiagramAltText]}
7 {}{\LWR@patcherror{chemfig}{charge}}
8 \xpretocmd\Charge{\begin{lateximage}[-chemfig~\PackageDiagramAltText]}
9 {}{\LWR@patcherror{chemfig}{Charge}}
10 \xapptocmd\charge_c{\end{lateximage}}
11 {}{\LWR@patcherror{chemfig}{charge_c}}
12 }{}
13
14 \@ifpackagelater{chemfig}{2019/04/18}%
15 {% 2019/04/18 or newer

```

```

16 \xpretocmd{\CF_chemfiga}
17 {\begin{lateximage}[-chemfig--\PackageDiagramAltText]}
18 {}{\LWR@patcherror{chemfig}{CF_chemfiga}}
19
20 \xpatchcmd{\CF_chemfigb}
21 {\let\CF_flipstate\CF_zero}
22 {\end{lateximage}\let\CF_flipstate\CF_zero}
23 {}{\LWR@patcherror{chemfig}{CF_chemfigb}}
24
25 \GlobalLetLtxMacro\LWR@chemfig@origCF_lewisc\CF_lewisc
26 \gdef\CF_lewisc#1,#2_nil{%
27 \begin{lateximage}[-chemfig--\PackageDiagramAltText]%
28 \LWR@chemfig@origCF_lewisc#1,#2_nil
29 \end{lateximage}
30 }
31
32 \gpreto{\schemestart}{%
33 \begin{lateximage}[-chemfig--\PackageDiagramAltText]%
34 }
35 \gappto{\CF_schemestop}{\end{lateximage}}
36
37 }% 2019/04/18 or newer
38 {% older than 2019/04/18
39
40 \LetLtxMacro\LWR@chemfig@origchemfig\chemfig
41
42 \DeclareDocumentCommand\chemfig{s O{} O{} m}{%
43 \begin{lateximage}[-chemfig--\PackageDiagramAltText]%
44 \IfBooleanTF{#1}{%
45 \LWR@chemfig@origchemfig*[#2][#3]{#4}%
46 }{%
47 \LWR@chemfig@origchemfig[#2][#3]{#4}%
48 }
49 \end{lateximage}%
50 }
51
52 \LetLtxMacro\LWR@chemfig@origCF@lewis@b\CF@lewis@b
53
54 \def\CF@lewis@b#1#2{%
55 \begin{lateximage}[-chemfig--\PackageDiagramAltText]%
56 \LWR@chemfig@origCF@lewis@b{#1}{#2}%
57 \end{lateximage}%
58 }
59
60 \preto{\schemestart}{%
61 \begin{lateximage}[-chemfig--\PackageDiagramAltText]%
62 }
63 \appto{\CF@schemestop}{\end{lateximage}}
64
65 }% older than 2019/04/18
66
67 \catcode'_ =8%
68
69
70

```

```

71 \LetLtxMacro\LWR@chemfig@origchemleft\chemleft
72
73 \def\chemleft#1#2\chemright#3{%
74 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
75 \LWR@chemfig@origchemleft#1#2\chemright#3%
76 \end{lateximage}%
77 }
78
79 \LetLtxMacro\LWR@chemfig@origchemup\chemup
80
81 \def\chemup#1#2\chemdown#3{%
82 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
83 \LWR@chemfig@origchemup#1#2\chemdown#3%
84 \end{lateximage}%
85 }

```

---


File 81 **lwarp-chemformula.sty**

§ 190 Package **chemformula**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemformula chemformula is patched for use by lwarp.

The SVG images are hashed according to contents and local options. Global options are assumed to be constant document-wide.

 **chemformula with MATHJAX** chemformula works best without MATHJAX. If MATHJAX is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The chemformula package adapts to array, but does not know about MATHJAX, and MATHJAX does not know about chemformula.)

While using MATHJAX, `\displaymathother` may also be used for other forms of display and inline math which contain chemformula expressions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemformula}[2019/10/13]

2 \ExplSyntaxOn

`\ch` Enclose in an inline SVG image or MATHJAX. The `alt` tag is the contents of the `\ch` expression. The filename is hashed, and also has additional hashing information based on the local options.

```

3 \RenewDocumentCommand \ch { O{m} }
4 {%

```

To work inside `align` with `\displaymathother`, a simple version must be used to work with chemformula's adaptation to `align`.

```

5 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
6 {
7 \chemformula_ch:nn {#1} {#2}% original
8 }

```

If used as the outer level, must temporarily ensure MATHJAX is disabled:

```

9 {
10 \begingroup%
11 \boolfalse{mathjax}%

```

An inline image is used, adjusted for the baseline:

```

12 \LWR@subsingledollar*{% lwarp
13 \textbackslash{}ch{\LWR@HTMLsanitize{#2}\}% alt text
14 }{%
15 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}% add'l hashing
16 }%
17 {%
18 \chemformula_ch:nn {#1} {#2}% original
19 }%
20 \endgroup%
21 }
22 }

```

`\chcpd` Similar to `\ch`.

```

23 \@ifpackagelater{chemformula}{2019/10/13}{
24 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
25 {
26 \begingroup%
27 \boolfalse{mathjax}%
28 \LWR@subsingledollar*{% lwarp
29 \textbackslash{}chcpd{\LWR@HTMLsanitize{#2}\}%
30 }{%
31 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
32 }{% original
33 \group_begin:
34 \tl_if_blank:nF {#2}
35 {
36 \keys_set:nn {chemformula} {#1}
37 __chemformula_save_catcodes:
38 __chemformula_sanitize:Nn
39 \l__chemformula_chemformula_tmpa_tl
40 {#2}
41 __chemformula_input_compound_no_check:Nv
42 \l__chemformula_compound_tl
43 \l__chemformula_chemformula_tmpa_tl
44 __chemformula_prepare_output:Nv
45 \l__chemformula_compound_tl
46 \l__chemformula_catcodes_tl
47 \chemformula_write:V \l__chemformula_compound_tl
48 }
49 \group_end:
50 }
51 \endgroup
52 }
53 }% later than 2019/10/13
54 {% earlier than 2019/10/13
55 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
56 {
57 \begingroup%

```

```

58 \boolfalse{mathjax}%
59 \LWR@subsingledollar*{% lwarp
60 \textbackslash{}chcpd\{\LWR@HTMLsanitize{#2}\}%
61 }{%
62 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
63 }{% original
64 \group_begin:
65 \tl_if_blank:nF {#2}
66 {
67 \keys_set:nn {chemformula} {#1}
68 __chemformula_save_catcodes:
69 __chemformula_sanitize:Nn
70 \l__chemformula_chemformula_tmpa_tl
71 {#2}
72 __chemformula_input_compound_no_check:Nv
73 \l__chemformula_compound_tl
74 \l__chemformula_chemformula_tmpa_tl
75 __chemformula_prepare_output:N \l__chemformula_compound_tl
76 \chemformula_write:V \l__chemformula_compound_tl
77 }
78 \group_end:
79 }
80 \endgroup
81 }
82 }% earlier than 2019/10/13

```

`\charrow` If standalone, appears in a regular `lateximage`.

```

83 \RenewDocumentCommand \charrow { m0{}0{} }
84 {
85 \begin{lateximage}[-chemformula- charrow]
86 \group_begin:
87 __chemformula_draw_arrow:nnn {#1} {#2} {#3}
88 \group_end:
89 \end{lateximage}
90 }

```

`\chname` If standalone, appears in a regular `lateximage`, hashed according to contents.

```

91 \RenewDocumentCommand \chname { R(){}R(){} }
92 {
93 \begin{lateximage}*[%
94 \textbackslash{}chname(\LWR@HTMLsanitize{#1})(\LWR@HTMLsanitize{#2})
95]*%
96 \chemformula_chwritebelow:nn {#1} {#2}
97 \end{lateximage}
98 }

```

`\chlewis` Placed inline, hashed according to contents and options.

```

99 \RenewDocumentCommand \chlewis { O{}mm }
100 {
101 \begingroup%
102 \boolfalse{mathjax}%
103 \LWR@subsingledollar*{\textbackslash{}chlewis\{#2\}\{#3\}}%

```

```

104 {
105 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
106 }{
107 \chemformula_lewis:nnn {#1} {#2} {#3}
108 }
109 \endgroup%
110 }

```

lwarp redefines the \$ character, so special handling is required to escape math expressions inside \ch.

This boolean tracks a new kind of escaped math:

```
111 \bool_new:N \l__chemformula_first_last_LWRdollar_bool
```

\chemformula\_input\_escape\_math

Adds additional escaping for the new dollar definition:

```

112 \cs_gset_protected:Npn __chemformula_input_escape_math:n #1
113 {
114 __chemformula_first_last_math:n {#1}
115 \bool_if:NT \l__chemformula_first_last_dollar_bool
116 {
117 \bool_set_true:N \l__chemformula_first_last_math_bool
118 __chemformula_read_escape_dollar:w #1 \q_nil
119 }
120 \bool_if:NT \l__chemformula_first_last_mathbraces_bool
121 {
122 \bool_set_true:N \l__chemformula_first_last_math_bool
123 __chemformula_read_escape_mathbraces:w #1 \q_nil
124 }

```

Added by lwarp:

```

125 \bool_if:NT \l__chemformula_first_last_LWRdollar_bool% lwarp
126 {
127 \bool_set_true:N \l__chemformula_first_last_math_bool% lwarp
128 __chemformula_read_escape_LWRdollar:w #1 \q_nil% lwarp
129 }
130 }

```

\chemformula\_read\_escape\_LWRdollar

The following parses the contents inside the new dollars.

lwarp keeps the dollar as its original math shift until the document starts. While chemmacros is being patched, the dollar must temporarily be set to its new meaning during the following definition.

```

131 \begingroup
132 \catcode'\$=\active
133
134 \cs_new_protected:Npn __chemformula_read_escape_LWRdollar:w $#1$ \q_nil
135 {

```

```

136 __chemformula_read_escape_math:n {#1}
137 }
138
139 \endgroup

```

`\chemformula_bool_set_if_first_last`

The following looks at the first and last tokens for delimiters to escape math inside `\ch`. The original definition is modified to look for the control sequences which are used by the new meaning of `$`.

```

140 \cs_new_protected:Npn __chemformula_bool_cs_set_if_first_last:NnNN #1#2#3#4
141 {
142 \int_zero:N \l__chemformula_tmpa_int
143 \int_zero:N \l__chemformula_tmpb_int
144 \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
145 \tl_map_inline:nn {#2}
146 {
147 \int_incr:N \l__chemformula_tmpb_int
148 \int_compare:nT { \l__chemformula_tmpb_int = 1 }
149 {

```

At the start, the `cs_` version compares control sequences:

```

150 \ifdefstrequal{##1}{#3}% lwarp
151 {
152 \bool_set_true:N #1
153 }% lwarp
154 {}
155 }

```

At the end, compare more control sequences:

```

156 \int_compare:nT { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
157 {
158 \ifdefstrequal{##1}{#4}
159 {}
160 {
161 \bool_set_false:N #1
162 }
163 }
164 }
165 }

```

`\chemformula_first_last_math`

Modified to check for the new meaning of `$` at first/last:

```

166 \cs_gset_protected:Npn __chemformula_first_last_math:n #1
167 {
168 \bool_set_false:N \l__chemformula_first_last_math_bool
169 \bool_set_false:N \l__chemformula_first_last_dollar_bool
170 \bool_set_false:N \l__chemformula_first_last_LWRdollar_bool% lwarp
171 \bool_set_false:N \l__chemformula_first_last_mathbraces_bool
172 __chemformula_bool_set_if_first_last:Nnnn
173 \l__chemformula_first_last_dollar_bool

```

```

174 {#1}
175 { $ } { $ }
176 \bool_if:NF \l__chemformula_first_last_dollar_bool
177 {
178 __chemformula_bool_set_if_first_last:Nnnn
179 \l__chemformula_first_last_mathbraces_bool
180 {#1}
181 { \ (} { \) }

```

Added by lwarp:

```

182 \bool_if:NF \l__chemformula_first_last_mathbraces_bool% lwarp
183 {
184 __chemformula_bool_cs_set_if_first_last:NnnN
185 \l__chemformula_first_last_LWRdollar_bool
186 {#1}
187 { \LWR@newsingledollar } { \LWR@newsingledollar }
188 }% lwarp
189 }
190 }

191 \ExplSyntaxOff

```


---


File 82 **lwarp-chemgreek.sty**

§ 191 Package **chemgreek**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemgreek chemgreek is patched for use by lwarp.

 **Greek symbols package selection** To use text-mode symbols, use packages `textalpha` or `textgreek`. Using the other packages supported by `chemgreek` will result in math-mode greek characters, which will result in svg images being used. These images will be hashed.

 **X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X, Lua<sup>A</sup>T<sub>E</sub>X** If using X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or Lua<sup>A</sup>T<sub>E</sub>X, select the fontspec mapping:

```
\selectchemgreekmapping{fontspec}
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemgreek}[2020/01/16]

```

2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemgreek_text:n #1
5 { { \text {#1} } }
6
7 \appto\LWR@restoreorigformatting{%
8 \cs_set_protected:Npn \chemgreek_text:n #1%
9 { \ensuremath { \text {#1} } }%
10 }
11
12 \ExplSyntaxOff

```



File 83 **lwarp-chemmacros.sty**§ 192 Package **chemmacros**


(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemmacros chemmacros is patched for use by lwarp.


**for HTML output:** 1 \LWR@ProvidesPackagePass{chemmacros}[2017/08/28]

svg file hashing assumes that the relevant options are constant for the entire document.

§ 192.1 **Changes to the user's document**

 **\makepolymerdelims** When using `\makepolymerdelims`, enclose the entire expression inside a `polymerdelims` environment, such as (from the `chemmacros` manual):

```
\begin{polymerdelims}
\chemfig{-[@{op,.75}]CH_2-CH(-[6]Cl)-[@{cl,0.25}]}
\makepolymerdelims{5pt}[27pt]{op}{cl}
\end{polymerdelims}
```

 **redox reactions** Redox reactions must be enclosed inside a `redoxreaction` environment. For print output, extra space must be included above and/or below the result, so they are declared as arguments to the environment, instead of being manually entered as per the `chemmacros` manual. For HTML output, the extra space is ignored and a `lateximage` is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\OX{a,Na} \rightarrow \OX{b,Na}\pch\redox(a,b){oxidation}
\end{redoxreaction}
```

§ 192.2 **Code**§ 192.3 **Loading modules**

Patching `chemmacros` modules must be done `\AtBeginDocument`, since modules are invoked by the user in the preamble, and each patch is only done if the module is loaded.

```
2 \ExplSyntaxOn
3
4 \newcommand{\@ifchemmacrosmoduleloaded}[1]{%
5 \ifl@aded{\c__chemmacros_module_extension_tl}{\c__chemmacros_module_prefix_tl.#1}%
6 }
7
8 \ExplSyntaxOff
```

## § 192.4 New environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in HTML mode, and in the `lwarp` core in print mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

Env `polymerdelims`

```
9 \DeclareDocumentEnvironment{polymerdelims}{}
10 {\begin{lateximage}[-chemmacros- polymer]}
11 {\end{lateximage}}
```

Env `redoxreaction`  $\{\langle space\ above\rangle\} \{\langle space\ below\rangle\}$

For HTML output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section 90.

```
12 \DeclareDocumentEnvironment{redoxreaction}{m m}
13 {\begin{lateximage}[-chemmacros- redoxreaction]}
14 {\end{lateximage}}
```

```
15 \ExplSyntaxOn
```

## § 192.5 Acid-base

```
16 \AtBeginDocument{
17 \ifchemmacrosmoduleloaded{acid-base}{
18 \PackageInfo{lwarp}{Patching~chemmacros~module~acid-base}
19
20 \cs_gset_protected:Npn \chemmacros_p:n #1
21 {
22 \begingroup
23 \boolfalse{mathjax}
24 \LWR@subsingledollar*{
25 \textbackslash}p{\LWR@HTMLsanitize{#1}\}
26 }{
27 chemmacrosp\protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
28 }{
29 \group_begin:
30 \mbox
31 {
32 \chemmacros_p_style:n {p}
33 \ensuremath {#1}
34 }
35 \group_end:
36 }
37 \endgroup
38 }
39
40 \RenewDocumentCommand \pH {} {
41 \begingroup
42 \boolfalse{mathjax}
43 \LWR@subsingledollar*{\textbackslash}pH}{chemmacros}{
44 \chemmacros_p:n { \chemmacros_chemformula:n {H} }
```

```

45 }
46 \endgroup
47 }
48
49 \RenewDocumentCommand \pOH {} {
50 \begingroup
51 \boolfalse{mathjax}
52 \LWR@subsingledollar*{\textbackslash}pOH}{chemmacros}{
53 \chemmacros_p:n { \chemmacros_chemformula:n {OH} }
54 }
55 \endgroup
56 }
57
58 \RenewDocumentCommand \pKa {O{}}
59 {
60 \begingroup
61 \boolfalse{mathjax}
62 \LWR@subsingledollar*{\textbackslash}pKa{[]#1[]}{chemmacros #1}{
63 \chemmacros_p:n
64 {
65 \Ka \ifblank {#1} {}
66 { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
67 }
68 }
69 \endgroup
70 }
71
72 \RenewDocumentCommand \pKb {O{}}
73 {
74 \begingroup
75 \boolfalse{mathjax}
76 \LWR@subsingledollar*{\textbackslash}pKb{[]#1[]}{chemmacros #1}{
77 \chemmacros_p:n
78 {
79 \Kb \ifblank {#1} {}
80 { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
81 }
82 }
83 \endgroup
84 }
85
86 \LetLtxMacro\LWR@chemmacros@origKa\Ka
87 \renewcommand*{\Ka}{%
88 \begingroup
89 \boolfalse{mathjax}
90 \LWR@subsingledollar*{\textbackslash}Ka}{chemmacros}{%
91 \LWR@chemmacros@origKa%
92 }%
93 \endgroup
94 }
95
96 \LetLtxMacro\LWR@chemmacros@origKb\Kb
97 \renewcommand*{\Kb}{%
98 \begingroup
99 \boolfalse{mathjax}

```

```

100 \LWR@subsingledollar*{\textbackslash}Kb}{chemmacros}{%
101 \LWR@chemmacros@origKb%
102 }%
103 \endgroup
104 }
105
106 \LetLtxMacro\LWR@chemmacros@origKw\Kw
107 \renewcommand*{\Kw}{%
108 \begingroup
109 \boolfalse{mathjax}
110 \LWR@subsingledollar*{\textbackslash}Kw}{chemmacros}{
111 \LWR@chemmacros@origKw
112 }
113 \endgroup
114 }
115
116 }{}% \@ifchemmacrosmoduleloaded
117 }% AtBeginDocument

```

## § 192.6 Charges

```

118 \AtBeginDocument{
119 \@ifchemmacrosmoduleloaded{charges}{
120 \PackageInfo{lwarp}{Patching~chemmacros~module~charges}
121 }
122 \cs_gset_protected:Npn \fplus {
123 \begingroup
124 \boolfalse{mathjax}
125 \LWR@subsingledollar*{\textbackslash}fplus}{chemmacros}
126 { \LWR@origensuredmath{\chemformula_fplus:} }
127 \endgroup
128 }
129 \cs_gset_protected:Npn \fminus {
130 \begingroup
131 \boolfalse{mathjax}
132 \LWR@subsingledollar*{\textbackslash}fminus}{chemmacros}
133 { \LWR@origensuredmath{\chemformula_fminus:} }
134 \endgroup
135 }
136
137 }{}% \@ifchemmacrosmoduleloaded
138 }% AtBeginDocument

```

## § 192.7 Nomenclature

```

139 \AtBeginDocument{
140 \@ifchemmacrosmoduleloaded{nomenclature}{
141 \PackageInfo{lwarp}{Patching~chemmacros~module~nomenclature}
142 }
143 \cs_gset_protected:Npn \chemmacros_charge:n #1
144 {
145 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
146 {\chemmacros_chemformula:n { }^{#1} }}
147 {
148 \ifmmode

```

```

149 {\chemmacros_chemformula:n { }^{#1} }}
150 \else
151 { \textsuperscript{\ensuremath{#1}} }
152 \fi
153 }
154 }
155
156
157 \LetLtxMacro\LWR@chemmacros@origchemprime\chemprime
158
159 \protected\def\chemprime { \HTMLUnicode{2032} }
160
161 \appto\LWR@restoreorigformatting{%
162 \LetLtxMacro\chemprime\LWR@chemmacros@origchemprime%
163 }

164 \ChemCompatibilityFrom{5.8}
165 \cs_gset_protected:Npn __chemmacros_cip:n #1
166 {
167 \tl_set:Nn \l__chemmacros_tmpa_tl {#1}
168 \int_step_inline:nnnn {0} {1} {9}
169 {
170 \tl_replace_all:Nnn \l__chemmacros_tmpa_tl
171 {##1}
172 { { \l__chemmacros_cip_number_tl ##1} }
173 }
174 {
175 \l__chemmacros_cip_inner_tl
176 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
177 \l__chemmacros_tmpa_tl
178 }}% lwarp
179 }
180 }
181 \EndChemCompatibility

182 \RenewDocumentCommand \Sconf { O{S} } {
183 \begin{lateximage}[\textbackslash{}Sconf{[#1]}]*
184 \chemmacros_sconf:n {#1}
185 \end{lateximage}
186 }
187
188 \RenewDocumentCommand \Rconf { O{R} } {
189 \begin{lateximage}[\textbackslash{}Rconf{[#1]}]*
190 \chemmacros_rconf:n {#1}
191 \end{lateximage}
192 }

193 \cs_gset_protected:Npn \chemmacros_hapto:n #1
194 {
195 \begingroup
196 \boolfalse{mathjax}
197 \LWR@subsingledollar*\textbackslash{}hapto\{#1\}\{chemmacros}{
198 \chemmacros_coordination_symbol:nnnn
199 { \l__chemmacros_coord_use_hyphen_bool }
200 {
201 \chemmacros_if_compatibility:nnTF {>} {5.7}

```

```

202 { \c_true_bool }
203 { \c_false_bool }
204 }
205 { \chemeta }
206 {#1}
207 }
208 \endgroup
209 }
210
211 \cs_gset_protected:Npn \chemmacros_dento:n #1
212 {
213 \begingroup
214 \boolfalse{mathjax}
215 \LWR@subsingledollar*{\textbackslash}dento\{#1\}\{chemmacros}\{
216 \chemmacros_coordination_symbol:nnnn
217 { \l__chemmacros_coord_use_hyphen_bool }
218 {
219 \chemmacros_if_compatibility:nnTF {>} {5.7}
220 { \c_true_bool }
221 { \c_false_bool }
222 }
223 { \chemkappa }
224 {#1}
225 }
226 \endgroup
227 }
228
229 \cs_gset_protected:Npn \chemmacros_bridge:n #1
230 {
231 \begingroup
232 \boolfalse{mathjax}
233 \LWR@subsingledollar*{\textbackslash}bridge\{#1\}\{chemmacros}\{
234 \chemmacros_coordination_symbol:nnnn
235 { \l__chemmacros_coord_use_hyphen_bool }
236 { \l__chemmacros_bridge_super_bool }
237 { \chemmu }
238 {#1}
239 }
240 \endgroup
241 }
242 }{\}% \ifchemmacrosmoduleloaded
243 }% AtBeginDocument

```

## § 192.8 Particles

```

244 \AtBeginDocument{
245 \ifchemmacrosmoduleloaded{particles}{
246 \PackageInfo{lwarp}{Patching~chemmacros~module~particles}
247
248 \cs_gset_protected:Npn \chemmacros_declare_nucleophile:Nn #1#2
249 {
250 \cs_set_protected:cpn {__chemmacros_ \chemmacros_remove_backslash:N #1:}
251 {
252 \bool_if:NTF \l__chemmacros_nucleophile_elpair_bool
253 {
254 \chemmacros_elpair:n { #2 }

```

```

255 \chemmacros_if_compatibility:nnT {>=} {5.3}
256 { \skip_horizontal:N \l__chemmacros_nucleophile_dim }
257 \chemmacros_chemformula:n { #1 }
258 }
259 { \chemmacros_chemformula:n { #2 } }
260 }
261 \DeclareDocumentCommand #1 {o}
262 {%
263 \begin{lateximage}%
264 \group_begin:%
265 \IfNoValueF {##1}%
266 { \chemmacros_set_keys:nn {particles} {##1} }%
267 \use:c {__chemmacros_ \chemmacros_remove_backslash:N #1:}%
268 \group_end:%
269 \end{lateximage}%
270 }
271 }
272
273 \RenewChemNucleophile \Nuc {Nu}
274 \RenewChemNucleophile \ba {ba}
275
276 }{}% \@ifchemmacrosmoduleloaded
277 }% AtBeginDocument

```

## § 192.9 Phases

```

278 \AtBeginDocument{
279 \@ifchemmacrosmoduleloaded{phases}{
280 \PackageInfo{lwarp}{Patching~chemmacros~module~phases}
281
282 \cs_undefine:N \chemmacros_phase:n
283 \cs_new_protected:Npn \chemmacros_phase:n #1
284 {
285 \mode_leave_vertical:
286
287 \bool_if:NTF \l__chemmacros_phases_sub_bool
288 {
289 {
290 \textsubscript{ (#1) }
291 }
292 {
293 \chemformula_subscript:n { (#1) }
294 }
295 }
296 {
297 \skip_horizontal:N \l__chemmacros_phases_space_dim
298 \chemmacros_text:n { (#1) }
299 }
300 }
301
302 }{}% \@ifchemmacrosmoduleloaded
303 }% AtBeginDocument

```

## § 192.10 Mechanisms

```

304 \AtBeginDocument{
305 \@ifchemmacrosmoduleloaded{mechanisms}{
306 \PackageInfo{lwarp}{Patching~chemmacros~module~mechanisms}
307
308 \chemmacros_define_keys:nn {textmechanisms}
309 {
310 type .choice: ,
311 type / .code:n =
312 {
313 __chemmacros_set_mechanisms:nnn { S }
314 {
315 \textsubscript{N}
316 }
317 { }
318 } ,
319 type / 1 .code:n =
320 {
321 __chemmacros_set_mechanisms:nnn { S }
322 {
323 \textsubscript{N}
324 1
325 }
326 { }
327 } ,
328 type / 2 .code:n =
329 {
330 __chemmacros_set_mechanisms:nnn { S }
331 {
332 \textsubscript{N}
333 2
334 }
335 { }
336 } ,
337 type / se .code:n =
338 {
339 __chemmacros_set_mechanisms:nnn { S }
340 {
341 \textsubscript{E}
342 }
343 { }
344 } ,
345 type / 1e .code:n =
346 {
347 __chemmacros_set_mechanisms:nnn { S }
348 {
349 \textsubscript{E}
350 1
351 }
352 { }
353 } ,
354 type / 2e .code:n =
355 {
356 __chemmacros_set_mechanisms:nnn { S }
357 {

```



```

358 \textsubscript{E}
359 2
360 }
361 { }
362 },
363 type / ar .code:n =
364 {
365 __chemmacros_set_mechanisms:nnn { S }
366 {
367 \textsubscript{E}
368 }
369 { Ar - }
370 },
371 type / e .code:n =
372 { __chemmacros_set_mechanisms:nnn { E } { } { } },
373 type / e1 .code:n =
374 { __chemmacros_set_mechanisms:nnn { E } { 1 } { } },
375 type / e2 .code:n =
376 { __chemmacros_set_mechanisms:nnn { E } { 2 } { } },
377 type / cb .code:n =
378 {
379 __chemmacros_set_mechanisms:nnn { E }
380 {
381 1
382 \textsubscript{cb}
383 }
384 { }
385 },
386 type .default:n =
387 }
388
389 \cs_gset_protected:Npn \chemmacros_mechanisms:n #1
390 {
391 \tl_if_blank:nTF {#1}
392 { \chemmacros_set_keys:nn {textmechanisms} { type } }
393 { \chemmacros_set_keys:nn {textmechanisms} { type = #1 } }
394 \mbox
395 {
396 \tl_use:N \l__chemmacros_mechanisms_ar_tl
397 \tl_use:N \l__chemmacros_mechanisms_type_tl
398 \tl_use:N \l__chemmacros_mechanisms_mol_tl
399 }
400 }
401
402 \appto\LWR@restoreorigformatting%
403 \cs_set_protected:Npn \chemmacros_mechanisms:n #1%
404 {%
405 \tl_if_blank:nTF {#1}%
406 { \chemmacros_set_keys:nn {mechanisms} { type } }%
407 { \chemmacros_set_keys:nn {mechanisms} { type = #1 } }%
408 \mbox%
409 {%
410 \tl_use:N \l__chemmacros_mechanisms_ar_tl%
411 \tl_use:N \l__chemmacros_mechanisms_type_tl%
412 \tl_use:N \l__chemmacros_mechanisms_mol_tl%

```

```

413 }%
414 }%
415 }
416
417 }{}% \@ifchemmacrosmoduleloaded
418 }% AtBeginDocument

```

### § 192.11 Newman

```

419 \AtBeginDocument{
420 \@ifchemmacrosmoduleloaded{newman}{
421 \PackageInfo{lwarp}{Patching~chemmacros~module~newman}
422
423 \RenewDocumentCommand \newman {od()}m%
424 {
425 \IfValueTF{#2}
426 {\begin{lateximage}[\textbackslash}newman{#2}\{#3\}*}
427 {\begin{lateximage}[\textbackslash}newman\{#3\}*}
428 \group_begin:
429 \IfNoValueF {#1} { \chemmacros_set_keys:nn {newman} {#1} }
430 \IfNoValueTF {#2}
431 { \chemmacros_newman:nn { } {#3} }
432 { \chemmacros_newman:nn {#2} {#3} }
433 \group_end:
434 \end{lateximage}
435 }%
436
437 }{}% \@ifchemmacrosmoduleloaded
438 }% AtBeginDocument

```

### § 192.12 Orbital

```

439 \AtBeginDocument{
440 \@ifchemmacrosmoduleloaded{orbital}{
441 \PackageInfo{lwarp}{Patching~chemmacros~module~orbital}
442
443 \RenewDocumentCommand \orbital {om}
444 {
445 \IfValueTF{#1}
446 {
447 \begin{lateximage}[%
448 \textbackslash}orbital{[]\LWR@HTMLSanitize{#1}}\{#2\}%
449]*[[margin-left: 1em ; margin-right: 1em]
450 }
451 {
452 \begin{lateximage}[%
453 \textbackslash}orbital\{#2\}%
454]*[[margin-left: 1em ; margin-right: 1em]
455 }
456 \group_begin:
457 \chemmacros_set_keys:nn {orbital/type} {#2}
458 \IfNoValueTF {#1}
459 { \chemmacros_orbital:n { } }
460 { \chemmacros_orbital:n {#1} }
461 \group_end:

```

```

462 \end{lateximage}
463 }
464
465 }{}% \@ifchemmacrosmoduleloaded
466 }% AtBeginDocument

```

### § 192.13 Reactions

```

\chemmacros_declare_reaction_env {<chem>} {<math>} {<args number>} {<argument list ({#2}{#3}...)}

467 \AtBeginDocument{
468 \@ifchemmacrosmoduleloaded{reactions}{
469 \PackageInfo{lwarp}{Patching~chemmacros~module~reactions}
470
471 \cs_gset_protected:Npn \chemmacros_declare_reaction_env:nnnn #1#2#3#4
472 {
473 \exp_args:Nnx \DeclareDocumentEnvironment {#1} { 0{ } \prg_replicate:nn {#3+0} {m} }
474 {
475 \boolfalse{mathjax}% lwarp
476 \ifdefvoid{\LWR@ThisAltText}{% lwarp
477 \ThisAltText{-chemmacros~reaction}% lwarp
478 }{}% lwarp
479 \chemmacros_add_reaction_description:n {##1}
480 __chemmacros_begin_reaction:
481 \chemmacros_reaction_read:nnw {#2} {#4}
482 }
483 {
484 __chemmacros_end_reaction:
485 \gdef\LWR@ThisAltText{}% lwarp
486 }
487 }
488 \cs_generate_variant:Nn \chemmacros_declare_reaction_env:nnnn {nnnV}
489
490 \RenewChemReaction {reaction} {equation}
491 \RenewChemReaction {reaction*} {equation*}
492 \RenewChemReaction {reactions} {align}
493 \RenewChemReaction {reactions*} {align*}
494
495 }{}% \@ifchemmacrosmoduleloaded
496 }% AtBeginDocument

```

### § 192.14 Redox

```

497 \AtBeginDocument{
498 \@ifchemmacrosmoduleloaded{redox}{
499 \PackageInfo{lwarp}{Patching~chemmacros~module~redox}
500
501 \NewDocumentCommand \LWR@chemmacros@ox { s m >{\SplitArgument{1}{,}}m }
502 {
503 \IfBooleanTF {#1}
504 { \chemmacros_ox:nnnn {#1} {#2} #3 }
505 { \chemmacros_ox:nnnn { } {#2} #3 }
506 }
507
508 \RenewDocumentCommand \ox { s 0{ } m }

```

```

509 {
510 \begingroup
511 \boolfalse{mathjax}
512 \IfBooleanTF {#1}
513 {
514 \LWR@subsingledollar*{% yes hash
515 \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}% alt
516 }{%
517 star \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}%
518 }{%
519 \LWR@chemmacros@ox* {#2} {#3}% contents
520 }%
521 }
522 {
523 \LWR@subsingledollar*{% yes hash
524 \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}% alt
525 }{%
526 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}%
527 }{%
528 \LWR@chemmacros@ox {#2} {#3}% contents
529 }%
530 }
531 \endgroup
532 }
533
534 }{}% \@ifchemmacrosmoduleloaded
535 }% AtBeginDocument

```

### § 192.15 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

536 \AtBeginDocument{
537 \@ifchemmacrosmoduleloaded{scheme}{
538 \PackageInfo{lwarp}{Patching~chemmacros~module~scheme}
539
540 \ifdefstring{\schemename}{los}{
541 \SetupFloatingEnvironment{scheme}{
542 name = \chemmacros_translate:n {scheme-name}
543 }
544 }{}
545
546 }{}% \@ifchemmacrosmoduleloaded
547 }% AtBeginDocument

```

## § 192.16 Spectroscopy

```

548 \AtBeginDocument{
549 \@ifchemmacrosmoduleloaded{spectroscopy}{
550 \PackageInfo{lwarp}{Patching~chemmacros~module~spectroscopy}
551
552 \ChemCompatibilityTo{5.8}
553 \cs_gset_protected:Npn __chemmacros_nmr_base:nn #1#2
554 {
555 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
556 {
557 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
558 \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
559 }
560 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
561 % \chemmacros_chemformula:n { ^{#1} }
562 #1
563 \bool_if:NTF \l__chemmacros_nmr_parse_bool
564 { \chemformula_ch:nV {} } \g__chemmacros_nmr_element_coupled_tl }
565 { \chemmacros_chemformula:V \g__chemmacros_nmr_element_coupled_tl }
566 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
567 \tl_use:N \l__chemmacros_nmr_method_tl
568 }
569 \EndChemCompatibility
570 \ChemCompatibilityFrom{5.8}
571 \cs_gset_protected:Npn __chemmacros_nmr_base:nn #1#2
572 {
573 \group_begin:
574 \tl_use:N \l__chemmacros_nmr_base_format_tl
575 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
576 {
577 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
578 \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
579 }
580 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
581 % \chemmacros_chemformula:n { ^{#1} }
582 #1
583 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
584 {
585 \bool_if:NTF \l__chemmacros_nmr_parse_bool
586 { \chemformula_ch:nV {} } \g__chemmacros_nmr_element_coupled_tl }
587 { \chemmacros_chemformula:V \g__chemmacros_nmr_element_coupled_tl }
588 }
589 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
590 \tl_use:N \l__chemmacros_nmr_method_tl
591 \group_end:
592 }
593 \EndChemCompatibility
594
595
596 \cs_gset_protected:Npn \chemmacros_nmr_position:n #1
597 {
598 \chemmacros_chemformula:x
599 {
600 \exp_not:V \g__chemmacros_nmr_element_tl
601 \bool_if:NF \l__chemmacros_nmr_position_side_bool

```

```

602 {
603 \tl_if_eq:NnTF \l__chemmacros_nmr_position_tl {^}% lwarp
604 { \textsuperscript{\exp_not:n { {#1} }} }% lwarp
605 { \textsubscript{\exp_not:n { {#1} }} }% lwarp
606 % \exp_not:V \l__chemmacros_nmr_position_tl
607 % \exp_not:n { {#1} }
608 }
609 }
610 \bool_if:NT \l__chemmacros_nmr_position_side_bool
611 {
612 \tl_use:N \l__chemmacros_nmr_position_tl
613 __chemmacros_nmr_position:n {#1}
614 }
615 }
616
617 \cs_gset_protected:Npn __chemmacros_nmr_coupling:w (#1;#2)
618 {
619 \tl_set:Nn \l__chemmacros_nmr_coupling_bonds_tl
620 {
621 \l__chemmacros_nmr_coupling_bonds_pre_tl
622 #1
623 \l__chemmacros_nmr_coupling_bonds_post_tl
624 }
625 \bool_if:NNTF \l__chemmacros_nmr_coupling_nuclei_sub_bool
626 {
627 \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
628 {
629 % \c_math_subscript_token
630 \textsubscript% lwarp
631 {
632 \l__chemmacros_nmr_coupling_nuclei_pre_tl
633 \chemmacros_chemformula:n {#2}
634 \l__chemmacros_nmr_coupling_nuclei_post_tl
635 }
636 }
637 }
638 {
639 \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
640 {
641 \l__chemmacros_nmr_coupling_nuclei_pre_tl
642 \chemmacros_chemformula:n {#2}
643 \l__chemmacros_nmr_coupling_nuclei_post_tl
644 }
645 }
646 __chemmacros_nmr_coupling_aux_i:w
647 }
648 \AfterEndPreamble{% After \AtBeginDocument
649 % \NMR{<num>,<elem>}<num>,<unit>}[<solvent>] ALL arguments are optional
650 % \NMR* same but without ": δ" at end
651 \cs_gset_protected:Npn \chemmacros_nmr:nnnn #1#2#3#4
652 {
653 \bool_if:NT \l__chemmacros_nmr_list_bool { \item \scan_stop: }
654 \group_begin:
655
656 \mode_leave_vertical:

```

```

656 \bool_set_false:N \l__chemmacros_nmr_frequency_bool
657 \bool_set_false:N \l__chemmacros_nmr_solvent_bool
658 \tl_if_empty:nF {#3}
659 { \bool_set_true:N \l__chemmacros_nmr_frequency_bool }
660 \tl_if_empty:nF {#4}
661 { \bool_set_true:N \l__chemmacros_nmr_solvent_bool }
662 \bool_if:nT
663 {
664 \l__chemmacros_nmr_frequency_bool
665 ||
666 \l__chemmacros_nmr_solvent_bool
667 }
668 { \bool_set_true:N \l__chemmacros_nmr_delimiters_bool }
669 \bool_if:nT
670 {
671 \l__chemmacros_nmr_frequency_bool
672 &&
673 \l__chemmacros_nmr_solvent_bool
674 }
675 { \bool_set_true:N \l__chemmacros_nmr_comma_bool }
676 \tl_if_empty:nTF {#2}
677 {
678 __chemmacros_nmr_nucleus:VV
679 \l__chemmacros_nmr_isotope_default_tl
680 \l__chemmacros_nmr_element_default_tl
681 }
682 { __chemmacros_nmr_nucleus:w #2 \q_stop }
683 \mode_if_math:TF
684 {
685 \text
686 {
687 \group_begin:
688 \tl_use:N \l__chemmacros_nmr_format_tl
689 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
690 __chemmacros_nmr_base:VV
691 \g__chemmacros_nmr_isotope_tl
692 \g__chemmacros_nmr_element_tl
693 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
694 { ~ (}
695 \bool_if:NT \l__chemmacros_nmr_frequency_bool
696 { __chemmacros_nmr_frequency:n {#3} }
697 \bool_if:NT \l__chemmacros_nmr_comma_bool
698 { , ~ }
699 \bool_if:NT \l__chemmacros_nmr_solvent_bool
700 { \chemmacros_chemformula:n {#4} }
701 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
702 {) }
703 \tl_if_blank:nT {#1} {::~}
704 }}}% lwarp
705 \group_end:
706 }
707 \tl_if_blank:nT {#1}
708 {
709 \delta
710 \text { \l__chemmacros_nmr_delta_tl }

```

```

711 \bool_if:NT \l__chemmacros_nmr_use_equal_bool {=}
712 }
713 }
714 {
715 \group_begin:
716 \tl_use:N \l__chemmacros_nmr_format_tl
717 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
718 __chemmacros_nmr_base:VV
719 \g__chemmacros_nmr_isotope_tl
720 \g__chemmacros_nmr_element_tl
721 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
722 {~(}
723 \bool_if:NT \l__chemmacros_nmr_frequency_bool
724 { __chemmacros_nmr_frequency:n {#3} }
725 \bool_if:NT \l__chemmacros_nmr_comma_bool
726 {,~}
727 \bool_if:NT \l__chemmacros_nmr_solvent_bool
728 {
729 \bool_if:NTF \l__chemmacros_nmr_parse_bool

730 % { \chemformula_ch:nn { } {#4} }% original
731 {\ch{#4}}% lwarp
732 {#4}
733 }
734 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
735 {)}}
736 }}% lwarp
737 \tl_if_blank:nT {#1} {:}
738 \group_end:
739 \tl_if_blank:nT {#1}
740 {
741 \tl_use:N \c_space_tl
742 \c_math_toggle_token
743 \delta
744 \c_math_toggle_token
745 \l__chemmacros_nmr_delta_tl
746 \bool_if:NT \l__chemmacros_nmr_use_equal_bool {~=}
747 }
748 }
749 \group_end:
750 }
751 }% AfterEndPreamble
752
753
754 \RenewDocumentCommand \chemmacros_data:w { smo }
755 {
756 \bool_if:NT \l__chemmacros_nmr_list_bool { \item }
757 {
758 % \tl_use:N \l__chemmacros_nmr_format_tl #2
759 \tl_use:N \l__chemmacros_nmr_format_tl
760 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
761 #2
762 \IfNoValueF {#3} { ~ (#3) }
763 \IfBooleanT {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { : } }
764 }}% lwarp

```



```

765 }
766 \IfBooleanF {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { ~ = } }
767 }
768
769 }{}% \@ifchemmacrosmoduleloaded
770 }% AtBeginDocument

```

## § 192.17 Thermodynamics

```

771 \AtBeginDocument{
772 \@ifchemmacrosmoduleloaded{thermodynamics}{
773 \PackageInfo{lwarp}{Patching~chemmacros~module~thermodynamics}
774
775 \cs_gset_protected:Npn \chemmacros_state:nn #1#2
776 {
777 \group_begin:
778 \boolfalse{mathjax}
779 \chemmacros_set_keys:nn {thermodynamics} {#1}
780 \LWR@subsingledollar*{% yes hashing
781 \textbackslash{}state\{\LWR@HTMLsanitize{#2}\}% alt
782 }{%
783 chemmacros_state% add'l hashing
784 #1% options
785 LSP \tl_use:N \l__chemmacros_state_sp_left_tl% super/subscripts
786 LSB \tl_use:N \l__chemmacros_state_sb_left_tl
787 RSP \tl_use:N \l__chemmacros_state_sp_right_tl
788 RSB \tl_use:N \l__chemmacros_state_sb_right_tl
789 }
790 {
791 \LWR@origensuredmath{
792 \chemmacros_text:V \l__chemmacros_state_pre_tl
793 \c_math_superscript_token
794 { \chemmacros_text:V \l__chemmacros_state_sp_left_tl }

```

Only add the subscripts if they are being used. This avoids causing an incorrect depth, as the empty subscript will be measured by T<sub>E</sub>X but cropped out by *pdfcrop*.

```

795 \tl_if_empty:NTF \l__chemmacros_state_sb_left_tl
796 {}
797 {
798 \c_math_subscript_token
799 { \chemmacros_text:V \l__chemmacros_state_sb_left_tl }
800 }
801 #2
802 \c_math_superscript_token
803 { \chemmacros_text:V \l__chemmacros_state_sp_right_tl }
804 \tl_if_empty:NTF \l__chemmacros_state_sb_right_tl
805 {}
806 {
807 \c_math_subscript_token
808 { \chemmacros_text:V \l__chemmacros_state_sb_right_tl }
809 }
810 \chemmacros_text:V \l__chemmacros_state_post_tl
811 }
812 }

```

```

813 \group_end:
814 }
815 \cs_generate_variant:Nn \chemmacros_state:n { nV }
816
817 \cs_gset_protected:Npn \chemmacros_declare_state:Nn #1#2
818 {
819 \chemmacros_define_keys:xn
820 {thermodynamics/\chemmacros_remove_backslash:N #1}
821 {
822 pre .meta:nn = {chemmacros/thermodynamics} { pre = ##1 } ,
823 post .meta:nn = {chemmacros/thermodynamics} { post = ##1 } ,
824 superscript-left .meta:nn = {chemmacros/thermodynamics} { superscript-left = ##1 } ,
825 superscript-right .meta:nn = {chemmacros/thermodynamics} { superscript-right = ##1 } ,
826 superscript .meta:n = { superscript-right = ##1 } ,
827 subscript-left .meta:nn = {chemmacros/thermodynamics} { subscript-left = ##1 } ,
828 subscript-right .meta:nn = {chemmacros/thermodynamics} { subscript-right = ##1 } ,
829 subscript .meta:n = { subscript-left = ##1 } ,
830 subscript-pos .choices:nn =
831 { left , right }
832 { \tl_set_eq:NN \l__chemmacros_state_sb_pos_tl \l_keys_choice_tl } ,
833 symbol .tl_set:N = \l__chemmacros_state_symbol_tl ,
834 unit .tl_set:N = \l__chemmacros_state_unit_tl
835 }
836 \DeclareDocumentCommand #1 { sO{}D(){}m }
837 {
838 \group_begin:
839 \chemmacros_set_keys:xn
840 {thermodynamics/\chemmacros_remove_backslash:N #1}
841 {#2}
842 \tl_if_blank:nF {##3}
843 {
844 \chemmacros_set_keys:nx {thermodynamics}
845 { subscript-\l__chemmacros_state_sb_pos_tl = \exp_not:n {##3} }
846 }
847 \chemmacros_state:nV {##2} \l__chemmacros_state_symbol_tl
848 \chemmacros_set_keys_groups:nnn {thermodynamics} {variables} {##2}
849 \IfBooleanF {##1} { = ~ \SI {##4} { \l__chemmacros_state_unit_tl } }
850 \group_end:
851 }
852 }

```

The pre-existing macros are redefined with the new definition:

```

853 \RenewChemState \enthalpy { symbol = H , unit = \kilo\joule\per\mole }
854 \RenewChemState \entropy { symbol = S , unit = \joule\per\kelvin\per\mole , pre = }
855 \RenewChemState \gibbs { symbol = G , unit = \kilo\joule\per\mole }
856
857 }{}% \ifchemmacrosmoduleloaded
858 }% AtBeginDocument

859 \ExplSyntaxOff

```

---

File 84 **lwarp-chemnum.sty**

§ 193 Package **chemnum**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemnum chemnum is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{chemnum}[2016/04/14]
2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemnum_compound_write:n #1
5 {
6 \chemnum_get_compound_property:nn {#1} {pre-main-label-code}
7 \group_begin:
8 \bool_if:NTF \l__chemnum_compound_local_bool
9 { \l__chemnum_local_label_format_tl }
10 { \chemnum_get_compound_property:nn {#1} {label-format} }
11 {
12 \LWR@textcurrentfont{
13 \chemnum_get_compound_property:nn {#1} {counter-representation}
14 }
15 }
16 \group_end:
17 \chemnum_get_compound_property:nn {#1} {post-main-label-code}
18 }
19
20 \cs_gset_protected:Npn \chemnum_subcompound_write:nn #1#2
21 {
22 \group_begin:
23 \bool_if:NTF \l__chemnum_compound_local_bool
24 { \l__chemnum_local_label_format_tl }
25 { \chemnum_get_compound_property:nn {#1} {label-format} }
26 {
27 \LWR@textcurrentfont{
28 \chemnum_get_subcompound_property:nnn {#1} {#2}
29 {counter-representation}
30 }
31 }
32 \group_end:
33 }
34
35 \ExplSyntaxOff
```

---

File 85 **lwarp-chkfloat.sty**

§ 194 Package **chkfloat**

Pkg chkfloat chkfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

---

File 86 **lwarp-chngpage.sty**

§ 195 Package **chngpage**

*(Emulates or patches code by PETER WILSON.)*

Pkg chngpage chngpage is ignored.

**for HTML output:** Discard all options for lwarp-chngpage:

```
1 \LWR@ProvidesPackageDrop{chngpage}[2009/10/20]
2 \LWR@origRequirePackage{lwarp-chngpage}
```

---

File 87 **lwarp-cite.sty**

§ 196 Package **cite**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg cite cite is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cite}[2015/02/27]

For the [super] option, the \kern must be removed:

```
2 \def\LWRCT@biblabel#1{\@citess{#1}\kern-\labelsep\,}
3
4 \ifdefstrequal{\@biblabel}{\LWRCT@biblabel}
5 {
6 \def\@biblabel#1{\@citess{#1}}
7 }{}
```

For the [super] option, \textsuperscript is used instead of math superscript:

```
8 \def\@citess#1{#1}
9
10 \DeclareDocumentCommand\citepunct{}{\, \, \relax}
```

---

File 88 **lwarp-citeref.sty**

§ 197 Package **citeref**

(Emulates or patches code by BJÖRN BRIEL.)

Pkg citeref citeref is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{citeref}[1999/27/05]
2 \def\@cprwrite#1={%
3 \write\@auxout{\string\citepageref{#1}\theLWR@previousautopagelabel}}%
4 }
5
6 \def\citepageref#1#2{%
7 \xdef\cpr@testa{\@nameuse{cpr@last@#1}}%letzte Zitatstelle
8 \xdef\cpr@testb{#2}% Seite dieser Zitatstelle
9 \ifx\cpr@testa\cpr@testb%
10 \relax% Konsekutive identische Seitenangaben weglassen
11 \else%
12 \@namexdef{cpr@last@#1}{#2}%
13 \ifundefined{cpr@#1}%
14 {\@namexdef{cpr@#1}{\LWR@refwithsection{\BaseJobname-autopage-#2}}}% lwarp
15 {% lwarp
16 \@namexdef{cpr@#1}{\@nameuse{cpr@#1}, % space
17 \LWR@refwithsection{\BaseJobname-autopage-#2}}}%
18 }%
19 \fi
20 }
```

---

File 89 **lwarp-CJK.sty**

§ 198 Package **CJK**

Pkg CJK CJK does not work with lwarp unless called from ctex.

**for HTML output:**

```

1 \@ifpackageloaded{xeCJK}{%
2 \LWR@Loadnever{CJK}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJK}[2015/04/18]
```

---

File 90 **lwarp-CJKutf8.sty**

§ 199 Package **CJKutf8**

Pkg CJKutf8 CJKutf8 does not work with lwarp unless called from ctex.

**for HTML output:**

```

1 \@ifpackageloaded{xeCJK}{
2 \LWR@loadnever{CJKutf8}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJKutf8}[2015/04/18]
```

---

File 91 **lwarp-classicthesis.sty**

§ 200 Package **classicthesis**

*(Emulates or patches code by ANDRÉ MIEDE AND IVO PLETIKOSIĆ.)*

Pkg classicthesis classicthesis is emulated.

**for HTML output:** Discard all options for lwarp-classicthesis:

```

1 \LWR@ProvidesPackageDrop{classicthesis}[2018/06/03]

2 \RequirePackage{scrlayer-scrpage} % provides headers and footers (KOMA Script)
3 \RequirePackage{scrttime} % time access
4 \PassOptionsToPackage{titles}{tocloft}
5 \RequirePackage{textcase} % for \MakeTextUppercase
6 \RequirePackage[newparttoc]{titlesec} % newparttoc to write \part to .toc with \numberline
7 \RequirePackage{tocloft}
8 \PassOptionsToPackage{headinclude,footinclude}{typearea} % for classes other than KOMA
9 \RequirePackage{typearea}
10 \PassOptionsToPackage{marginal}{footmisc}% marginal flushmargin
11 \RequirePackage{footmisc}%
12 \RequirePackage{prelim2e}
13 \RequirePackage{remreset}%
14
15 \DeclareRobustCommand{\spacedallcaps}[1]{\textsc{\MakeTextUppercase{#1}}}
16 \DeclareRobustCommand{\spacedlowsmallcaps}[1]{\textsc{\MakeTextLowercase{#1}}}
17 \newcommand{\ctparttext}[1]{}
18 \newcommand{\tocEntry}[1]{}
19 \DeclareRobustCommand*\deactivateadvspace{}%
20 \newlength{\beforebibskip}
```


---

File 92 **lwarp-cleveref.sty**

§ 201 Package **cleveref**

*(Emulates or patches code by TOBY CUBITT.)*

Pkg cleveref cleveref is patched for HTML, and limited MATHJAX emulation is added.

 **cleveref page numbers** cleveref and varioref are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for \cpageref and \cpagerefrange. This phrase includes \cpagerefFor, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 768 to redefine the message which is printed for page number references.

Table 16 on page 521 shows the data structure of the label/reference system as revised by `lwarp` and `cleveref`.

For MATHJAX, each references is printed as an `\eqref`, without `cleveref`'s description text. Page references are also printed as simple `\eqrefs`. Multiple labels in a single `\cref` will print as (???) in MATHJAX.

### ⚠ multiple labels

**for HTML output:** 1 \LWR@ProvidesPackagePass{cleveref}[2018/03/27]

The following patches are applied. Print-mode versions are not required since they all come down to `\ref` eventually, and `\ref` has a print-mode version.

```
\@@@setcref {<kindofref>} {<label>}
```

`\@templabel` becomes the section number.

```
2 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templabel}#1{\@templabel}{}}%
3
4 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% before v0.21
5 \renewcommand*{\@@@setcref}[2]{#1{\ref{#2}}{}}
6 }{
7 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% as of v0.21
8 \renewcommand*{\@@@setcref}[2]{%
9 #1{\ref{#2}}{}}
10 }{
11 \PackageWarningNoLine{lwarp-cleveref}{
12 Unknown version of cleveref.
13 \protect\cref\space will fail.
14 }%
15 }
16 }
```

```
\@@@setcrefrange {<text>} {<label>} {<label>}
```

```
17 \def\LWR@orig@@@setcrefrange#1#2#3{%
18 \cref@getlabel{#2}{\@labela}%
19 \cref@getlabel{#3}{\@labelb}%
20 #1{\@labela}{\@labelb}{}}}%
21
22 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
23 \renewcommand*{\@@@setcrefrange}[3]{%
24 #1{\ref{#2}}{\ref{#3}}{}}}%
25 }
26 }{
27 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
```

```

28 \renewcommand{\@@@setcrefrange}[3]{%
29 #1{\ref{#2}}{\ref{#3}}{\}\}\}%
30 }
31 }{
32 \PackageWarningNoLine{lwarp-cleveref}{
33 Unknown version of cleveref.
34 \protect\crefrange\space will fail.
35 }
36 }
37 }

```

`\cpagerefFor` Redefinable word between “page(s)” and the page numbers.

```
38 \newcommand*\cpagerefFor{for}
```

`\@@@setcpageref`  $\langle \text{typeofref} \rangle \langle \text{label} \rangle$ , where `typeofref` is “page” or “pages”

```

39 \def\LWR@orig@@@setcpageref#1#2{% before v0.21
40 \cref@getpageref{#2}{\@temppage}#1{\@temppage}{\}\}\}%
41
42 \def\LWR@orig@@@setcpageref#1#2{% as of v0.21
43 \cpageref@getlabel{#2}{\@temppage}#1{\@temppage}{\}\}\}%
44
45 \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{
46 \renewcommand*\@@@setcpageref}[2]{%
47 #1{\cpagerefFor\ \cref{#2}}{\}\}\}%
48 }
49 }{
50 \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{
51 \renewcommand*\@@@setcpageref}[2]{%
52 #1{\cpagerefFor\ \cref{#2}}{\}\}\}%
53 }
54 }
55 {
56 \PackageWarningNoLine{lwarp-cleveref}{
57 Unknown version of cleveref.
58 \protect\cpageref\space will fail.
59 }
60 }
61 }

62 \def\LWR@orig@@@setcpagerefrange#1#2#3{% before v0.21
63 \cref@getpageref{#2}{\@pagea}%
64 \cref@getpageref{#3}{\@pageb}%
65 #1{\@pagea}{\@pageb}{\}\}\}\}%
66
67 \def\LWR@orig@@@setcpagerefrange#1#2#3{% as of v0.21
68 \cpageref@getlabel{#2}{\@pagea}%
69 \cpageref@getlabel{#3}{\@pageb}%
70 #1{\@pagea}{\@pageb}{\}\}\}\}\}%
71
72 \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{
73 \renewcommand*\@@@setcpagerefrange}[3]{%

```



```

74 #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{}{}{}%
75 }
76 }{
77 \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{
78 \renewcommand*\@@@setcpagerefrange}[3]{%
79 #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{}{}{}%
80 }
81 }
82 {
83 \PackageWarningNoLine{lwarp-cleveref}{
84 Unknown version of cleveref.
85 \protect\cpagerefrange\space will fail.
86 }
87 }
88 }

```

If `hyperref` is loaded, `cleveref` defines starred versions of the following, but since `hyperref` is only emulated, starred versions are defined here:

```

89 \LWR@absorbstar{cref}
90 \LWR@absorbstar{Cref}
91 \LWR@absorbstar{crefrange}
92 \LWR@absorbstar{Crefrange}
93 \LWR@absorbstar{cpageref}
94 \LWR@absorbstar{Cpageref}
95 \LWR@absorbstar{cpagerefrange}
96 \LWR@absorbstar{Cpagerefrange}
97 \LWR@absorbstar{labelcref}
98 \LWR@absorbstar{labelcpageref}

```

If `hyperref` is loaded, `cleveref` also defines starred versions of `varioref` macros, so they are defined here.

```

99 \@ifpackageloaded{varioref}{
100 \LWR@absorbstar{vref}
101 \LWR@absorbstar{Vref}
102 \LWR@absorbstar{vrefrange}
103 \LWR@absorbstar{Vrefrange}
104 \LWR@absorbstar{fullref}
105 \LWR@absorbstar{Fullref}
106 }{}% varioref

107 \@ifclassloaded{memoir}{
108 \AtBeginDocument{
109 \def\sf@memsub@label(#1)#2{%
110 \protected@edef\mem@currentlabelname{#1}%
111 \sf@memsub@label{#2}}
112 }
113 }{}

114 \@ifpackageloaded{subfig}{
115 \def\sf@sub@label(#1)#2{%
116 \ifhyperrefloaded
117 \protected@edef\@currentlabelname{%

```

```

118 \expandafter\strip@period #1\relax.\relax\@@@}%
119 \fi
120 \sf@@sub@label{#2}}
121 }{}

```

---

File 93 **lwarp-clrdblpg.sty**

§ 202 Package **clrdblpg**

Pkg clrdblpg clrdblpg is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{clrdblpg}[2018/04/21]


---

File 94 **lwarp-cmbright.sty**

§ 203 Package **cmbright**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg cmbright cmbright is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored, and \mathbold is available.

The dedicated macros for upright Greek letters do work correctly.

svg math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{cmbright}[2005/04/13]
2
3 \LWR@infoprocessingmathjax{cmbright}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \@ifpackagewith{cmbright}{slantedGreek}
9 {
10 \LWR@mathjax@addgreek@u@it*{}{}
11 }
12 {}
13
14 \LWR@mathjax@addgreek@u@up*{}{}
15
16 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
17
18 \end{warpMathJax}

```

---

File 95 **lwarp-cmdtrack.sty**

§ 204 Package **cmdtrack**

Pkg cmdtrack cmdtrack is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]

2 \newcommand{\untrack}[1]{}  


---

File 96 **lwarp-colonequals.sty**

§ 205 Package **colonequals**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg colonequals colonequals is used as-is for SVG math, and is emulated for MATHJAX.

Since UNICODE symbols are not available for each of the following, only two are used for the single and double colons, and the other symbols are derived in a consistent manner. Occasional negative space is added as well. This may need to be undone for some fonts.

**for HTML output:** 1 \LWR@ProvidesPackagePass{colonequals}[2016/05/16]

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{colonequals}
4
5 \CustomizeMathJax{\newcommand{\ratio}{\mathrel{\unicode{x2236}}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\mathrel{\unicode{x2237}}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\mathrel{\unicode{x2236}!\=}}}
8 \CustomizeMathJax{\newcommand{\coloncolonequals}{\mathrel{\unicode{x2237}!\=}}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{\mathrel{=\!\unicode{x2236}}}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{\mathrel{=\!\unicode{x2237}}}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\mathrel{\unicode{x2236}-}}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\mathrel{\unicode{x2237}-}}}
13 \CustomizeMathJax{\newcommand{\minuscolon}{\mathrel{-\unicode{x2236}}}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{-\unicode{x2237}}}}
15 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\unicode{x2236}!\approx}}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\unicode{x2237}!\approx}}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\mathrel{\approx!\unicode{x2236}}}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\mathrel{\approx!\unicode{x2237}}}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\unicode{x2236}!\sim}}}
20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\mathrel{\unicode{x2237}!\sim}}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\mathrel{\sim!\unicode{x2236}}}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\mathrel{\sim!\unicode{x2237}}}}
23 \end{warpMathJax}

```

File 97 **lwarp-color.sty**§ 206 Package **color**

Pkg color Allowed but ignored. xcolor is then required as well.


color is superceded by xcolor, and lwarp requires several of the features of xcolor. When color is requested, xcolor is loaded as well.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{color}[2016/07/10]
2 \RequirePackage{xcolor}
```

File 98 **lwarp-colortbl.sty**§ 207 Package **colortbl**

Pkg colortbl colortbl is used as-is for print output, and emulated for HTML.

 **row/cell color** Only use \rowcolor and \cellcolor at the start of a row, in that order.

colortbl ignores the overhang arguments.

**for HTML output:** A placeholder definition is forgotten first:

```
1 \let\rowcolor\relax
2
3 \LWR@ProvidesPackagePass{colortbl}[2018/12/12]
```

The following \LWR@HTML versions are used inside an HTML tabular.

```
\columncolor [model] {color} [left overhang] [right overhang]
```

\LWR@getmynexttoken is not used here because \columncolor is not used inside the data area of the tabular.

\columncolor is provided here to satisfy \LWR@formatted's test for the existence of the print-mode macro.

```
4 \ProvideDocumentCommand{\columncolor}{O{named} m o o}{}%
5
6 \NewDocumentCommand{\LWR@HTML@columncolor}{O{named} m o o}{%
7 \convertcolorspec{#1}{#2}{HTML}\LWR@columnHTMLcolor%
8 \LWR@addtabularcellcolor%
9 }
10
11 \AtBeginDocument{\LWR@formatted{columncolor}}
```

\LWR@getmynexttoken is used for \rowcolor because it is used inside the data area of the tabular.

`\rowcolor` [*<model>*] {*<color>*} [*<left overhang>*] [*<right overhang>*]

```
12 \NewDocumentCommand{\LWR@HTML@rowcolor}{O{named} m o o}{%
13 \convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%
14 \LWR@getmynexttoken%
15 }
16
17 \AtBeginDocument{\LWR@expandableformatted{rowcolor}}
```

`\cellcolor` [*<model>*] {*<color>*} [*<left overhang>*] [*<right overhang>*]

```
18 \NewDocumentCommand{\LWR@HTML@cellcolor}{O{named} m o o}{%
19 \convertcolorspec{#1}{#2}{HTML}\LWR@cellHTMLcolor%
20 \LWR@addtabularcellcolor%
21 }
22
23 \AtBeginDocument{\LWR@formatted{cellcolor}}
```

`\arrayrulecolor` [*<model>*] {*<color>*}

The HTML version for use outside a tabular. Inside a tabular, `\LWR@HTML@arrayrulecolornexttoken` is used instead.

```
24 \newcommand{\LWR@HTML@arrayrulecolor}[2][named]{%
25 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
26 }
27
28 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor}}
```

[*<model>*] {*<color>*}

`\LWR@arrayrulecolornexttoken`

The HTML version for use inside a tabular.

```
29 \newcommand{\LWR@HTML@arrayrulecolornexttoken}[2][named]{%
30 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
31 \LWR@getmynexttoken%
32 }
33
34 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}
```

`\doublerulesepcolor` [*<model>*] {*<color>*}

The version for use outside a tabular.

```
35 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{%
36
37 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}
```

[*<model>*] {*<color>*}

`\LWR@doublerulesepcolornexttoken`

The version for use inside a tabular.

```
38 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
39
40 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}
```

For MATHJAX, use the MATHJAX package. The unused macro options are ignored.

```

41 \begin{warpMathJax}
42
43 \CustomizeMathJax{\require{colortbl}}
44 \CustomizeMathJax{\let\LWRorigcolumncolor\columncolor}
45 \CustomizeMathJax{\renewcommand{\columncolor}[2][named]{%
46 \LWRorigcolumncolor[#1]{#2}%
47 \LWRabsorbtwooptions%
48 }}
49
50 \CustomizeMathJax{\let\LWRorigrowcolor\rowcolor}
51 \CustomizeMathJax{\renewcommand{\rowcolor}[2][named]{%
52 \LWRorigrowcolor[#1]{#2}%
53 \LWRabsorbtwooptions%
54 }}
55
56 \CustomizeMathJax{\let\LWRorigcellcolor\cellcolor}
57 \CustomizeMathJax{\renewcommand{\cellcolor}[2][named]{%
58 \LWRorigcellcolor[#1]{#2}%
59 \LWRabsorbtwooptions%
60 }}
61
62 \end{warpMathJax}

```

---

File 99 **lwarp-continue.sty**

§ 208 Package **continue**

Pkg continue continue is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{continue}}[2018/12/09]

```

2 \newcommand*{\flagcont}{}
3 \newcommand*{\flagend}{}
4 \newcommand*{\flagword}{}
5 \newcommand*{\preflagword}{}
6 \newcommand*{\postflagword}{}
7 \newlength\contsep
8 \newlength\contdrop

```

---

File 100 **lwarp-copyrightbox.sty**

§ 209 Package **copyrightbox**

(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)

Pkg copyrightbox copyrightbox is emulated for use by lwarp.

The entire copyright box is placed inside a <div> of class copyrightbox.

The contents are placed inside a `<div>` of class `copyrightboxcontents`.

The copyright notice is placed inside a `<div>` of class `copyrightboxnote`.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{copyrightbox}[2011/11/27]

2 \newcommand{\copyrightbox}[3][r]{%
3 \begin{BlockClass}[
4 display: inline-flex;
5 flex-direction: column ;
6]{copyrightbox}
7 \begin{BlockClass}{copyrightboxcontents}
8 #2
9 \end{BlockClass}
10 \begin{BlockClass}{copyrightboxnote}
11 #3
12 \end{BlockClass}
13 \end{BlockClass}
14 }
15
16 \newcommand{\CRB@setcopyrightfont}{}
17 \newcommand{\CRB@setcopyrightparagraphstyle}{}

```

File 101 **lwarp-crop.sty**

§ 210 Package **crop**

*(Emulates or patches code by MELCHIOR FRANZ.)*

Pkg crop **crop** is ignored.

**for HTML output:** Discard all options for `lwarp-crop`:

```

1 \LWR@ProvidesPackageDrop{crop}[2003/05/20]

2 \newcommand*{\crop}[1][{}]{
3 \newcommand*{\cropdef}[6][{}]{


```

File 102 **lwarp-ctable.sty**

§ 211 Package **ctable**

*(Emulates or patches code by WYBO DEKKER.)*

Pkg ctable **ctable** is patched for use by `lwarp`.

 **Misplaced alignment tab character &** Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand `&` character.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{ctable}[2015/10/17]

```

The following is in the original:

```

2 \newcommand{\LWR@HTML@ctable}[4][[]]{%
3 \let\@CTtaborfig \@dfлтCTtaborfig
4 \let\@CTalign \@dfлтCTalign
5 \let\@CTsideways \@dfлтCTsideways
6 \let\@CTcontinued \empty
7 \let\@CTpos \@dfлтCTpos
8 \let\@CTcaption \empty
9 \let\@CTcap \undefined
10 \let\@CTlabel \empty
11 \let\@CTbotcap \@dfлтCTbotcap
12 \let\@CTstarred \@dfлтCTstarred
13 \let\@CTsuper \@dfлтCTsuper
14 \let\@CTnotespar \@dfлтCTnotespar
15 \let\@CTdoinside \@dfлтCTdoinside
16 \let\@CTbgopacity \@dfлтCTbgopacity
17 \@CTframerule \@dfлтCTframerule
18 \@CTcaptionskip \@dfлтCTcaptionskip
19 \@CTframesep \@dfлтCTframesep
20 \@CTwidth \@dfлтCTwidth
21 \@CTmaxwidth \@dfлтCTmaxwidth
22 \@CTmincapwidth \@dfлтCTmincapwidth
23 \@CTfooterwidth \@dfлтCTfooterwidth
24 \def\@CTfgactual {\@dfлтCTframefg}%
25 \def\@CTbgactual {\@dfлтCTframebg}%
26 \def\@CTbeg {\begin{\@CTsideways\@CTtaborfig\@CTstarred}}%
27 \def\@CTbegin {\@CTbeg}%
28 \def\@CTend {\end{\@CTsideways\@CTtaborfig\@CTstarred}}%
29 \setkeys{CT}{#1}%
30 \ifx\@CTcap\undefined\let\@CTcap\@CTcaption\fi
31 \ifx\@CTcap\empty
32 \if@CTcaptionloaded\else
33 \PackageWarningNoLine{lwarp-ctable}{\MessageBreak
34 An empty cap= option prevents lot/loc entry only\MessageBreak
35 if the caption package is loaded!}
36 \fi
37 \fi
38 \if@CTinmemoir\else
39 \ifx\@CTbotcap\undefined
40 \PackageError{lwarp-ctable}{\MessageBreak
41 You can, currently, use the sidecap option only with\MessageBreak
42 memoir documents. Use topcap or botcap only}
43 {}
44 \fi
45 \fi
46 \ifdim\@CTwidth=0pt\else
47 \ifdim\@CTmaxwidth=0pt\else
48 \PackageError{lwarp-ctable}{\MessageBreak
49 You may not use the width and maxwidth options together\MessageBreak
50 Use either width or maxwidth}
51 {}
52 \fi
53 \fi
54 \ifx\@CTpos\empty

```



```

55 \ifx\@CTsideways\empty\else
56 \PackageError{lwarp-ctable}{\MessageBreak
57 You may not use the pos and sideways options together\MessageBreak
58 Rotated tables and figures are always typeset on a separate page}
59 {}
60 \fi
61 \fi
62 \ifx\@CTcaption\empty
63 \ifx\@CTlabel\empty\else
64 \PackageError{lwarp-ctable}{\MessageBreak
65 You may not label a captionless table\MessageBreak
66 Such a label can't be referenced}
67 {}
68 \fi
69 \fi

```

Some of the original, regarding computing the width of \CT@t, is removed here.

```

70 \@CTbegin
71 \ifx\@CTcontinued\empty\else\addtocounter{\@CTaborfig}{-1}\fi
72 \@CTalign

```

lwarp's patches begin here:

```

73 \begin{center}
74 \setlength{\fboxrule}{\@CTframerule}
75 \setlength{\fboxsep}{\@CTframesep}
76 \LWR@forceminwidth{\fboxrule}% lwarp
77 \convertcolorspec{named}{\@CTbgactual}{HTML}\LWR@tempcolor% lwarp
78 \begin{BlockClass}[% lwarp
79 border:
80 \LWR@printlength{\LWR@atleastonept}
81 solid
82 \LWR@colorstyle{named}{\@CTfgactual} ; %
83 padding:\LWR@printlength{\fboxsep} ; %
84 \ifdefstring{\LWR@tempcolor}{FFFFFF}{%
85 background: \LWR@colorstyle{named}{\@CTbgactual} ; %
86 }%
87]{fminipage}% lwarp
88 \ifx\@CTbotcap\@CTfalse\@CTCaption\vskip\@CTcaptionskip\fi
89 \ifx\@CTbotcap\undefined%
90 \begin{sidecaption}[\@CTcap]{\@CTcaption}[\@CTlabel]
91 \fi
92 \@CTdoinside
93 \begin{tabularx}{\linewidth}{#2}% lwarp
94 #4%
95 \end{tabularx}% lwarp
96 \def\@CTfootnotes{#3}%
97 \ifx#3\empty\else{% append footnotes, if any
98 \begin{BlockClass}{tnotes}% lwarp
99 #3
100 \end{BlockClass}% lwarp
101 }
102 \fi
103 \ifx\@CTbotcap\undefined\end{sidecaption}\fi

```

```

104 \ifx\@CTbotcap\@CTtrue\vskip\@CTcaptionskip\@CTCaption\fi
105 \end{BlockClass}
106 \end{center}
107 \@CTend
108 }
109 \LWR@formatted{ctable}

```

Required to properly detect the toprule:

```
110 \LetLtxMacro\FL\toprule
```

Table notes are redefined for HTML:

```

111 \newcommand{\LWR@HTML@tmark}[1][a]{%
112 \textsuperscript{\textrm{\textit{#1}}}}
113 }
114 \LWR@formatted{tmark}
115
116 \newcommand{\LWR@HTML@tnote}[2][a]{%
117 \tmark[#1]\,#2\par
118 }
119 \LWR@formatted{tnote}

```

File 103 **lwarp-cuted.sty**

§ 212 Package **cuted**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg cuted **cuted** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{cuted}[2012/10/04]

2 \newenvironment{strip}{}{}
3 \newskip\stripsep
4 \def\oldcolsbreak#1{}

```

File 104 **lwarp-cutwin.sty**

§ 213 Package **cutwin**

*(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)*

Pkg cutwin **cutwin** is emulated.

**for HTML output:** Discard all options for lwarp-cutwin:

```
1 \LWR@ProvidesPackageDrop{cutwin}[2010/09/29]
```

```

2 \newcommand*\opencutleft{}
3 \newcommand*\opencutright{}
4 \newcommand*\opencutcenter{}
5 \newcommand*\cutfuzz{}
6
7 \newenvironment{cutout}[4]
8 {\marginpar{\windowpagestuff}
9 {}
10
11 \newcommand*\windowpagestuff{}
12
13 \newcommand*\pageinwindow}{%
14 % \begin{minipage}{.3\linewidth}
15 \windowpagestuff
16 % \end{minipage}
17 }
18
19 \newenvironment{shapedcutout}[3]
20 {\marginpar{\picinwindow}
21 {}
22
23 \newcommand*\putstuffinpic}{}
24
25 \newcommand*\picinwindow}{%
26 \begin{picture}(0,0)
27 \putstuffinpic
28 \end{picture}}

```

---

File 105 **lwarp-dblfloatfix.sty**

§ 214 Package **dblfloatfix**

Pkg dblfloatfix **dblfloatfix** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

---

File 106 **lwarp-dblfnote.sty**

§ 215 Package **dblfnote**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg dblfnote **dblfnote** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfnote}[1999/07/14]

```

2 \newcounter{DFNsloppiness}
3 \newdimen\DFNcolumnsep
4 \newdimen\DFNcolumnwidth
5 \def\DFNallowcbreak{}

```

---

```

6 \def\DFNinhibitcbreak{}
7 \def\DFNtrysingle{}
8 \def\DFNalwaysdouble{}
9 \def\DFNruleboth{}
10 \def\DFNruleleft{}

```

---

File 107 **lwarp-dcolumn.sty**

§ 216 Package **dcolumn**

Pkg dcolumn dcolumn is used as-is in a lateximage, and is emulated by the lwarp core.

dcolumn used to be \LWR@ProvidesPackageDrop in prior versions of lwarp, but is now supported for print mode.

```
1 \LWR@ProvidesPackagePass{dcolumn}[2014/10/28]
```

Due to how the D column is created, cannot use \HTMLnewcolumn type here. An HTML version neutralizes the lower-level macros, leaving a c column type.

```

2 \newcommand*\LWR@HTML@DC@[3]{}
3 \LWR@formatted{DC@}
4
5 \providecommand*\DC@end{}
6
7 \newcommand*\LWR@HTML@DC@end{}
8 \LWR@formatted{DC@end}

```

---

File 108 **lwarp-decimal.sty**

§ 217 Package **decimal**

*(Emulates or patches code by A. SYROPOULOS AND R. W. D. NICKALLS.)*

Pkg decimal decimal works as-is for svg math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{decimal}[2011/06/03]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\.\{\mbox{.}\}}
4 \end{warpMathJax}

```

---

File 109 **lwarp-decorule.sty**

§ 218 Package **decorule**

*(Emulates or patches code by PETER FLYNN.)*

Pkg decorule **decorule** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{decorule}[2020/04/01]

```

2 \xpretocmd{\decorule}
3 {\begin{lateximage}*[decorule]}
4 {}
5 {\LWR@patcherror{decorule}{decorule A}}
6
7 \xapptocmd{\decorule}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{decorule}{decorule B}}
```

File 110 **lwarp-diagbox.sty**

§ 219 Package **diagbox**

*(Emulates or patches code by LEO LIU.)*

Pkg diagbox **diagbox** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]

To restore print-mode inside a lateximage:

```

2 \LetLtxMacro\LWR@origdiagbox@double\diagbox@double
3 \LetLtxMacro\LWR@origdiagbox@triple\diagbox@triple
4
5 \appto\LWR@restoreorigformatting{%
6 \LetLtxMacro\diagbox@double\LWR@origdiagbox@double%
7 \LetLtxMacro\diagbox@triple\LWR@origdiagbox@triple%
8 }
```

\LWR@diagbox@AB  $\langle E/W \rangle \langle A \rangle \langle E/W \rangle \langle B \rangle$

```

9 \newcommand{\LWR@diagbox@AB}[4]{
10 \begingroup%
11 \LetLtxMacro\\\newline%
12 \BlockClassSingle{diagbox#1}{#2}%
13 \BlockClassSingle{diagbox#3}{#4}%
14 \endgroup%
15 \LWR@stoppars%
16 }
```

\LWR@diagboxNW  $\langle A \rangle \langle B \rangle$

```

17 \newcommand{\LWR@diagboxNW}[2]{%
18 \LWR@diagbox@AB{E}{#2}{W}{#1}%
19 }
```

Likewise for NE, SW, SE:

```
20 \newcommand{\LWR@diagboxNE}[2]{%
21 \LWR@diagbox@AB{W}{#1}{E}{#2}%
22 }
23
24 \let\LWR@diagboxSW\LWR@diagboxNE
25 \let\LWR@diagboxSE\LWR@diagboxNW
```

```
\diagbox@double {<keys>} {<A>} {}

26 \def\diagbox@double#1#2#3{%
27 \setkeys{diagbox}{dir=NW,#1}%
28 \@nameuse{LWR@diagbox\diagbox@dir}{#2}{#3}%
29 }
```

```
\LWR@diagboxTNW {<title>} {<A>} {}

30 \newcommand{\LWR@diagboxTNW}[3]{%
31 \BlockClassSingle{diagboxtitleN}{#1}
32 \LWR@diagboxNW{#2}{#3}
33 }
```

Likewise for NE, SW, SE:

```
34 \newcommand{\LWR@diagboxTNE}[3]{%
35 \BlockClassSingle{diagboxtitleN}{#1}
36 \LWR@diagboxNE{#2}{#3}
37 }
38
39 \newcommand{\LWR@diagboxTSW}[3]{%
40 \LWR@diagboxSW{#2}{#3}
41 \BlockClassSingle{diagboxtitleS}{#1}
42 \LWR@stoppars%
43 }
44
45 \newcommand{\LWR@diagboxTSE}[3]{%
46 \LWR@diagboxSE{#2}{#3}
47 \BlockClassSingle{diagboxtitleS}{#1}
48 \LWR@stoppars%
49 }
```

```
\diagbox@triple {<keys>} {<A>} {<T>} {}

50 \def\diagbox@triple#1#2#3#4{%
51 \setkeys{diagbox}{dir=NW,#1}%
52 \@nameuse{LWR@diagboxT\diagbox@dir}{#3}{#2}{#4}%
53 }
```

File 111 **lwarp-dingbat.sty**

§ 220 Package **dingbat**

(Emulates or patches code by SCOTT PAKIN.)

Pkg dingbat **dingbat** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{dingbat}[2001/04/27]

2 \newcommand*{\LWR@dingbatsymbol}[1]{\HTMLUnicode{#1}}
3
4 \newcommand{\LWR@HTML@rightpointright}{\LWR@dingbatsymbol{261E}}
5 \newcommand{\LWR@HTML@leftpointright}{\LWR@dingbatsymbol{261E}}
6 \newcommand{\LWR@HTML@leftthumbsdown}{\LWR@dingbatsymbol{1F44E}}
7 \newcommand{\LWR@HTML@leftthumbsup}{\LWR@dingbatsymbol{1F44D}}
8 \newcommand{\LWR@HTML@rightpointleft}{\LWR@dingbatsymbol{261C}}
9 \newcommand{\LWR@HTML@rightthumbsdown}{\LWR@dingbatsymbol{1F44E}}
10 \newcommand{\LWR@HTML@rightthumbsup}{\LWR@dingbatsymbol{1F44D}}
11 \newcommand{\LWR@HTML@squarewithdots}{\LWR@dingbatsymbol{25C7}}
12 \newcommand{\LWR@HTML@filledsquarewithdots}{\LWR@dingbatsymbol{25C6}}
13 \newcommand{\LWR@HTML@Sborder}{\LWR@dingbatsymbol{271A}}
14 \newcommand{\LWR@HTML@Zborder}{\LWR@dingbatsymbol{274B}}
15 \newcommand{\LWR@HTML@largepencil}{\LWR@dingbatsymbol{270E}}
16 \newcommand{\LWR@HTML@anchor}{\LWR@dingbatsymbol{2693}}
17 \newcommand{\LWR@HTML@carriagereturn}{\LWR@dingbatsymbol{23CE}}
18 \newcommand{\LWR@HTML@checkmark}{\LWR@dingbatsymbol{2713}}
19 \newcommand{\LWR@HTML@eye}{\LWR@dingbatsymbol{1F441}}
20 \newcommand{\LWR@HTML@satellitedish}{\LWR@dingbatsymbol{1F4E1}}
21 \newcommand{\LWR@HTML@smallpencil}{\LWR@dingbatsymbol{270E}}
22
23 \LWR@formatted{rightpointright}
24 \LWR@formatted{leftpointright}
25 \LWR@formatted{leftthumbsdown}
26 \LWR@formatted{leftthumbsup}
27 \LWR@formatted{rightpointleft}
28 \LWR@formatted{rightthumbsdown}
29 \LWR@formatted{rightthumbsup}
30 \LWR@formatted{squarewithdots}
31 \LWR@formatted{filledsquarewithdots}
32 \LWR@formatted{Sborder}
33 \LWR@formatted{Zborder}
34 \LWR@formatted{largepencil}
35 \LWR@formatted{anchor}
36 \LWR@formatted{carriagereturn}
37 \LWR@formatted{checkmark}
38 \LWR@formatted{eye}
39 \LWR@formatted{satellitedish}
40 \LWR@formatted{smallpencil}

```

---

File 112 **lwarp-DotArrow.sty**

§ 221 Package **DotArrow**

*(Emulates or patches code by SVEN SCHNEIDER.)*

Pkg DotArrow **DotArrow** is patched for use by **lwarp**, and emulated for **MATHJAX**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{DotArrow}[2007/02/12]

The width must be recomputed each time, depending on print or HTML output.

```
2 \xpretocmd{\dotarrow}{\settowidth{\oneWidth}{\onePartX}}{}{}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\dotarrow}[1]{\stackrel{#1}{\unicode{x21E2}}}}
6 \end{warpMathJax}
```


---


File 113 **lwarp-dotlessi.sty**

§ 222 Package **dotlessi**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg dotlessi **dotlessi** is used as-is for SVG math, and is emulated for **MATHJAX**.

 **HTML \dotlessj** Use `\usepackage{cmap}` if `\dotlessj` does not appear in HTML in text mode. See section 7.4.

 **not bold** For **MATHJAX**, use `\boldsymbol` instead of `\mathbf`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{dotlessi}[1999/10/12]

For **MATHJAX**:

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\dotlessi\imath}
4 \CustomizeMathJax{\let\dotlessj\jmath}
5 \end{warpMathJax}
```

---

File 114 **lwarp-dprogress.sty**

§ 223 Package **dprogress**

Pkg dprogress **dprogress** is ignored.



**for HTML output:** 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

---

File 115 **lwarp-draftcopy.sty**

§ 224 Package **draftcopy**

Pkg draftcopy **draftcopy** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftcopy}[2002/02/25]

```

2 \newcommand{\draftcopyVersion}[1]{}
3 \newcommand{\draftcopySetGrey}[1]{}
4 \newcommand{\draftcopySetScale}[1]{}
5 \newcommand{\draftcopySetScaleFactor}[1]{}
6 \newcommand{\draftcopyFirstPage}[1]{}
7 \newcommand{\draftcopyLastPage}[1]{}
8 \newcommand{\draftcopyName}[2]{}
9 \newcommand{\draftcopyPageTransform}[1]{}
10 \newcommand{\draftcopyBottomTransform}[1]{}
11 \newcommand{\draftcopyPageX}[1]{}
12 \newcommand{\draftcopyPageY}[1]{}
13 \newcommand{\draftcopyBottomX}[1]{}
14 \newcommand{\draftcopyBottomY}[1]{}

```

---

File 116 **lwarp-draftfigure.sty**

§ 225 Package **draftfigure**

Pkg draftfigure **draftfigure** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftfigure}[2017/07/19]  
2 \RequirePackage{xkeyval}

```

3 \define@key{draftfigure}{code}{}
4 \define@key{draftfigure}{noframe}[true]{}
5 \define@key{draftfigure}{filename}[true]{}
6 \define@key{draftfigure}{content}[]{}
7 \define@key{draftfigure}{style}[normal]{}
8 \define@key{draftfigure}{position}[left]{}
9 \define@key{draftfigure}{size}[normal]{}
10 \newcommand\setdf[1]{\setkeys{draftfigure}{#1}}

```

---

File 117 **lwarp-draftwatermark.sty**

§ 226 Package **draftwatermark**

*(Emulates or patches code by SERGIO CALLEGARI.)*

Pkg draftwatermark **draftwatermark** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{draftwatermark}[2020/03/14]

2 \newcommand{\DraftwatermarkOptions}[1]{}
3 \newcommand{\DraftwatermarkStdMark}{}
4 \newcommand{\SetWatermarkAngle}[1]{}
5 \newcommand{\SetWatermarkColor}[1]{}
6 \newcommand{\SetWatermarkLightness}[1]{}
7 \newcommand{\SetWatermarkFontSize}[1]{}
8 \newcommand{\SetWatermarkScale}[1]{}
9 \newcommand{\SetWatermarkHorCenter}[1]{}
10 \newcommand{\SetWatermarkVertCenter}[1]{}
11 \newcommand{\SetWatermarkText}[1]{}

```

File 118 **lwarp-drftcite.sty**

§ 227 Package **drftcite**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg drftcite **drftcite** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{drftcite}[1995/01/23]

2 \def\lbbibitem[#1]#2{\global\@HighCite\ze
3 \item[
4 \textsuperscript{\@nameuse{DCN@#2\@extra@b@citeb}}~% lwarp
5 \@biblabel{\@ifundefined{DCN@#2\@extra@b@citeb}{\@warning
6 {Reference ‘#2’ on page \thepage\space was never cited}}}{%
7 % \DC@llap{$^\@nameuse{DCN@#2\@extra@b@citeb}}$\ \ }%o
8 \@citeverb{#2}}\hfil]\if@filesw{\def\protect##1{\string ##1\space}%
9 \immediate\write\@auxout{\string\bibcite{#2}{#1}}}\fi\ignorespaces}

```

File 119 **lwarp-easy-todo.sty**

§ 228 Package **easy-todo**

*(Emulates or patches code by JUAN RADA-VILELA.)*

Pkg easy-todo **easy-todo** is patched for use by lwarp.

To remove the “P” heading for HTML:

```
\warpHTMLonly{\renewcommand{\todoindexpagetitle}{}}
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{easy-todo}[2014/01/01]
```

`\listoftodos` Modified to correct buggy use of `\flushright`.

```

2 \let\LWR@easytodo@origlistoftodos\listoftodos
3
4 \renewcommand{\listoftodos}{%
5 \begingroup
6 \renewcommand{\flushright}{%
7 \LWR@easytodo@origlistoftodos
8 \endgroup
9 }

```

`\todoii` Modified to use `\textcolor` instead of `\color`.

```

10 \renewcommand{\todoii}[2]{%
11 \ifthenelse{\equal{\@todoobeyfinal}{true}}{%
12 {%
13 \ifoptionfinal{\todoenable{false}}{\todoenable{true}}%
14 }%
15 }%
16 \ifthenelse{\equal{\@todoenable}{true}}{%
17 {%
18 \refstepcounter{todos}%
19 \noindent{%
20 \todocolor%
21 \LWR@textcurrentcolor{%
22 \normalfont\scriptsize{\bfseries{\thetodos.#1}}%
23 }%
24 }%
25 \addcontentsline{lod}{todos}{\protect{\thetodos. } \LWR@isolate{#2}}%
26 }%
27 }%
28 }

```

---

File 120 **lwarp-ebook.sty**

§ 229 Package **ebook**

*(Emulates or patches code by JØRGEN STEENSGAARD.)*

Pkg ebook **ebook** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ebook}

2 \setcounter{secnumdepth}{0}
3 \setcounter{tocdepth}{2}
4
5 \providecommand{\pagefilll}[1][0.001mm]{\noindent}
6
7 \providecommand{\ebook}{%
8 \setcounter{secnumdepth}{0}
9 \setcounter{tocdepth}{2}
10 }

```

File 121 **lwarp-econometrics.sty**

§ 230 Package **econometrics**

(Emulates or patches code by ERIK KOLE.)

Pkg econometrics econometrics is used as-is for SVG math, and is emulated for MATHJAX.

```

for HTML output: 1 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{econometrics}
6
7 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
8 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
9 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}
10 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
11 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
12
13 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
14 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
15 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
16 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}
17 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
18 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
19 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
20 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
21 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
22 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
23 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
24 \CustomizeMathJax{\newcommand{\calL}{\mathcal{L}}}
25 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
26 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
27 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
28 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
29 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
30 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
31 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}
32 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
33 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
34 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
35 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
36 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
37 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
38 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
39
40 \LWR@mathjax@addlatin@u@bfit{m}% uppercase Latin, bold italic
41 \LWR@mathjax@addlatin@l@bfit{v}% lowercase Latin, bold italic
42

```

```
43 \LWR@mathjax@addgreek@l@bfit{v}{}% lowercase Greek bold italic
44 \LWR@mathjax@addgreek@u@bfit*{m}{}% uppercase Greek bold italic, capitalized macro names
45
46 \CustomizeMathJax{\newcommand{\rb}{\mathrm{b}}}
47 \CustomizeMathJax{\newcommand{\rB}{\mathrm{B}}}
48 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
49 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
50 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
51 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
52 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
53 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
54 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
55 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
56 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
57 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
58 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}
59
60 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
61 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
62 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
63 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
64 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}
65
66 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
67
68 \CustomizeMathJax{\newcommand{\ped}[1]{_ \mathrm{#1}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{^ \mathrm{#1}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\nolimits}}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\nolimits}}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3][]{%
74 \frac{\mathrm{d}^{#1}#2}{\mathrm{d}\,#3^{#1}}%
75 }}
76 \CustomizeMathJax{\newcommand{\pderiv}[3][]{%
77 \frac{\partial^{#1}#2}{\partial \#3^{#1}}%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
81 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
82 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
83 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
84 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
85 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
86 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
87 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
88 \CustomizeMathJax{\newcommand{\ip}{\mathrm{int}}{\nolimits}}
89 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
90 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
91 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
92 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
93 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
94 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
95 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
96 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
97 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}
```

```

98 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
99 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
100 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
101 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
102
103 \CustomizeMathJax{\newcommand{\distr}{\sim}}
104 \CustomizeMathJax{\newcommand{\adistr}{\stackrel{a}{\distr}}}
105 \CustomizeMathJax{\newcommand{\diff}{\Delta}}
106 \CustomizeMathJax{\newcommand{\fdiff}{\diff_{\rf}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\diff_{\rb}}}
108
109 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
110 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
111
112 \CustomizeMathJax{\newcommand{\longto}{\longrightarrow}}
113 \CustomizeMathJax{\newcommand{\pto}{\stackrel{p}{\longrightarrow}}}
114 \CustomizeMathJax{\newcommand{\dto}{\stackrel{d}{\longrightarrow}}}
115 \CustomizeMathJax{\newcommand{\wto}{\stackrel{w}{\longrightarrow}}}
116
117 \CustomizeMathJax{\newcommand{\Infmat}{\bm{calI}}}
118 \CustomizeMathJax{\newcommand{\Hesmat}{\bm{calH}}}
119 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}
120
121 \CustomizeMathJax{\newcommand{\vones}{\bm{\imath}}}
122 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
123 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
124
125 \CustomizeMathJax{\newcommand{\e}{\eu}}
126 \CustomizeMathJax{\newcommand{\mply}{\cdot}}
127 \CustomizeMathJax{\newcommand{\rW}{\ensuremath{\mathrm{W}}}}
128 \end{warpMathJax}

```

---

File 122 **lwarp-ed.sty**

§ 231 Package **ed**

(Emulates or patches code by MICHAEL KOHLHASE.)

Pkg ed ed is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{ed}[2012/01/29]

Bugs:

1. `todoList` fails with the `hide` option, as does `\dedexplanation`.
2. `\edstubURI` is actually `\edstuURI`.

```

2 \RequirePackage{xcolor}
3
4 \renewenvironment{edstub}[2][The following blue text]
5 {%

```

```

6 \def\@test{#1}%
7 \begin{center}%
8 \huge%
9 \textcolor{red}{%
10 #1 is only a provisional stub\\Large
11 the Office document
12 \ifx\ed@stubURI\@empty{#2}\else\LWR@href{\ed@stubURI}{#2}\fi\
13 contains more text\\which will be merged for the final document%
14 }%
15 \end{center}%
16 \BlockClass[color:blue]{edstub}%
17 }
18 {\endBlockClass}

```

---

File 123 **lwarp-ellipsis.sty**

§ 232 Package **ellipsis**

(Emulates or patches code by PETER J. HESLIN.)

Pkg ellipsis ellipsis is emulated.

```

1 \LWR@ProvidesPackageDrop{ellipsis}[2004/09/28]
2
3 \newcommand{\ellipsisgap}{0.1em}
4
5 \newcommand*{\midwordellipsis}{\,\textellipsis\,}

```

---

File 124 **lwarp-embrac.sty**

§ 233 Package **embrac**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg embrac embrac is patched for HTML and used as-is for print.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{embrac}[2017/07/04]
2
3 \ExplSyntaxOn
4 \RenewDocumentCommand{\embrac_kern:n}{m}{ }
5 \ExplSyntaxOff
6
7 \LetLtxMacro\LWR@orig@HTML@emph\LWR@HTML@emph
8 \RenewDocumentCommand{\LWR@HTML@emph}{s m}{\LWR@orig@HTML@emph{#2}}
9
10 \LetLtxMacro\LWR@orig@HTML@textit\LWR@HTML@textit
11 \RenewDocumentCommand{\LWR@HTML@textit}{s m}{\LWR@orig@HTML@textit{#2}}
12
13 \LetLtxMacro\LWR@orig@HTML@textsl\LWR@HTML@textsl

```

```

12 \RenewDocumentCommand{\LWR@HTML@textsl}{s m}{\LWR@orig@HTML@textsl{#2}}
13
14 \ifxetexorluatex
15 \LetLtxMacro\LWR@orig@HTML@textsi\LWR@HTML@textsi
16 \RenewDocumentCommand{\LWR@HTML@textsi}{s m}{%
17 \LWR@orig@HTML@textsi{#2}}
18 \fi
19
20 \AtBeginDocument{
21 \LWR@formatted{emph}
22 \LWR@formatted{textit}
23 \LWR@formatted{textsl}
24 \ifxetexorluatex
25 \LWR@formatted{textsi}
26 \fi
27 }
28
29 \newcommand{\LWR@HTML@EmbracOff}{}
30 \LWR@formatted{EmbracOff}
31
32 \newcommand{\LWR@HTML@EmbracOn}{}
33 \LWR@formatted{EmbracOn}

```

---

File 125 **lwarp-emptypage.sty**

§ 234 Package **emptypage**

Pkg emptypage emptypage is ignored.

**for HTML output:** Discard all options for lwarp-emptypage:

```
1 \LWR@ProvidesPackageDrop{emptypage}[2010/05/30]
```

---

File 126 **lwarp-endfloat.sty**

§ 235 Package **endfloat**

Pkg endfloat endfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{endfloat}[2019/04/15]

```

2 \newcommand\figureplace{}
3 \newcommand\tableplace{}
4 \newcommand\floatplace[1]{}
5 \newcounter{posttable}
6 \newcounter{postfigure}
7 \newcommand*\theposttbl{}
8 \newcommand*\thepostfig{}
9 \newcommand{\AtBeginFigures}[1]{}
10 \newcommand{\AtBeginTables}[1]{}

```



```

11 \newcommand{\AtBeginDelayedFloats}[1]{}
12 \newcommand*{\processdelayedfloats}{}
13 \newcommand*{\efloatseparator}{}
14 \def\efloattype{}
15 \providecommand\efloatheading[1]{}
16 \providecommand\efloatpreamble{}
17 \providecommand\efloatpostamble{}
18 \NewDocumentCommand{\addtodelayedfloat}{s m m}{}
19 \providecommand{\efloatbegin}{}
20 \providecommand{\efloatend}{}
21 \providecommand{\efloatbeginlist}{}
22 \providecommand{\efloatendlist}{}

```

---

File 127 **lwarp-endheads.sty**

§ 236 Package **endheads**

Pkg endheads endheads is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{endheads}[2017/04/06]

2 \newcommand{\changesinglepageabbrev}[1]{}
3 \newcommand{\changemultiplepageabbrev}[1]{}
4 \newcommand{\changenotesname}[1]{}
5 \newcommand{\changenotesheader}[1]{}
6 \newcommand{\changenotescontentsname}[1]{}
7 \newcommand{\changechapternotesline}[1]{}
8 \newcommand{\checknoteheaders}{}
9 \newif\ifnotesincontentson \notesincontentsonfalse
10 \newcommand{\notesincontents}{\notesincontentsontrue}
11 \newif\ifendnoteheaderson \endnoteheadersonfalse
12 \newcommand{\setupendnoteheaders}{%
13 \endnoteheadersontrue%
14 }
15 \newif\iftitleinnotes \titleinnotestrue
16 \newcommand{\styleforchapternotebegin}{}
17 \newcommand{\styleforchapternoteend}{}
18 \newcommand{\setstyleforchapternotebegin}[1]{%
19 \renewcommand{\styleforchapternotebegin}{#1}%
20 }
21 \newcommand{\setstyleforchapternoteend}[1]{%
22 \renewcommand{\styleforchapternoteend}{#1}%
23 }
24 \newcommand{\resetendnotes}{}
25 \newif\ifnotesbychapteron \notesbychapteronfalse
26 \newcommand{\notesbychapter}{\notesbychapterontrue}

```

File 128 **lwarp-endnotes.sty**

§ 237 Package **endnotes**

(Emulates or patches code by JOHN LAVAGNINO.)


Pkg endnotes Patched for HTML.

[table of contents](#) To place the endnotes in the TOC, use:

```
\usepackage{endnotes}
\appto\noteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional
```

[HTML page](#) To additionally have the endnotes on their own HTML page, if FileDepth allows:

```
\ForceHTMLPage
\theendnotes
```

 [\endnotemark numbering](#) If using MATHJAX, see section 8.5.4 regarding the use of \endnotemark and \endnotetext.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{endnotes}

2 \def\enoteformat{%
3 % \rightskip\z@ \leftskip\z@ \parindent=1.8em
4 \leavevmode
5 % \llap{
6 \makeenmark
7 % }
8 }

9 \def\LWR@HTML@makeenmark{\hbox{\LWR@htmlspan{sup}{\normalfont\theenmark}}}
10 \LWR@formatted{@makeenmark}
11
12 \def\makeenmark{\@makeenmark}
```

For MATHJAX:

```
13 \begin{warpMathJax}
14 \def\endnotenname{endnote}
15 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{\LWRendnote}{\theendnote}}
16 \appto\LWR@syncnotenames{\LWR@synconenotename{\LWRendnote}{\endnotenname}}
17 \CustomizeMathJax{\def\LWRendnote{1}}
18 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{{}^{\mathrm{#1}}}}
19 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{{}^{\mathrm{#1}}}}
20 \end{warpMathJax}
```

File 129 **lwarp-engtcl.sty**

§ 238 Package **engtcl**

(Emulates or patches code by CLAUDIO FIANDRINO.)

Pkg engtcl **engtcl** is patched for use by **lwarp**. MATHJAX is emulated.



For MATHJAX, `\sight`, `\signf`, `\signn`, and `\signz` do not force letter case as they do in SVG math.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{engtcl}[2012/12/18]
2 \newcommand{\LWR@HTML@fines}{%
3 \begin{BlockClass}[text-align:right]{exerend}%
4 \HTMLUnicode{220E}%
5 \end{BlockClass}%
6 }
7 \LWR@formatted{fines}
8
9 \newcommand{\LWR@HTML@exerend}{\fines}
10 \LWR@formatted{exerend}
11
12 \begin{warpMathJax}
13 \LWR@infoprocessingmathjax{engtcl}
14
15 \CustomizeMathJax{\newcommand{\unit}[1]{\,\mathrm{#1}}}
16 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
17 %
18 \CustomizeMathJax{\newcommand{\ho}{\unit{h}}}
19 \CustomizeMathJax{\newcommand{\s}{\unit{s}}}
20 \CustomizeMathJax{\newcommand{\ms}{\unit{ms}}}
21 \CustomizeMathJax{\newcommand{\us}{\unit{\micro s}}}
22 \CustomizeMathJax{\newcommand{\ns}{\unit{ns}}}
23 \CustomizeMathJax{\newcommand{\ps}{\unit{ps}}}
24 %
25 \CustomizeMathJax{\newcommand{\um}{\unit{\micro m}}}
26 \CustomizeMathJax{\newcommand{\mm}{\unit{mm}}}
27 \CustomizeMathJax{\newcommand{\cm}{\unit{cm}}}
28 \CustomizeMathJax{\newcommand{\dm}{\unit{dm}}}
29 \CustomizeMathJax{\newcommand{\m}{\unit{m}}}
30 \CustomizeMathJax{\newcommand{\km}{\unit{km}}}
31 %
32 \CustomizeMathJax{\newcommand{\MA}{\unit{MA}}}
33 \CustomizeMathJax{\newcommand{\kA}{\unit{kA}}}
34 \CustomizeMathJax{\newcommand{\A}{\unit{A}}}
35 \CustomizeMathJax{\newcommand{\mA}{\unit{mA}}}
36 \CustomizeMathJax{\newcommand{\uA}{\unit{\micro A}}}
37 \CustomizeMathJax{\newcommand{\nA}{\unit{nA}}}
38 %
39 \CustomizeMathJax{\newcommand{\MV}{\unit{MV}}}

```

```
40 \CustomizeMathJax{\newcommand{\kV}{\unit{kV } }}
41 \CustomizeMathJax{\newcommand{\V}{\unit{V}}}
42 \CustomizeMathJax{\newcommand{\mV}{\unit{mV}}}
43 \CustomizeMathJax{\newcommand{\uV}{\unit{\micro V}}}
44 %
45 \CustomizeMathJax{\newcommand{\mohm}{\unit{m\Omega}}}
46 \CustomizeMathJax{\newcommand{\ohm}{\unit{\Omega}}}
47 \CustomizeMathJax{\newcommand{\kohm}{\unit{k\Omega}}}
48 \CustomizeMathJax{\newcommand{\Mohm}{\unit{M\Omega}}}
49 %
50 \CustomizeMathJax{\newcommand{\pSi}{\unit{pS}}}
51 \CustomizeMathJax{\newcommand{\nSi}{\unit{nS}}}
52 \CustomizeMathJax{\newcommand{\uSi}{\unit{\micro S}}}
53 \CustomizeMathJax{\newcommand{\mSi}{\unit{mS}}}
54 \CustomizeMathJax{\newcommand{\Si}{\unit{S}}}
55 \CustomizeMathJax{\newcommand{\kSi}{\unit{kS}}}
56 \CustomizeMathJax{\newcommand{\MSi}{\unit{MS}}}
57 %
58 \CustomizeMathJax{\newcommand{\fFa}{\unit{fF}}}
59 \CustomizeMathJax{\newcommand{\pFa}{\unit{pF}}}
60 \CustomizeMathJax{\newcommand{\nFa}{\unit{nF}}}
61 \CustomizeMathJax{\newcommand{\uFa}{\unit{\micro F}}}
62 \CustomizeMathJax{\newcommand{\mFa}{\unit{mF}}}
63 \CustomizeMathJax{\newcommand{\Fa}{\unit{F}}}
64 %
65 \CustomizeMathJax{\newcommand{\fHe}{\unit{fH}}}
66 \CustomizeMathJax{\newcommand{\pHe}{\unit{pH}}}
67 \CustomizeMathJax{\newcommand{\nHe}{\unit{nH}}}
68 \CustomizeMathJax{\newcommand{\uHe}{\unit{\micro H}}}
69 \CustomizeMathJax{\newcommand{\mHe}{\unit{mH}}}
70 \CustomizeMathJax{\newcommand{\He}{\unit{H}}}
71 %
72 \CustomizeMathJax{\newcommand{\dB}{\unit{dB}}}
73 \CustomizeMathJax{\newcommand{\dBm}{\unit{dBm}}}
74 %
75 \CustomizeMathJax{\newcommand{\uW}{\unit{\micro W}}}
76 \CustomizeMathJax{\newcommand{\mW}{\unit{mW}}}
77 \CustomizeMathJax{\newcommand{\W}{\unit{W}}}
78 \CustomizeMathJax{\newcommand{\kW}{\unit{kW}}}
79 \CustomizeMathJax{\newcommand{\MW}{\unit{MW}}}
80 %
81 \CustomizeMathJax{\newcommand{\Hz}{\unit{Hz}}}
82 \CustomizeMathJax{\newcommand{\kHz}{\unit{kHz}}}
83 \CustomizeMathJax{\newcommand{\MHz}{\unit{MHz}}}
84 \CustomizeMathJax{\newcommand{\GHz}{\unit{GHz}}}
85 \CustomizeMathJax{\newcommand{\THz}{\unit{THz}}}
86 %
87 \CustomizeMathJax{\newcommand{\bit}{\unit{bit}}}
88 \CustomizeMathJax{\newcommand{\kbit}{\unit{Kib}}}
89 \CustomizeMathJax{\newcommand{\Mbit}{\unit{Mib}}}
90 \CustomizeMathJax{\newcommand{\Byte}{\unit{B}}}
91 \CustomizeMathJax{\newcommand{\kByte}{\unit{KiB}}}
92 \CustomizeMathJax{\newcommand{\MByte}{\unit{Mib}}}
93 \CustomizeMathJax{\newcommand{\GByte}{\unit{GiB}}}
94 \CustomizeMathJax{\newcommand{\TByte}{\unit{TiB}}}
```

```

95 \CustomizeMathJax{\newcommand{\bits}{\unit{bit/s}}}
96 \CustomizeMathJax{\newcommand{\kbits}{\unit{Kib/s}}}
97 \CustomizeMathJax{\newcommand{\Mbits}{\unit{Mib/s}}}
98 \CustomizeMathJax{\newcommand{\Bytes}{\unit{B/s}}}
99 \CustomizeMathJax{\newcommand{\kBytes}{\unit{KiB/s}}}
100 \CustomizeMathJax{\newcommand{\MBytes}{\unit{MiB/s}}}
101 \CustomizeMathJax{\newcommand{\GBytes}{\unit{GiB/s}}}
102 \CustomizeMathJax{\newcommand{\TBytes}{\unit{TiB/s}}}
103 \CustomizeMathJax{\newcommand{\chips}{\unit{chip/s}}}
104 \CustomizeMathJax{\newcommand{\kchips}{\unit{Ki\mkern2mu chip/s}}}
105 \CustomizeMathJax{\newcommand{\Mchips}{\unit{Mi\mkern2mu chip/s}}}
106 \CustomizeMathJax{\newcommand{\chipsubit}{\unit{chip/bit}}}
107 %
108 \CustomizeMathJax{\newcommand{\frecciadex}[1][0.5]{%
109 \hspace{.25cm}\Longrightarrow \hspace{.25cm}}%
110 }
111 \CustomizeMathJax{\newcommand{\varianzarumore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114 #1\mathopen{\}\left\lbrace#2\right\rbrace\mathclose{}}%
115 }
116 \CustomizeMathJax{\newcommand{\fourier}[1]{\etsymbolbracearg{\mathcal{F}}{#1}}}
117 \CustomizeMathJax{\newcommand{\invfourier}[1]{\etsymbolbracearg{\mathcal{F}^{-1}}{#1}}}
118 \CustomizeMathJax{\newcommand{\partereale}[1]{\etsymbolbracearg{\textbf{Re}}{#1}}}
119 \CustomizeMathJax{\newcommand{\parteimm}[1]{\etsymbolbracearg{\textbf{Im}}{#1}}}
120 \CustomizeMathJax{\newcommand{\Info}[1]{I\left(#1\right)}}
121 \CustomizeMathJax{\newcommand{\versore}[1]{\hat{#1}}}
122 \CustomizeMathJax{\newcommand{\vettore}[1]{\overrightarrow{#1}}}
123 \CustomizeMathJax{\newcommand{\coseno}[1]{\cos\left(2\pi#1t\right)}}
124 \CustomizeMathJax{\newcommand{\seno}[1]{\sin\left(2\pi#1t\right)}}
125 \CustomizeMathJax{\newcommand{\energia}[1]{\mathcal{E}_{#1}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left\vert#1\right\vert^{\#2}}}
127 \CustomizeMathJax{\newcommand{\modulo}[1]{\left\vert#1\right\vert}}
128 \CustomizeMathJax{\newcommand{\indB}[1]{%
129 \mathopen{\}\left.#1\right\vert_{\mathrm{dB}}\mathclose{}}}%
130 \CustomizeMathJax{\newcommand{\for}[2]{\left.#1\right\vert_{\#2}}}
131 \CustomizeMathJax{\newcommand{\massimo}[1]{\etsymbolbracearg{\max}{#1}}}
132 \CustomizeMathJax{\newcommand{\minimo}[1]{\etsymbolbracearg{\min}{#1}}}
133 \CustomizeMathJax{\newcommand{\valc}{3\cdot 10^8}}
134 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{#1}\#2}}
135 \CustomizeMathJax{\newcommand{\analitic}[1]{\mathring{#1}}}
136 \CustomizeMathJax{\newcommand{\diff}{\mathop{\}\mathopen{\mathrm{d}}}}
137 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}{#1}}}
138 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta\left(#1\right)}}
139 \CustomizeMathJax{\newcommand{\iu}{\mathrm{j}}}
140 \CustomizeMathJax{\newcommand{\ex}[1]{\mathrm{e}^{\#1}}}
141 %
142 \CustomizeMathJax{\newcommand{\gammatens}{\{\}^{\mathrm{V}}\Gamma}}
143 \CustomizeMathJax{\newcommand{\gammacorr}{\{\}^{\mathrm{I}}\Gamma}}
144 \CustomizeMathJax{\newcommand{\gammatensin}[1]{\{\}^{\mathrm{V}}\Gamma_{\mathrm{#1}}}}
145 \CustomizeMathJax{\newcommand{\gammacorrin}[1]{\{\}^{\mathrm{I}}\Gamma_{\mathrm{#1}}}}
146 \CustomizeMathJax{\newcommand{\gammain}[1]{\Gamma_{\mathrm{#1}}}}
147 \CustomizeMathJax{\newcommand{\gammak}{\{\}^{\mathrm{k}}\Gamma}}
148 %
149 \CustomizeMathJax{\newcommand{\lbvt}{\lambda_0}}

```

```

150 \CustomizeMathJax{\newcommand{\lbg}{\lambda_g}}
151 \CustomizeMathJax{\newcommand{\lbgvt}{\lambda_{g_0}}}
152 %
153 \CustomizeMathJax{\newcommand{\potin}[1]{P_{\mathrm{#1}}}}
154 \CustomizeMathJax{\newcommand{\potdisp}[1][P_{\mathrm{disp}}^{#1}}
155 \CustomizeMathJax{\newcommand{\potDC}[1][P_{\mathrm{DC}}^{#1}}
156 \CustomizeMathJax{\newcommand{\potCC}[1][P_{\mathrm{CC}}^{#1}}
157 \CustomizeMathJax{\newcommand{\potirr}[1][P_{\mathrm{irr}}^{#1}}
158 \CustomizeMathJax{\newcommand{\potdiss}[1][P_{\mathrm{diss}}^{#1}}
159 \CustomizeMathJax{\newcommand{\potinc}[1][P_{\mathrm{inc}}^{#1}}
160 %
161 \CustomizeMathJax{\newcommand{\z}[1]{Z_{\mathrm{#1}}}}
162 \CustomizeMathJax{\newcommand{\znorm}[1]{z_{\mathrm{#1}}}}
163 \CustomizeMathJax{\newcommand{\y}[1]{Y_{\mathrm{#1}}}}
164 \CustomizeMathJax{\newcommand{\ynorm}[1]{y_{\mathrm{#1}}}}
165 \CustomizeMathJax{\newcommand{\zinf}[1][Z_{\infty#1}}
166 \CustomizeMathJax{\newcommand{\zinfn}[1]{zinf[#1]}
167 \CustomizeMathJax{\newcommand{\yinf}[1][Y_{\infty#1}}
168 \CustomizeMathJax{\newcommand{\yinfn}[1]{yinf[#1]}
169 \CustomizeMathJax{\newcommand{\zvt}{Z_0}}
170 \CustomizeMathJax{\newcommand{\yvt}{Y_0}}
171 %
172 \CustomizeMathJax{\newcommand{\campoe}{\underline{\mathcal{E}}(\underline{r},t)}}
173 \CustomizeMathJax{\newcommand{\campoe fas}{\underline{E}(\underline{r})}}
174 \CustomizeMathJax{\newcommand{\campoh}{\underline{\mathcal{H}}(\underline{r},t)}}
175 \CustomizeMathJax{\newcommand{\campoh fas}{\underline{H}(\underline{r})}}
176 %
177 \CustomizeMathJax{\newcommand{\signt}[1]{#1(t)}}
178 \CustomizeMathJax{\newcommand{\signf}[1]{#1(f)}}
179 \CustomizeMathJax{\newcommand{\signn}[1]{#1(n)}}
180 \CustomizeMathJax{\newcommand{\signz}[1]{#1(z)}}
181 %
182 \CustomizeMathJax{\newcommand{\prob}[1]{\mathcal{P}\left(#1\right)}}
183 \CustomizeMathJax{\newcommand{\valatt}[1]{\mathbb{E}\left[#1\right]}
184 \CustomizeMathJax{\newcommand{\var}[1]{\mathrm{Var}\left[#1\right]}
185 \CustomizeMathJax{\newcommand{\comma}{\ , \ , \ ,}}
186 \CustomizeMathJax{\newcommand{\dato}{\ , | \ ,}}
187 %
188 \CustomizeMathJax{\let\bfRe\partereale}
189 \CustomizeMathJax{\let\bfIm\parteimm}
190 \CustomizeMathJax{\let\noisevar\varianzarumore}
191 % \CustomizeMathJax{\let\exerend\finees}
192 \CustomizeMathJax{\let\Spimplies\frecciadex}
193 \CustomizeMathJax{\let\Downimplies\frecciadown}
194 \CustomizeMathJax{\let\unitvec\versore}
195 \CustomizeMathJax{\let\vector\vettore}
196 \CustomizeMathJax{\let\cosine\coseno}
197 \CustomizeMathJax{\let\sine\seno}
198 \CustomizeMathJax{\let\energy\energia}
199 \CustomizeMathJax{\let\Abs\modulo}
200 \CustomizeMathJax{\let\AbsPow\moduloexp}
201 \CustomizeMathJax{\let\Max\massimo}
202 \CustomizeMathJax{\let\Min\minimo}
203 \CustomizeMathJax{\let\c\light\valc}
204 \CustomizeMathJax{\let\Log\loga}

```

```

205 \CustomizeMathJax{\let\analytic\analitic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltaimp\deltain}
208 \CustomizeMathJax{\let\Vgamma\gammatens}
209 \CustomizeMathJax{\let\Cgamma\gammacorr}
210 \CustomizeMathJax{\let\Vgammain\gammatensin}
211 \CustomizeMathJax{\let\Cgammain\gammacorrin}
212 \CustomizeMathJax{\let\Kgamma\gammak}
213 \CustomizeMathJax{\let\powerin\potin}
214 \CustomizeMathJax{\let\availpow\potdisp}
215 \CustomizeMathJax{\let\irrpow\potirr}
216 \CustomizeMathJax{\let\disppow\potdiss}
217 \CustomizeMathJax{\let\incpow\potinc}
218 \CustomizeMathJax{\let\potalim\potCC}
219 \CustomizeMathJax{\let\potDC\potCC}
220 \CustomizeMathJax{\let\Efield\campoe}
221 \CustomizeMathJax{\let\Hfield\campoh}
222 \CustomizeMathJax{\let\phasorEfield\campoefas}
223 \CustomizeMathJax{\let\phasorHfield\campohfas}
224 \CustomizeMathJax{\let\given\dato}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
227 \end{warpMathJax}

```

---

File 130 **lwarp-enotez.sty**

§ 239 Package **enotez**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg enotez **enotez** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enotez}[2020/12/13]

Hyperref is emulated by lwarp, so it is forced on for enotez:

```

2 \ExplSyntaxOn
3 \AtBeginDocument{
4 \bool_set_true:N \l__enotez_hyperref_bool
5 \bool_set_true:N \l__enotez_hyperfootnotes_bool
6 }

```

Do not move or \hbox the \hypertarget:

```

7 % typeset the actual mark:
8 % #1: id
9 % #2: mark
10 \cs_gset_protected:Npn \enotez_write_mark:nn #1#2
11 {
12 \bool_if:NTF \l__enotez_hyperfootnotes_bool
13 {
14 \enotezwritemark { \hyperlink {enz.#1} { \markstyle #2 } }

```

```

15 \bool_if:NT \l__enotez_hyperbackref_bool
16 {
17 % \box_move_up:nn {1em} {
18 % \hbox:n {
19 % \hypertarget {enz.#1.backref} { }
20 % }
21 % }
22 }
23 }
24 { \enotezwritemark { \enmarkstyle #2 } }
25 }
26 \cs_generate_variant:Nn \enotez_write_mark:nn {x}

```

Do not move or \hbox the \hypertarget:

```

27 \cs_gset_protected:Npn \enotez_write_list_number:n #1
28 {
29 \bool_if:NT \l__enotez_hyperfootnotes_bool
30 {
31 % \box_move_up:nn {1em} { \hbox:n {
32 % \hypertarget {enz.#1} { }
33 % } }
34 }
35 \tl_use:N \l__enotez_list_number_format_tl
36 \tl_if_eq:nxTF {a} { \prop_item:Nn \g__enotez_endnote_man_prop {#1} }
37 {
38 \bool_if:nTF
39 { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
40 {
41 \exp_args:Nnx
42 \hyperlink {enz.#1.backref}
43 { \exp_not:V \l__enotez_endnote_mark_tl }
44 }
45 { \prop_item:Nn \g__enotez_endnote_mark_prop {#1} }
46 }
47 {
48 \bool_if:nTF
49 { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
50 {
51 \exp_args:Nnx
52 \hyperlink {enz.#1.backref}
53 { \exp_not:V \l__enotez_endnote_mark_tl }
54 }
55 { \tl_use:N \l__enotez_endnote_mark_tl }
56 }
57 }

```

Do not move the label to the left:

```

58 \DeclareTemplateCode {enotez-list} {paragraph} {1}
59 {
60 heading = \enotez_list_heading:n ,
61 format = \l__enotez_list_format_tl ,
62 number = \enotez_list_number:n ,
63 number-format = \l__enotez_list_number_format_tl ,

```



```

64 notes-sep = \l__enotez_list_notes_sep_dim
65 }
66 {
67 \AssignTemplateKeys
68 \enotez_set_totoc:
69 \enotez_list_heading:n { \l__enotez_list_name_tl }
70 \enotez_list_preamble:
71 \enotez_build_print_list:nnnn {#1}
72 {}
73 {
74 \par\noindent
75 \group_begin:
76 \tl_use:N \l__enotez_list_format_tl
77 % \hbox_overlap_left:n
78 % {
79 \enotez_list_number:n
80 { \enotez_write_list_number:n {##1} }
81 \tl_use:N \c_space_tl
82 % }
83 % \cs_set:cpn {@currentlabel}
84 % { \p@endnote \l__enotez_endnote_mark_tl }
85 \tl_use:N \g__enotez_endnote_text_tl
86 \par
87 \dim_compare:nT { \l__enotez_list_notes_sep_dim != 0pt }
88 { \addvspace { \l__enotez_list_notes_sep_dim } }
89 \group_end:
90 }
91 {}
92 \enotez_list_postamble:
93 }
94
95 \ExplSyntaxOff

```

For MATHJAX:

```

96 \begin{warpMathJax}
97 \def\endnotename{endnote}
98 \appto\LWR@synconotenumbers{\LWR@synconenotenummer{LWRendnote}{\theendnote}}
99 \appto\LWR@synconotenames{\LWR@synconenotename{LWRendnote}{\endnotename}}
100 \CustomizeMathJax{\def\LWRendnote{1}}
101 \CustomizeMathJax{\newcommand{\endnote}[2][LWRendnote]{{}^{\mathrm{#1}}}}
102 \CustomizeMathJax{\newcommand{\endnotemark}[1][LWRendnote]{{}^{\mathrm{#1}}}}
103 \end{warpMathJax}

```

---

File 131 **lwarp-enumerate.sty**

§ 240 Package **enumerate**

Pkg enumerate enumerate is supported with no changes.

This package is only required because it was used in the past to drop and then emulate the package. It cannot be removed because an older version which dropped the

package may still remain, for example in a local vs. distribution directory, but it is now supported directly by `lwarp` and thus must no longer be dropped.

**for HTML output:** `1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]`

---

File 132 **lwarp-enumitem.sty**

## § 241 Package **enumitem**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg `enumitem` `enumitem` is supported with minor adjustments.

**for HTML output:** `1 \LWR@ProvidesPackagePass{enumitem}[2018/11/30]`

```
\newlist {<name>} {<type>} {<maxdepth>}
\renewlist {<name>} {<type>} {<maxdepth>}
```

For `enumitem` lists, new lists must have the start and end actions assigned to the new environment. Renewed lists already have their actions assigned, and thus need no changes.

```
2 \let\LWR@enumitem@orignewlist\newlist
3
4 \renewcommand*\newlist[3]{%
5 \LWR@enumitem@orignewlist{#1}{#2}{#3}%
6 \AtBeginEnvironment{#1}{\@nameuse{LWR@#2start}}%
7 \AtEndEnvironment{#1}{\@nameuse{LWR@#2end}}%
8 }
9
10 \def\DrawEnumitemLabel{}
```

---

File 133 **lwarp-epigraph.sty**

## § 242 Package **epigraph**

*(Emulates or patches code by PETER WILSON.)*

Pkg `epigraph` `epigraph` is emulated for HTML, and used as-is for print output.

Use CSS to format epigraphs.

**for HTML output:** `1 \LWR@ProvidesPackagePass{epigraph}[2020/01/02]`

```
2 \DeclareDocumentCommand{\LWR@HTML@qitem}{m m}
3 {%
4 \begin{BlockClass}{qitem}%
5 #1%
6 \LWR@stoppars%
```

```

7 \ifbool{FormatWP}%
8 {\begin{BlockClass}[border-top:1px solid gray]{epigraphsource}}%
9 {\begin{BlockClass}{epigraphsource}}%
10 #2%
11 \end{BlockClass}%
12 \end{BlockClass}%
13 }
14 \LWR@formatted{qitem}

```

epigraph: Added ARIA role.

```

15 \DeclareDocumentCommand{\LWR@HTML@epigraph}{m m}
16 {%
17 \begin{LWR@BlockClassWP}{\LWR@print@mbbox{text-align:right}}{(note){epigraph}}%
18 \qitem{#1}{#2}%
19 \end{LWR@BlockClassWP}%
20 }
21 \LWR@formatted{epigraph}
22
23 \DeclareDocumentEnvironment{LWR@HTML@epigraphs}{}
24 {\LWR@BlockClassWP{\LWR@print@mbbox{text-align:right}}{(note){epigraph}}}%
25 {\endLWR@BlockClassWP}
26 \LWR@formattedenv{epigraphs}

```

The following cannot be used in print mode while generating HTML:

```

27 \renewcommand{\epigraphhead}[2][0]{#2}
28 \renewcommand{\dropchapter}[1]{}
29 \renewcommand*\undodrop{}

```

---

File 134 **lwarp-epsf.sty**

§ 243 Package **epsf**

*(Emulates or patches code by TOM ROKICKI.)*

Pkg epsf epsf is patched for use by lwarp.

**for HTML output:**

```


1 \LWR@ProvidesPackagePass{epsf}% not date given

2 \xpretocmd{\epsfsetgraph}
3 {\begin{lateximage}}
4 {}
5 {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-begin}}
6
7 \xapptocmd{\epsfsetgraph}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-end}}

```

File 135 **lwarp-epsfig.sty**§ 244 Package **epsfig**

Pkg epsfig epsfig is emulated for use by lwarp.

 Only the L<sup>A</sup>T<sub>E</sub>X2e syntax is emulated.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epsfig}[2017/06/25]

A few additional keys to capture the filename:

```

2 \RequirePackage{graphics}
3
4 \define@key{igraph}{file}{%
5 \xdef\LWR@epsfig@filename{#1}%
6 }
7
8 \define@key{igraph}{figure}{%
9 \xdef\LWR@epsfig@filename{#1}%
10 }
11
12 \define@key{igraph}{prolog}{}
13
14 \define@key{igraph}{silent}[]{}

```

The captured filename is used as the argument to `\includegraphics`:

```

15 \newcommand{\LWR@HTML@epsfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
16 \LWR@formatted{epsfig}
17
18 \newcommand{\LWR@HTML@psfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
19 \LWR@formatted{psfig}

```

File 136 **lwarp-epstopdf.sty**§ 245 Package **epstopdf**

Pkg epstopdf Previous versions of lwarp had a nullified version, but now epstopdf-base is supported. lwarp-epstopdf becomes a placeholder to overwrite previous versions.

See package epstopdf-base for details.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epstopdf}[2020-01-24]

File 137 **lwarp-epstopdf-base.sty**

§ 246 Package **epstopdf-base**

Pkg epstopdf-base

 **convert to .svg**

Images with an .eps extension will be converted to .pdf. The HTML output uses the .svg version, so use

Enter ⇒ **lwarpmk pdftosvg <listofPDFfiles>**

to generate .svg versions.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{epstopdf-base}[2020-01-24]
```

Redefine to remember the image filename, replacing .pdf with .svg. Use the epstopdf print version inside a lateximage.

```
2 \newcommand*{\LWR@HTML@ETE@OrgGin@setfile}[3]{%
3 \edef\LWR@tempone{#3}%
4 \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
5 \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
6 \xdef\LWR@parsedfilename{\LWR@tempone}%
7 }
8
9 \LWR@formatted{ETE@OrgGin@setfile}
```

\includegraphics in HTML mode redefines \Gin@setfile to be \LWR@HTML@Gin@setfile, which is now redirected to epstopdf's version:

```
10 \renewcommand*{\LWR@HTML@Gin@setfile}[3]{%
11 \ETE@Gin@setfile{#1}{#2}{#3}%
12 }
```

Allow .eps images to be found if a suffix is not provided:

```
13 \AtBeginDocument{
14 \DeclareGraphicsExtensions{%
15 .eps,.EPS,.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
16 }
17 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
18 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
19 }
```

Likewise when inside a lateximage:

```
20 \appto\LWR@restoreorigformatting{%
21 \DeclareGraphicsExtensions{%
22 .eps,.EPS,.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
23 }%
24 }
```

---

File 138 **lwarp-eqlist.sty**

§ 247 Package **eqlist**

Pkg eqlist eqlist is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{eqlist}[2002/08/15]

```

2 \newenvironment{eqlist}[1][\description]{\enddescription}
3 \newenvironment{eqlist*}[1][\description]{\enddescription}
4 \newenvironment{EqList}[2][\description]{\enddescription}
5 \newenvironment{EqList*}[2][\description]{\enddescription}
6 \newcommand*\longitem[1][\item[#1]}
7 \newcommand*\eqlistinit{}
8 \newcommand*\eqliststarinit{}
9 \newcommand*\eqlistinitpar{}
10 \def\eqlistlabel#1{#1}
11 \newcommand{\eqlistauto}[1]{}
12 \newcommand{\eqlistnoauto}{}

```

---

File 139 **lwarp-eqparbox.sty**

§ 248 Package **eqparbox**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg eqparbox eqparbox is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{eqparbox}[2017/09/03]

```

2 \NewDocumentCommand{\LWR@HTML@eqparbox}{O{t} O{} O{t} m +m}{%
3 {%
4 \minipagefullwidth%
5 \parbox[#1][#2][#3]{\linewidth}{#5}%
6 }%
7 }
8 \LWR@formatted{eqparbox}
9
10 \NewDocumentCommand{\LWR@HTML@eqmakebox}{o o m}{%
11 \makebox[#2][#3]%
12 }
13 \LWR@formatted{eqmakebox}
14
15 \NewDocumentCommand{\LWR@HTML@eqframebox}{o o m}{%
16 \framebox[#2][#3]%
17 }
18 \LWR@formatted{eqframebox}
19

```

```

20 \NewDocumentEnvironment{LWR@HTML@eqminipage}{0}{t} 0{} 0{t} m}
21 {%
22 \begingroup%
23 \minipagefullwidth%
24 \minipage[#1][#2][#3]{\linewidth}%
25 }%
26 {%
27 \endminipage%
28 \endgroup%
29 }
30
31 \newcommand*\LWR@HTML@eqboxwidth}[1]{.25\linewidth}
32 \LWR@formatted{eqboxwidth}
33
34 \newcommand*\LWR@HTML@eqsetminwidth}[2]{}
35 \newcommand*\LWR@HTML@eqsetmaxwidth}[2]{}
36
37 \newcommand*\LWR@HTML@eqsetminwidthto}[2]{}
38 \newcommand*\LWR@HTML@eqsetmaxwidthto}[2]{}

```

---

File 140 **lwarp-errata.sty**

§ 249 Package **errata**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

Pkg errata **errata** is patched for use by **lwarp**.

This is for v0.3 of **errata**. A newer version of **errata** with more features is under development, at which time the **lwarp** version will have to be updated.

**for HTML output:** Macros are being defined with the math dollar, so enable the **HTML** version during package loading:

```
1 \StartDefiningMath
```

Now load the package:

```
2 \LWR@ProvidesPackagePass{errata}[2006/11/12]
```

Patches for dynamic inline math:

```

3 \xpatchcmd{\erratumAdd}
4 {$_a^{\arabic{erratum}}}$}
5 % {\inlinemathother$_a^{\arabic{erratum}}$\inlinemathnormal}
6 {\textsubscript{a}\textsuperscript{\arabic{erratum}}}
7 {}
8 {\LWR@patcherror{erratum}{erratumAdd}}
9
10 \xpatchcmd{\erratumDelete}
11 {$_d^{\arabic{erratum}}}$}
12 % {\inlinemathother$_d^{\arabic{erratum}}$\inlinemathnormal}

```

```

13 {\textsubscript{d}\textsuperscript{\arabic{erratum}}}
14 {}
15 {\LWR@patcherror{erratum}{erratumDelete}}
16
17 \xpatchcmd{\erratumReplace}
18 {$_r^{\arabic{erratum}}$}
19 % {\inlinemathother$_r^{\arabic{erratum}}$\inlinemathnormal}
20 {\textsubscript{r}\textsuperscript{\arabic{erratum}}}
21 {}
22 {\LWR@patcherror{erratum}{erratumReplace}}
23
24 \xpatchcmd{\erratum}
25 {$_a$}
26 % {\inlinemathother$_a$\inlinemathnormal}
27 {\textsubscript{a}}
28 {}
29 {\LWR@patcherror{erratum}{erratumDelete}}
30
31 \xpatchcmd{\erratum}
32 {$_d^{\@thefnmark}$}
33 % {\inlinemathother$_d^{\@thefnmark}$\inlinemathnormal}
34 {\textsubscript{d}\@thefnmark}
35 {}
36 {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39 {$_r^{\@thefnmark}$}
40 % {\inlinemathother$_r^{\@thefnmark}$\inlinemathnormal}
41 {\textsubscript{r}\@thefnmark}
42 {}
43 {\LWR@patcherror{erratum}{eReplace}}

```

Finish the current page's errata before closing and reloading the list:

```
44 \preto\PrintErrata{\LWR@maybe@orignewpage}
```

No longer defining math macros with the HTML \$:

```
45 \StopDefiningMath
```

---

File 141 **lwarp-eso-pic.sty**

§ 250 Package **eso-pic**

*(Emulates or patches code by ROLF NIEPRASCHK.)*

Pkg eso-pic **eso-pic** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{eso-pic}[2018/04/12]

```
2 \newcommand*\LenToUnit{}
3 \newcommand{\AtPageUpperLeft}[1]{}

```



```

4 \newcommand{\AtPageLowerLeft}[1]{}
5 \newcommand{\AtPageCenter}[1]{}
6 \newcommand{\AtStockLowerLeft}[1]{}
7 \newcommand{\AtStockUpperLeft}[1]{}
8 \newcommand{\AtStockCenter}[1]{}
9 \newcommand{\AtTextUpperLeft}[1]{}
10 \newcommand{\AtTextLowerLeft}[1]{}
11 \newcommand{\AtTextCenter}[1]{}
12 \NewDocumentCommand{\AddToShipoutPictureBG}{s +m}{}

13 \newcommand{\AddToShipoutPicture}{\AddToShipoutPictureBG}
14 \NewDocumentCommand{\AddToShipoutPictureFG}{s +m}{}
15 \newcommand*\ClearShipoutPictureBG{}
16 \newcommand*\ClearShipoutPicture{}
17 \newcommand*\ClearShipoutPictureFG{}
18 \newcommand{\gridSetup}[6][[]]{}

```

---

File 142 **lwarp-esvect.sty**

§ 251 Package **esvect**

(Emulates or patches code by EDDIE SAUDRAIS.)

Pkg esvect esvect is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{esvect}% no date given

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRresvectv}[1]{\overrightarrow{#1}}}
4 \CustomizeMathJax{\newcommand{\LWRresvectvstar}[2]{\overrightarrow{#1}\!_{#2}}}
5 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRresvectvstar\LWRresvectv}}
6 \end{warpMathJax}


```

---

File 143 **lwarp-etoc.sty**


§ 252 Package **etoc**

Pkg etoc etoc is ignored. All commands are nullified.

 **\tableofcontents with \ref** The etoc package uses a non-standard syntax which looks ahead after a \tableofcontents for a following \ref. These \refs appear in the HTML result unless they are removed. Where a \tableofcontents is followed by \ref, and perhaps also \label as well, enclose all of them inside \warpprintonly:

```
\warpprintonly{\tableofcontents \ref{toc:abc} \label{toc:def}}
```

or place all code related to a local \tableofcontents inside a warpprint environment.

 **home page** Be sure to keep the initial \tableofcontents on the home page, perhaps in its own

\warpHTMLonly macro or warpHTML environment.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{etoc}[2019/11/17]

2 \def\etocsetlevel#1#2{}
3 \def\etocskipfirstprefix{}
4 \let\etocthename \empty
5 \let\etocthenumber \empty
6 \let\etocthepage \empty
7 \let\etocthelinkedname \empty
8 \let\etocthelinkednumber \empty
9 \let\etocthelinkedpage \empty
10 \let\etocthelink \etocfirstofone % prior to 1.08j its was \let to \empty
11 \DeclareRobustCommand*\etocname {}
12 \DeclareRobustCommand*\etocnumber {}
13 \DeclareRobustCommand*\etocpage {}
14 \DeclareRobustCommand*\etoclink {\etocfirstofone}
15 \DeclareRobustCommand*\etocifnumbered {\etocfirstoftwo}
16 \DeclareRobustCommand*\etociffirst {\etocfirstoftwo}
17 \DeclareRobustCommand*\etocifwasempty {\etocfirstoftwo}
18 \let\etocaftertitlehook \empty
19 \let\etocaftercontentshook \empty
20 \def\etocstableofcontents{}
21 \newcommand*\localtableofcontents{}
22 \newcommand*\localtableofcontentswithrelativedepth[1]{}
23 \newcommand\etocsettocstyle[2]{}
24 \long\def\etocsetstyle#1#2#3#4#5{}
25 \def\etocfontminustwo {\normalfont \LARGE \bfseries}
26 \def\etocfontminusone {\normalfont \Large \bfseries}
27 \def\etocfontzero {\normalfont \large \bfseries}
28 \def\etocfontone {\normalfont \normalsize \bfseries}
29 \def\etocfonttwo {\normalfont \normalsize}
30 \def\etocfontthree {\normalfont \footnotesize}
31 \def\etocsepminustwo {4ex \@plus .5ex \@minus .5ex}
32 \def\etocsepminusone {4ex \@plus .5ex \@minus .5ex}
33 \def\etocsepzero {2.5ex \@plus .4ex \@minus .4ex}
34 \def\etocseppone {1.5ex \@plus .3ex \@minus .3ex}
35 \def\etocseptwo {.5ex \@plus .1ex \@minus .1ex}
36 \def\etocseptthree {.25ex \@plus .05ex \@minus .05ex}
37 \def\etocbaselinespreadminustwo {1}
38 \def\etocbaselinespreadminusone {1}
39 \def\etocbaselinespreadzero {1}
40 \def\etocbaselinespreadone {1}
41 \def\etocbaselinespreadtwo {1}
42 \def\etocbaselinespreadthree {.9}
43 \def\etocminustwoleftmargin {1.5em plus 0.5fil}
44 \def\etocminustworightmargin {1.5em plus -0.5fil}
45 \def\etocminusoneleftmargin {1em}
46 \def\etocminusonerightmargin {1em}
47 \def\etococlineleaders
48 {\hbox{\normalfont\normalsize\hbext@2ex {\hss.\hss}}}
49 \def\etocabbrevpagenamename {p.~}
50 \def\etocpartname {Part}% modified 1.08b
51 \def\etocbookname {Book}
52 \def\etocdefaultlines{}

```

```

53 \def\etocabovetocskip{3.5ex \@plus 1ex \@minus .2ex}
54 \def\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
55 \def\etoccolumnsep{2em}
56 \def\etocmulticolsep{0ex}
57 \def\etocmulticolpretolerance{-1}
58 \def\etocmulticoltolerance{200}
59 \def\etocdefaultnbcol{2}
60 \def\etocinnertopsep{2ex}
61 \newcommand\etocmulticolstyle[2][{}]{
62 \def\etocinnerbottomsep{3.5ex}
63 \def\etocinnerleftsep{2em}
64 \def\etocinnerrightsep{2em}
65 \def\etocoprule{\hrule}
66 \def\etocleftrule{\vrule}
67 \def\etocrightrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etocoprulecolorcmd{\relax}
70 \def\etocbottomrulecolorcmd{\relax}
71 \def\etocleftrulecolorcmd{\relax}
72 \def\etocrightrulecolorcmd{\relax}
73 \newcommand*\etocruledstyle[2][{}]{
74 \def\etocframedmhook{\relax}
75 \long\def\etocbkgcolorcmd{\relax}
76 \newcommand*\etocframedstyle[2][{}]{
77 \def\etocmulticol{}
78 \def\etocruled{}
79 \def\etocframed{}
80 \def\etoclocalmulticol{}
81 \def\etoclocalruled{}
82 \def\etoclocalframed{}
83 \def\etocarticlestyle{}
84 \def\etocarticlestylenomarks{}
85 \def\etocbookstyle{}
86 \def\etocbookstylenomarks{}
87 \let\etocreportstyle\etocbookstyle
88 \let\etocreportstylenomarks\etocbookstylenomarks
89 \def\etocmemoirtocstofmt #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscrartclstyle{}
92 \let\etocscrbookstyle\etocscrartclstyle
93 \let\etocscrreprtstyle\etocscrartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]{}
96 \newcommand*\etocmarkbothnouc[1]{}
97 \newcommand\etocstocstyle[3][section]{}
98 \newcommand\etocstocstylewithmarks[4][section]{}
99 \newcommand\etocstocstylewithmarksnouc[4][section]{}
100 \def\etocignoretoctocdepth{}
101 \def\etocsettocdepth[1]{}
102 \def\etocdepthtag #1#{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepthtags {}
105 \def\etocobeydepthtags {}
106 \def\etocsettagdepth #1#2{}
107 \def\invisibletableofcontents {}

```

```

108 \def\invisiblelocaltableofcontents{}
109 \def\etocsetnexttocdepth #1{}
110 \def\etocsetlocaltop #1#\Etoc@set@localtop
111 \def\Etoc@set@localtop #1{}
112 \def\etocstandardlines {}
113 \def\etococlines {}
114 \let\etocaftertohook \@empty
115 \let\etocbeforetitlehook \@empty
116 \appto\tableofcontents{\def\tableofcontents{}}

```

---

File 144 **lwarp-eurosym.sty**

§ 253 Package **eurosym**

*(Emulates or patches code by HENRIK THEILING.)*

Pkg eurosym eurosym is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{eurosym}[1998/08/06]

2 \renewrobustcmd\officialeguro{\HTMLentity{euro}}
3 \let\geneuro\officialeguro
4 \let\geneuronarrow\officialeguro
5 \let\geneurowide\officialeguro
6 \let\euro\officialeguro
7 \renewrobustcmd\eurobars{}
8 \renewrobustcmd\eurobarsnarrow{}
9 \renewrobustcmd\eurobarswide{}

```

---

File 145 **lwarp-everypage.sty**

§ 254 Package **everypage**

*(Emulates or patches code by SERGIO CALLEGARI.)*

Pkg everypage everypage is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{everypage}[2007/06/20]

2 \newcommand*\AddEverypageHook[1]{}
3 \newcommand*\AddThispageHook[1]{}

```

---

File 146 **lwarp-everyshi.sty**

§ 255 Package **everyshi**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg everyshi ignored.

**for HTML output:** Discard all options for lwarp-everyshi:

```
1 \LWR@ProvidesPackageDrop{everyshi}[2001/05/15]

2 \let\EveryShipout\relax
3 \newcommand*{\EveryShipout}[1]{}
4
5 \let\AtNextShipout\relax
6 \newcommand*{\AtNextShipout}[1]{}

```

File 147 **lwarp-extarrows.sty**

§ 256 Package **extarrows**

*(Emulates or patches code by HUYNH KY ANH.)*

Pkg extarrows **extarrows** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{extarrows}[2008/05/15]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\Newextarrow\xLongleftarrow{10,10}{0x21D0}}
4 \CustomizeMathJax{\Newextarrow\xLongrightarrow{10,10}{0x21D2}}
5 \CustomizeMathJax{\Newextarrow\xLonglefttrightarrow{10,10}{0x21D4}}
6 \CustomizeMathJax{\Newextarrow\xLeftrightarrow{10,10}{0x21D4}}
7 \CustomizeMathJax{\Newextarrow\xlonglefttrightarrow{10,10}{0x2194}}
8 \CustomizeMathJax{\Newextarrow\xleftrightharrow{10,10}{0x2194}}
9 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}
10 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
11 \end{warpMathJax}

```

File 148 **lwarp-extramarks.sty**

§ 257 Package **extramarks**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

Pkg extramarks **extramarks** is ignored.

**for HTML output:** Discard all options for lwarp-extramarks:

```
1 \LWR@ProvidesPackageDrop{extramarks}[2019/01/31]

2 \newcommand*{\extramarks}[2]{}
3 \newcommand*{\firstleftxmark}{}
4 \newcommand*{\lastleftxmark}{}
5 \newcommand*{\firstrightxmark}{}
6 \newcommand*{\lastrightxmark}{}

```

```

7 \newcommand*\firstxmark{}
8 \newcommand*\lastxmark{}
9 \newcommand*\topxmark{}
10 \newcommand*\topleftxmark{}
11 \newcommand*\toprightxmark{}
12 \newcommand*\firstleftmark{}
13 \newcommand*\lastrightmark{}
14 \newcommand*\firstrightmark{}
15 \newcommand*\lastleftmark{}

```

File 149 **lwarp-fancybox.sty**

§ 258 Package **fancybox**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

Pkg fancybox fancybox is supported with some patches.

[framed equation example](#) fancybox's documentation has an example FramedEqn environment which combines math, \Sbox, a minipage, and an \fbox. This combination requires that the entire environment be enclosed inside a lateximage, which is done by adding \lateximage at the very start of FramedEqn's beginning code, and \endlateximage at the very end of the ending code. Unfortunately, the HTML alt attribute is not used here.

```

\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}

```

[framing alternatives](#) \fbox works with fancybox. Also see lwarp's \fboxBlock macro and fminipage environment for alternatives to \fbox for framing environments.

[framed table example](#) The fancybox documentation's example of a framed table using an \fbox containing a tabular does not work with lwarp, but the FramedTable environment does work if \fbox is replaced by \fboxBlock. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a fminipage environment. The caption may be placed either inside or outside the fminipage:

```

\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}

```

 [framed verbatim](#) lwarp does not support the verbatim environment inside a span, box, or fancybox's

`\Sbox`, but a verbatim may be placed inside a `fminipage`. The `fancybox` documentation's example `FramedVerb` may be defined as:

```
\newenvironment{FramedVerb}[1] % width
{
 \VerbatimEnvironment
 \fminipage{#1}
 \beginVerbatim
}{
 \endVerbatim
 \endfminipage
}
```

`framed \VerbBox` `fancybox`'s `\VerbBox` may be used inside `\fbox`.

`indented alignment` `\LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what `pdftotext` detects. Some lines may be off slightly in their left edge.

`fancybox, fancyvrb`

If using `fancybox` or `fancyvrb` with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

⚠ `\VerbatimFootnotes`  
⚠ sectioning or displaymath

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}
```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when `\VerbatimFootnotes` are selected. The browser usually compensates.

```
1 \LWR@ProvidesPackagePass{fancybox}[2010/05/15]
```

After the preamble is loaded, after any patches to `Verbatim`:

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching fancybox.}
```

`\VerbatimFootnotes` Patched to use the new version.

```
4 \def\VerbatimFootnotes{%
5 \let\@footnotetext\@footnotetext%
6 \let\LWR@footnotetext\@footnotetext% lwarp
7 }
```

`\V@footnotetext` Patches in a subset of `lwarp`'s `\LWR@footnotetext` to the `fancyvrb` version of `\V@footnotetext`.

```
8 \def\V@footnotetext{%
9 \LWR@traceinfo{V@footnotetext}%
```

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

```
10 \LWR@newautopagelabel{page}%
```

Take the current footnote box, then append:

```
11 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
12 \unvbox\LWR@footnotebox%
```

Remember the footnote number for \ref:

```
13 \protected@edef\@currentlabel{%
14 \csname p@footnote\endcsname\@thefnmark%
15 }% @currentlabel
```

Use HTML superscripts in the footnote even inside a lateximage:

```
16 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```
17 \ifthenelse{%
18 \boolean{LWR@doingstartpars} \AND%
19 \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
20 }%
21 {}%
22 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote to the list:

```
23 \@makefntext{}%
```

The footnote text will follow after \V@@@footnotetext has completed.

```
24 \bgroup%
25 \aftergroup{\V@@@footnotetext}%
```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```
26 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
27 \ignorespaces%
28 }%
```

```
29}% AfterEndPreamble
```

```
30 \renewcommand*\@shadowbox}[1]{%
31 \ifbool{FormatWP}%
32 {\InlineClass[border:1px solid black]{shadowbox}{#1}}%
33 {\InlineClass{shadowbox}{#1}}%
34 }
35
36 \renewcommand*\@doublebox}[1]{%
37 \ifbool{FormatWP}%
38 {\InlineClass[border:1px double black]{doublebox}{#1}}%
39 {\InlineClass{doublebox}{#1}}%
40 }
41
42 \renewcommand*\@ovalbox}[2]{%
43 \ifbool{FormatWP}%
```



```

44 {\InlineClass[border:1px solid black; border-radius:1ex]{ovalbox}{#2}}%
45 {%
46 \ifthenelse{\isequivalentto{#1}{\thinlines}}%
47 {\InlineClass{ovalbox}{#2}}%
48 {\InlineClass{Ovalbox}{#2}}%
49 }%
50 }

```

Convert minipages, parboxes, and lists into linear text using the LWR@nestspan environment:

```

51 \let\LWR@origSbox\Sbox
52
53 \def\Sbox{\LWR@origSbox\LWR@nestspan}
54
55
56 \let\LWR@origendSbox\endSbox
57
58 \def\endSbox{\endLWR@nestspan\LWR@origendSbox}

```

Beqnarray is adapted for MATHJAX or enclosed inside a lateximage:

```

59 \RenewEnviron{Beqnarray}
60 {\LWR@eqnarrayfactor}
61
62 \csgpreto{Beqnarray*}{\boolfalse{LWR@numbereqnarray}}

```

\GenericCaption is enclosed in an HTML block:

```

63 \renewcommand{\GenericCaption}[1]{%
64 \LWR@figcaption%
65 \LWR@isolate{#1}%
66 \endLWR@figcaption%
67 }

```

Btrivlist is enclosed in an HTML block. This is a tabular, and does not use \item.

```

\trivlist {</l/r>} [<t/c/b>]

68 \RenewDocumentEnvironment{Btrivlist}{m o}
69 {%
70 \LWR@stoppars%
71 \begin{BlockClass}{Btrivlist}%
72 \tabular{#1}%
73 }
74 {%
75 \endtabular%
76 \end{BlockClass}%
77 \LWR@startpars%
78 }

```

Btrivlist is also neutralized when used inside a span:

```

79 \AtBeginEnvironment{LWR@nestspan}{%
80 \RenewDocumentEnvironment{Btrivlist}{m o}{}{}%
81 }

```

lwarp's handling of `\item` is patched to accept fancybox's optional arguments:

```

82 \let\LWRFB@origitemizeitem\LWR@itemizeitem
83 \let\LWRFB@origdescitem\LWR@descitem
84
85 \RenewDocumentCommand{\LWR@itemizeitem}{d()}{%
86 \IfValueTF{#2}{%
87 \LWRFB@origitemizeitem[#2]%
88 }{%
89 \LWRFB@origitemizeitem%
90 }%
91 }
92
93 \RenewDocumentCommand{\LWR@descitem}{d()}{%
94 \IfValueTF{#2}{%
95 \LWRFB@origdescitem[#2]~%
96 }{%
97 \LWRFB@origdescitem%
98 }%
99 }

100 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
101 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
102 \LWR@origitem%
103 }

```

The various boxed lists become regular lists:

```

104 \renewenvironment{Bitemize}[1][\begin{itemize}]{\end{itemize}}
105 \renewenvironment{Benumerate}[1][\begin{enumerate}]{\end{enumerate}}
106 \renewenvironment{Bdescription}[1][\begin{description}]{\end{description}}

```

`\boxput` simply prints one then the other argument, side-by-side instead of above and behind:

```

107 \RenewDocumentCommand{\boxput}{s d() m m}{%
108 \IfBooleanTF{#1}{#3\quad#4}{#4\quad#3}%
109 }

```

Neutralized commands:

```

110 \RenewDocumentCommand{\fancyput}{s d() m}{%}
111 \RenewDocumentCommand{\thisfancyput}{s d() m}{%}
112
113 \RenewDocumentCommand{\fancy page}{m m}{%}
114 \RenewDocumentCommand{\thisfancy page}{m m}{%}
115
116 \def\LandScape#1{}

```

```

117 \def\endLandScape{}
118 \def\@Landscape#1#2#3{}
119 \def\endLandscape{}

```

Low-level patches for UseVerbatim and friends:

```

120 \let\LWRFB@UseVerbatim\UseVerbatim
121 \renewcommand*\UseVerbatim[1]{%
122 \LWR@atbeginverbatim{Verbatim}%
123 \LWRFB@UseVerbatim{#1}%
124 \LWR@afterendverbatim%
125 }
126
127 \let\LWRFB@LUseVerbatim\LUseVerbatim
128
129 \renewcommand*\LUseVerbatim[1]{%
130 \LWR@atbeginverbatim{LVerbatim}%
131 \noindent%
132 \LWRFB@LUseVerbatim{#1}%
133 \LWR@afterendverbatim%
134 }
135
136 \def\@BUseVerbatim[#1]#2{%
137 \LWR@atbeginverbatim{BVerbatim}%
138 \LWRFB@UseVerbatim{#2}%
139 \LWR@afterendverbatim%
140 }

```

---

File 150 **lwarp-fancyhdr.sty**

§ 259 Package **fancyhdr**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

Pkg fancyhdr fancyhdr is ignored.

**for HTML output:** Discard all options for lwarp-fancyhdr:

```

1 \LWR@ProvidesPackageDrop{fancyhdr}[2021/01/04]

2 \newcommand*\fancyhead[2][{}]{
3 \newcommand*\fancyfoot[2][{}]{
4 \newcommand*\fancyhf[2][{}]{
5
6 \newcommand*\lhead[2][{}]{
7 \newcommand*\chead[2][{}]{
8 \newcommand*\rhead[2][{}]{
9 \newcommand*\lfoot[2][{}]{
10 \newcommand*\cfoot[2][{}]{
11 \newcommand*\rfoot[2][{}]{
12 \newcommand*\headrulewidth{}{
13 \newcommand*\footrulewidth{}{

```

```

14 \providecommand{\headruleskip}{0pt}
15 \providecommand{\footruleskip}{0pt}
16 \newcommand{\plainheadrulewidth}{0pt}
17 \newcommand{\plainfootrulewidth}{0pt}
18 \def\fancyplain#1#2#1}
19 \newcommand*\headrule{}
20 \newcommand*\footrule{}
21 \newlength{\headwidth}
22 \newcommand*\fancycenter}[1][1em]{}
23 \newcommand*\fancyheadoffset}[2]{}
24 \newcommand*\fancyfootoffset}[2]{}
25 \newcommand*\fancyhfoffset}[2]{}
26 \newcommand{\fancyheadinit}[1]{}
27 \newcommand{\fancyfootinit}[1]{}
28 \newcommand{\fancyhfinit}[1]{}
29 \newcommand*\iffloatpage}[2]{#2}
30 \newcommand*\ifftopfloat}[2]{#2}
31 \newcommand*\iffbotfloat}[2]{#2}
32 \newcommand*\iffootnote}[2]{#2}
33
34 \newcommand{\fancypagestyle}[1]{%
35 \ifnextchar[{\f@nch@pagestyle{#1}}{\f@nch@pagestyle{#1}}{}%
36 }
37 \long\def\f@nch@pagestyle#1[#2]#3{}

```


---


File 151 **lwarp-fancypar.sty**

§ 260 Package **fancypar**

*(Emulates or patches code by GONZALO MEDINA.)*

Pkg fancypar **fancypar** is used as-is for print output, and emulated for HTML.

 **css classes** `\NotebookPar` and related are used as-is inside a `lateximage`, but for HTML these are emulated as a `<div>` of class `NotebookPar`, etc. For HTML, the package options and the macro optional arguments are ignored. The user must provide custom CSS for each if visual effects are required. See section 7.7.

 **custom styles** If using a custom paragraph style, such as `\MyStylePar` from the documentation, use the following to generate an HTML `<div>` of class `MyStylePar`:

```

... (existing definition of \MyStylePar, print version) ...
\begin{warpHTML}
\AddFancyparClass{MyStyle}
\end{warpHTML}

```

`\MyStylePar` is then modified to emulate HTML. An optional argument is allowed, which is ignored.

**for HTML output:** `1 \LWR@ProvidesPackagePass{fancypar}[2019/01/18]`

```

2 \begin{warpHTML}
3 \makeatletter
4
5 \newcommand{\LWR@fancyref}[2]{%
6 \begin{BlockClass}{#1Par}
7 #2
8 \end{BlockClass}
9 }
10
11 \newcommand{\LWR@HTML@NotebookPar}[2][\LWR@fancyref{Notebook}{#2}]
12 \LWR@formatted{NotebookPar}
13
14 \newcommand{\LWR@HTML@ZebraPar}[2][\LWR@fancyref{Zebra}{#2}]
15 \LWR@formatted{ZebraPar}
16
17 \newcommand{\LWR@HTML@DashedPar}[2][\LWR@fancyref{Dashed}{#2}]
18 \LWR@formatted{DashedPar}
19
20 \newcommand{\LWR@HTML@MarkedPar}[2][\LWR@fancyref{Marked}{#2}]
21 \LWR@formatted{MarkedPar}
22
23 \newcommand{\LWR@HTML@UnderlinedPar}[2][\LWR@fancyref{Underlined}{#2}]
24 \LWR@formatted{UnderlinedPar}
25
26
27 \newcommand{\LWR@HTML@add@fancy@format}{}
28 \LWR@formatted{add@fancy@format}
29
30
31 \newcommand{\AddFancyrefClass}[1]{%
32 \expandafter\newcommand\csname LWR@HTML@#1Par\endcsname[2][\LWR@fancyref{#1}{##2}]%
33 \LWR@formatted{#1}{##2}%
34 }
35 \LWR@formatted{#1Par}
36 }
37
38 \makeatother
39 \end{warpHTML}

```

---

File 152 **lwarp-fancyref.sty**

§ 261 Package **fancyref**

(Emulates or patches code by AXEL REICHERT.)

Pkg fancyref fancyref is modified for HTML output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fancyref}[1999/02/03]

To remove the margin option, if \fancyrefhook is anything other than the paren option, then force it to the default instead. (Comparing to the margin option was not possible since lwarp has revised the meaning of \mbox so the comparison failed.)

```

2 \newcommand*\LWRfref@parenfancyrefhook}[1]{(#1)}
3
4 \ifdefstrequal{\fancyrefhook}{\LWRfref@parenfancyrefhook}
5 {}{
6 \renewcommand*\fancyrefhook}[1]{#1}%
7 }

```

---

File 153 **lwarp-fancytabs.sty**

§ 262 Package **fancytabs**

Pkg fancytabs fancytabs is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fancytabs}[2016/03/29]

```

2 \newcommand{\fancytab}[3][RIGHT]{
3 \newcommand{\fancytabsStyle}[1]{
4 \newcommand{\fancytabsHeight}[1]{
5 \newcommand{\fancytabsWidth}[1]{
6 \newcommand{\fancytabsCount}[1]{
7 \newcommand{\fancytabsLeftColor}[1]{
8 \newcommand{\fancytabsRightColor}[1]{
9 \newcommand{\fancytabsTop}[1]{
10 \newcommand{\fancytabsTextVPos}[1]{
11 \newcommand{\fancytabsTextHPos}[1]{
12 \newcommand{\fancytabsGap}[1]{
13 \newcommand{\fancytabsFloor}[1]{
14 \newcommand{\fancytabsRotate}[1]{

```

---

File 154 **lwarp-fancyvrb.sty**

§ 263 Package **fancyvrb**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg fancyvrb fancyvrb is supported with some patches.

**HTML classes** The fancy verbatim environment is placed inside a <div> of class fancyvrb. The label is placed inside a <div> of class fancyvrblabel. The verbatim text itself is placed inside a <div> of class verbatim.

**fancybox, fancyvrb**

⚠ **\VerbatimFootnotes**  
 ⚠ sectioning or displaymath

If using fancybox or fancyvrb with \VerbatimFootnotes, and using footnotes in a sectioning command or display math, use \footnotemark and \footnotetext:

```

\subsection[Subsection Name]
 {Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}

```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when `\VerbatimFootnotes` are selected. The browser usually compensates.

```
1 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolourspec
2
3 \LWR@ProvidesPackagePass{fancyvrb}[2008/02/07]
```

Initial default patch for fancyvrb:

```
4 \fvset{frame=none}%
```

After the preamble is loaded, after any patches to Verbatim:

```
5 \AfterEndPreamble{
6 \LWR@traceinfo{Patching fancyvrb.}
```

`\VerbatimFootnotes` Patched to use the new version.

```
7 \def\VerbatimFootnotes{%
8 \let\@footnotetext\V@footnotetext%
9 \let\footnote\V@footnote%
10 \let\LWR@footnotetext\V@footnotetext% lwarp
11 }
```

`\V@footnotetext` Patches in a subset of `lwarp`'s `\LWR@footnotetext` to the `fancyvrb` version of `\V@footnotetext`.

```
12 \def\V@footnotetext{%
13 \LWR@traceinfo{V@footnotetext}%
```

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

```
14 \LWR@newautopagelabel{page}%
```

Take the current footnote box, then append:

```
15 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
16 \unvbox\LWR@footnotebox%
```

Remember the footnote number for `\ref`:

```
17 \protected@edef\@currentlabel{%
18 \csname p@footnote\endcsname\@thefnmark%
19 }% @currentlabel
```

Use HTML superscripts in the footnote even inside a `lateximage`:

```
20 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
21 \ifthenelse{%
22 \boolean{LWR@doingstartpars} \AND%
23 \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
```

```

24 }%
25 {}%
26 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@originewline}%

```

Append the footnote mark to the list:

```
27 \@makefntext{ }%
```

The footnote text will follow after \V@@@footnotetext has completed.

```

28 \bgroup%
29 \aftergroup{\V@@@footnotetext}%

```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```

30 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%

31 \ignorespaces%
32 }%

33 \preto\FVB@Verbatim{\LWR@forcenewpage}
34 \preto\FVB@LVerbatim{\LWR@forcenewpage}
35 % \preto\FVB@BVerbatim{\LWR@forcenewpage}% Fails, so done below.

```

Simplified to remove PDF formatting:

```

36 \def\FV@BeginListFrame@Single{%
37 \FV@SingleFrameLine{\z@}%
38 }
39
40 \def\FV@EndListFrame@Single{%
41 \FV@SingleFrameLine{\@ne}%
42 }
43
44 \def\FV@BeginListFrame@Lines{%
45 \FV@SingleFrameLine{\z@}%
46 }
47
48 \def\FV@EndListFrame@Lines{%
49 \FV@SingleFrameLine{\@ne}%
50 }
51
52 \renewcommand*{\FV@SingleFrameSep}{}

```

Adds HTML formatting:

```

53 \def\FV@BUseVerbatim#1{%
54 \FV@BVerbatimBegin#1\FV@BVerbatimEnd%
55 }

```

`\LWR@FVstyle` Holds the style of the verbatim.

```
56 \newcommand*{\LWR@FVstyle}{}

```



The following patches to Verbatim are executed at the start and end of the environment, depending on the choice of frame. Original code is from the fancyvrb package.

```

57 \newcommand*{\LWR@fvstartnone}{%
58 \LWR@traceinfo{fvstartnone}%
59 % \hbox to\z@{
60 \BlockClass[\LWR@FVstyle]{fancyvrb}
61 \LWR@stoppars
62 \ifx\FV@LabelPositionTopLine\relax\else
63 \ifx\FV@LabelBegin\relax\else
64 \FancyVerbRuleColor{\LWR@FVfindbordercolor}
65 \LWR@htmltagc{%
66 div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
67 style=\textquotedbl{}color: \LWR@origpound\LWR@tempcolor\textquotedbl%
68 }
69 \LWR@print@textrm{\FV@LabelBegin}% \textrm preserves emdash
70 \LWR@htmltagc{/div}\LWR@orignewline%
71 \fi
72 \fi
73 \LWR@atbeginverbatim{verbatim}%
74 % }%
75 }
76
77 \newcommand*{\LWR@fvendnone}{%
78 \LWR@traceinfo{fvendnone}%
79 % \hbox to\z@{
80 \LWR@afterendverbatim%
81 \LWR@stoppars%
82 \ifx\FV@LabelPositionBottomLine\relax\else
83 \ifx\FV@LabelEnd\relax\else
84 \FancyVerbRuleColor{\LWR@FVfindbordercolor}
85 \LWR@htmltagc{%
86 div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
87 style=\textquotedbl{}color: \LWR@origpound\LWR@tempcolor\textquotedbl%
88 }
89 \LWR@print@textrm{\FV@LabelEnd}
90 \LWR@htmltagc{/div}\LWR@orignewline%
91 \fi
92 \fi
93 \endBlockClass
94 }
95
96 \newcommand*{\LWR@fvstartsingel}{%
97 \LWR@traceinfo{fvstartsingel}%
98 \LWR@fvstartnone%
99 \FV@BeginListFrame@Single%
100 }
101
102 \newcommand*{\LWR@fvendsingel}{%
103 \LWR@traceinfo{fvendsingel}%
104 \FV@EndListFrame@Single%
105 \LWR@fvendnone%
106 }
107

```

```

108 \newcommand*\LWR@fvstartline}{%
109 \LWR@traceinfo{fvstartline}%
110 \LWR@fvstartnone%
111 % \setlength{\LWR@templengthone}{\baselineskip}%
112 \FV@BeginListFrame@Lines%
113 % \setlength{\baselineskip}{\LWR@templengthone}%
114 % \setlength{\baselineskip}{5pt}%
115 }
116
117 \newcommand*\LWR@fvendline}{%
118 \LWR@traceinfo{fvendline}%
119 \FV@EndListFrame@Lines%
120 \LWR@fvendnone%
121 }

```

The following patches select the start/left/right/end behaviors depending on frame. Original code is from the fancyvrb package.

```

122 \newcommand*\LWR@FVfindbordercolor}{%
123 \FancyVerbRuleColor%
124 \LWR@findcurrenttextcolor%
125 \color{black}%
126 }
127
128 % border width of \FV@FrameRule
129 \newcommand*\LWR@FVborderstyle}[1]{%
130 padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; % space
131 \LWR@FVfindbordercolor\LWR@indentHTMLtwo%
132 border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt % space
133 solid {\FancyVerbRuleColor{\LWR@origpound\LWR@tempcolor}} ; % space
134 }
135
136 \def\FV@Frame@none{%
137 \renewcommand*\LWR@FVstyle}{\LWR@currenttextcolorstyle}%
138 \let\FV@BeginListFrame\LWR@fvstartnone%
139 \let\FV@LeftListFrame\relax%
140 \let\FV@RightListFrame\relax%
141 \let\FV@EndListFrame\LWR@fvendnone}
142
143 \FV@Frame@none% default values
144
145 \def\FV@Frame@single{%
146 \renewcommand*\LWR@FVstyle}{%
147 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
148 \LWR@FVborderstyle{}}%
149 }%
150 \let\FV@BeginListFrame\LWR@fvstartsingle%
151 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
152 \let\FV@RightListFrame\FV@RightListFrame@Single%
153 \let\FV@EndListFrame\LWR@fvendsingle}
154
155 \def\FV@Frame@lines{%
156 \renewcommand*\LWR@FVstyle}{%
157 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
158 \LWR@FVborderstyle{-top}%

```

```

159 \LWR@indentHTMLtwo%
160 \LWR@FVborderstyle{-bottom}%
161 }%
162 \let\FV@BeginListFrame\LWR@fvstartline%
163 \let\FV@LeftListFrame\relax%
164 \let\FV@RightListFrame\relax%
165 \let\FV@EndListFrame\LWR@fvendline}
166
167 \def\FV@Frame@topline{%
168 \renewcommand*{\LWR@FVstyle}{%
169 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
170 \LWR@FVborderstyle{-top}%
171 }%
172 \let\FV@BeginListFrame\LWR@fvstartline%
173 \let\FV@LeftListFrame\relax%
174 \let\FV@RightListFrame\relax%
175 \let\FV@EndListFrame\LWR@fvendnone}
176
177 \def\FV@Frame@bottomline{%
178 \renewcommand*{\LWR@FVstyle}{%
179 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
180 \LWR@FVborderstyle{-bottom}%
181 }%
182 \let\FV@BeginListFrame\LWR@fvstartnone%
183 \let\FV@LeftListFrame\relax%
184 \let\FV@RightListFrame\relax%
185 \let\FV@EndListFrame\LWR@fvendline}

```

Seems to be required in some situations:

```

186 \def\FV@FrameFillLine{%

187 \def\FV@Frame@leftline{%
188 \renewcommand*{\LWR@FVstyle}{%
189 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
190 \LWR@FVborderstyle{-left}%
191 }%
192 % To define the \FV@FrameFillLine macro (from \FV@BeginListFrame)
193 \ifx\FancyVerbFillColor\relax%
194 \let\FV@FrameFillLine\relax%
195 \else%
196 \@tempdima\FV@FrameRule\relax%
197 \multiply\@tempdima-\tw@%
198 \edef\FV@FrameFillLine{%
199 {\noexpand\FancyVerbFillColor{\vrule\@width\number\@tempdima sp}%
200 \kern-\number\@tempdima sp}}%
201 \fi}
202 \let\FV@BeginListFrame\LWR@fvstartnone%
203 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
204 \let\FV@RightListFrame\relax%
205 \let\FV@EndListFrame\LWR@fvendnone}

```

Adds the optional label to the top and bottom edges. Original code is from the fancyvrb package.

```

206 \def\FV@SingleFrameLine#1{%
207 % \hbox to\z@{%
208 % \kern\leftmargin
209 % \ifnum#1=\z@\relax
210 % \let\FV@Label\FV@LabelBegin
211 % \else
212 % \let\FV@Label\FV@LabelEnd
213 % \fi
214 % \ifx\FV@Label\relax
215 % \FancyVerbRuleColor{\vrule \@width\linewidth \@height\FV@FrameRule}%
216 % \else
217 % \ifnum#1=\z@
218 % \setbox\z@\hbox{\strut\enspace\FV@LabelBegin\enspace\strut}%
219 % \ifx\FV@LabelPositionTopLine\relax
220 % \else
221 % \fi
222 % \else
223 % \setbox\z@\hbox{\strut\enspace\FV@LabelEnd\enspace\strut}%
224 % \ifx\FV@LabelPositionBottomLine\relax
225 % \else
226 % \fi
227 % \fi
228 % \fi
229 % \hss
230 % }
231 }

```

Processes each line, adding optional line numbers. Original code is from the `fancyvrb` package.

```

232 \def\FV@ListProcessLine#1{%
233 % \hbox to \hsize{%
234 % \kern\leftmargin
235 % \hbox to \VerbatimHTMLWidth {%
236 % \ifcvoid{FV@LeftListNumber}{\kern 2.5em}%
237 % \FV@LeftListNumber%
238 % \FV@LeftListFrame
239 % \FancyVerbFormatLine{#1}%
240 % \hss%
241 % \FV@RightListFrame
242 % \FV@RightListNumber%
243 % }%
244 % \hss% required to avoid underfull hboxes
245 }
246 }

247 \def\FV@ListProcessLine@i#1{%
248 % \hbox{%
249 % \ifvoid@labels\else
250 % \hbox to \z@{\kern\@totalleftmargin\box\@labels\hss}%
251 % \fi
252 % \FV@ListProcessLine{#1}%
253 % }%
254 % \let\FV@ProcessLine\FV@ListProcessLine@ii%
255 }

```

```
256 \def\FV@ListProcessLastLine{}
```

Env BVerbatim

```
257
258 \xpretocmd{\FV@BeginVBox}
259 {%
260 \LWR@forcenewpage% instead of \preto
261 \LWR@atbeginverbatim{bverbatim}%
262 }
263 {}
264 {\LWR@patcherror{fancyvrb}{FV@BeginVBox}}
265
266 \xapptocmd{\FV@EndVBox}
267 {%
268 \LWR@afterendverbatim%
269 }
270 {}
271 {\LWR@patcherror{fancyvrb}{FV@EndVBox}}
```

End of the modifications to make at the end of the preamble:

```
272 } % \AfterEndPreamble
```

---

File 155 **lwarp-fbox.sty**

§ 264 Package **fbox**

(Emulates or patches code by HERBERT VOSS.)

Pkg fbox **fbox** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fbox}[2020/06/22]

This will be \LWR@formatted when \AtBeginDocument:

```
2 \LetLtxMacro\LWR@HTML@fbox\fbox
```

Instead of using the original, the new version is used with all borders:

```
3 \renewcommand*\orig@fbox{\FBx@i[tblr]}
```

\WR@fboxpkg@border {<1: top/bottom/left/right>} {<2: padding, or empty>}

Accumulates HTML styles for border, and padding if given:

```
4 \newcommand*\LWR@fboxpkg@border[2]{%
5 \appto\LWR@tempone{%
6 border-#1: % space
7 \LWR@printlength{\LWR@atleastonept} % space
8 solid \LWR@origpound\LWR@tempcolor ;\LWR@indentHTML
```

```

9 }%
10 \ifblank{#2}{}%
11 \appto\LWR@tempone{%
12 padding-#1: \LWR@printlength{#2} ;\LWR@indentHTML
13 }%
14 }%
15 }

```

A hack to reuse the same code for inline and blocks:

```

16 \newbool{LWR@fboxpkg@ispar}
17 \boolfalse{LWR@fboxpkg@ispar}

```

Accumulate HTML styles for left and right padding, depending on `\if@fbox@space@left`, `\if@fbox@space@right`:

```

18 \newcommand{\LWR@fboxpkg@lrpadding}[1]{%
19 \csuse{if@fbox@space@#1}%
20 \appto\LWR@tempone{%
21 padding-#1: \LWR@printlength{\fbox@sep};\LWR@indentHTML
22 }
23 \else%
24 \appto\LWR@tempone{%
25 padding-#1: 0pt;\LWR@indentHTML
26 }
27 \fi%
28 }

```

The HTML version, modified to use HTML styles and either an `\InlineClass` or `BlockClass`:

```

29 \newcommand{\LWR@HTML@FBox@iii}[1]{%

```

Find and set the text color, rule width, margin:

```

30 \LWR@forceminwidth{\fbox@rule}%
31 \LWR@findcurrenttextcolor%
32 \def\LWR@tempone{%
33 color: \LWR@origpound\LWR@tempcolor ; \LWR@indentHTML
34 margin: 1ex ; \LWR@indentHTML
35 }%

```

Add left/right padding:

```

36 \LWR@fboxpkg@lrpadding{left}%
37 \LWR@fboxpkg@lrpadding{right}%

```

Per the original to decode the borders, in a new way:

```

38 \ifnum\the\@tempcntb>8\relax
39 \advance\@tempcntb by -8
40 \LWR@fboxpkg@border{top}{\fbox@sep}%
41 \fi
42 \ifnum\@tempcntb>3

```

```

43 \advance\@tempcntb by -4
44 \LWR@fboxpkg@border{left}{}%
45 \fi
46 \ifnum\@tempcntb>1
47 \LWR@fboxpkg@border{right}{}%
48 \fi
49 \ifodd\@tempcntb
50 \LWR@fboxpkg@border{bottom}{\fbox@@sep}%
51 \fi

```

Generate a BlockClass or \InlineClass with the contents:

```

52 \color@begingroup
53 \ifbool{LWR@fboxpkg@ispar}%
54 {%
55 \begin{BlockClass}[\LWR@tempone]{fboxpkg}%
56 #1%
57 \end{BlockClass}%
58 }%
59 {%
60 \InlineClass[\LWR@tempone]{fboxpkg}{%
61 #1%
62 }%
63 }%
64 \color@endgroup
65 \boolfalse{LWR@fboxpkg@ispar}% globally
66 }
67 \LWR@formatted{FBox@iii}

```

For \fparbox, set the use of BlockClass, then reuse the above:

```

68 \long\def\LWR@HTML@FParBox@i[#1]#2{%
69 \booltrue{LWR@fboxpkg@ispar}%
70 \FBox@i[#1]{#2}
71 }
72 \LWR@formatted{FParBox@i}
73
74 \long\def\LWR@HTML@FParBox@ii#1{%
75 \booltrue{LWR@fboxpkg@ispar}%
76 \FBox@i[tblr]{#1}%
77 }
78 \LWR@formatted{FParBox@ii}

```

For MATHJAX, absorb and ignore star and optional arguments:

```

79 \CustomizeMathJax{\let\LWR@origfbox\fbox}
80 \CustomizeMathJax{\newcommand{\LWRfboxpkgtwo}[2][\LWR@origfbox{#2}}
81 \CustomizeMathJax{\renewcommand{\fbox}{\ifstar\LWRfboxpkgtwo\LWRfboxpkgtwo}}
82 \CustomizeMathJax{\newcommand{\fparbox}{\fbox}}

```

File 156 **lwarp-fewerfloatpages.sty**

§ 265 Package **fewerfloatpages**

Pkg fewerfloatpages fewerfloatpages is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]

```
2 \newcommand\floatpagekeepfraction{\textfraction}
3 \newcounter{floatpagedeferlimit}
4 \newcounter{floatpagekeeplimit}
```

File 157 **lwarp-figcaps.sty**

§ 266 Package **figcaps**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg figcaps figcaps is ignored.

**for HTML output:** Discard all options for lwarp-figcaps:

```
1 \LWR@ProvidesPackageDrop{figcaps}[1999/02/23]

2 \newcommand*\figcapson{}
3 \newcommand*\figcapsoff{}
4 \newcommand*\printfigures{}
5 \newcommand*\figmarkon{}
6 \newcommand*\figmarkoff{}
7 \def\figurecapname{Figure Captions}
8 \def\tablepagename{Tables}
9 \def\figurepagename{Figures}
```

File 158 **lwarp-figsize.sty**

§ 267 Package **figsize**

*(Emulates or patches code by ANTHONY A. TANBAKUCHI.)*

Pkg figsize figsize is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{figsize}[2002/03/18]

Emulates a virtual 6×9 inch textsize.



---

```

2 \newlength{\figwidth}
3 \newlength{\figheight}
4
5 \newcommand{\SetFigLayout}[3][0]{%
6 \setlength{\figheight}{8in}%
7 \setlength{\figheight}{\figheight / #2}%
8 %
9 \setlength{\figwidth}{5.5in}%
10 \setlength{\figwidth}{\figwidth / #3}%
11 }

```

---

File 159 **lwarp-fitbox.sty**

§ 268 Package **fitbox**

Pkg fitbox fitbox is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fitbox}[2019/02/20]

```

2 \NewDocumentCommand{\fitbox}{s o m}{%
3 \begin{BlockClass}{fitbox}
4 #3
5 \end{BlockClass}
6 }
7
8 \newcommand*{\fitboxset}[1]{}
9
10 \newdimen\fitboxnatheight
11 \newdimen\fitboxnatwidth
12
13 \newcommand\SetFitboxLayout[3][[]]{}

```

---

File 160 **lwarp-fix2col.sty**

§ 269 Package **fix2col**

Pkg fix2col fix2col is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]


---

File 161 **lwarp-fixmath.sty**

§ 270 Package **fixmath**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg fixmath fixmath is used as-is for SVG math, and emulated for MATHJAX.

 **limitations** MATHJAX does not have full font support for bold italic Greek.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fixmath}[2000/04/11]

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@mathjax@addgreek@u@it*{}{}
6 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\delta}{0394}
7 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\omega}{03A9}
8 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
9 \end{warpMathJax}

```

---

File 162 **lwarp-fixme.sty**

§ 271 Package **fixme**

*(Emulates or patches code by DIDIER VERNA.)*

Pkg `fixme` `fixme` is patched for use by `lwarp`.

 **external layouts** External layouts (`\fxloadlayouts`) are not supported.

Customized layouts are overwritten by `lwarp`'s versions `\AtBeginDocument` in order to provide the HTML conversion. If creating a new layout, see `lwarp`'s changes to provide similar for the new layout, inside a `warpHTML` environment.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```

\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}

```

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fixme}[2019/01/03]

```

Restore `lwarp`'s version of `\@wrindex`, ignoring the `fixme` package's target option:

```

2 \let\@wrindex\LWR@wrindex

```

Float-related macros required by `lwarp`:

```

3 \newcommand{\ext@fixme}{lox}
4
5 \renewcommand{\l@fixme}[2]{%
6 \hypertocfloat{1}{fixme}{lox}%
7 {\LWR@nameref{\BaseJobname-autopage-\arabic{LWR@nextautopage}} --- #1}%
8 {#2}
9 }

```

Other modifications. Done `\AtBeginDocument` to hopefully work if the user customizes the layouts.

```

10 \AtBeginDocument{
11
12 \def\FXFaceInlineHTMLStyle{font-weight:bold}
13
14 \renewcommand*\FXLayoutInline[3]{ % space
15 \InlineClass[\FXFaceInlineHTMLStyle]{fixmeinline}%
16 {\@fxtxtstd{#1}{#2}{#3}}%
17 }
18
19 \def\FXFaceEnvHTMLStyle{font-weight:bold}
20
21 \renewcommand*\FXEnvLayoutPlainBegin[2]{%
22 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
23 \ignorespaces#2 \fxnotename{#1}: \ignorespaces%
24 }
25
26 \renewcommand*\FXEnvLayoutPlainEnd[2]{\endBlockClass}
27
28 \renewcommand*\FXEnvLayoutSignatureBegin[2]{%
29 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
30 \fxnotename{#1}: \ignorespaces%
31 }
32
33 \renewcommand*\FXEnvLayoutSignatureEnd[2]{\@fxsignature{#2}\endBlockClass}
34
35 \def\FXFaceSignatureHTMLStyle{font-style:italic}
36
37 \DeclareRobustCommand*\@fxsignature[1]{%
38 \ifthenelse{\equal{#1}{}}{%
39 }%
40 { -- {\InlineClass[\FXFaceSignatureHTMLStyle]{fixmesignature}{#1}}}%
41 }
42
43
44 \def\FXFaceTargetHTMLStyle{font-style:italic}
45
46 \renewcommand\FXTargetLayoutPlain[2]{%
47 \InlineClass[\FXFaceTargetHTMLStyle]{fixmetarget}{#2}%
48 }
49
50 }% \AtBeginDocument

```

---

File 163 **lwarp-fixmetodonotes.sty**

§ 272 Package **fixmetodonotes**

(Emulates or patches code by GIOELE BARABUCCI.)

Pkg fixmetodonotes **fixmetodonotes** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fixmetodonotes}[2013/04/28]
2 \renewcommand{\NOTES@addtolist}[2]{%
3 \refstepcounter{NOTES@note}%
4 % \phantomsection% REMOVED
5 \addcontentsline{notes}{NOTES@note}{%
6 \protect\numberline{\theNOTES@note}{\#1}: {\#2}}%
7 }%
8 }
9
10 \renewcommand{\NOTES@marker}[2]{\fbox{%
11 \textcolor{\#2}{% WAS \color
12 \textbf{\#1}}}%
13 }}
14
15 \renewcommand{\NOTES@colorline}[2]{%
16 \bgroup%
17 \ULon{\LWR@backgroundcolor{\#1}{\#2}}%
18 }

```

---

File 164 **lwarp-flafter.sty**

§ 273 Package **flafter**

Pkg flafter flafter is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]
2 \providecommand\fl@trace[1]{}

```

---

File 165 **lwarp-flippdf.sty**

§ 274 Package **flippdf**

Pkg flippdf flippdf is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]
2 \newcommand\FlipPDF{}
3 \newcommand\UnFlipPDF{}

```

---

File 166 **lwarp-float.sty**

§ 275 Package **float**

*(Emulates or patches code by ANSELM LINGNAU.)*

Pkg float float is emulated.

Float styles boxed and ruled are emulated by css and a float class according to style.

The HTML `<figure>` class is set to the float type, so css may also be used to format the float and its caption, according to float type. Furthermore, an additional class is set to the float style: `plain`, `plaintop`, `boxed`, or `ruled`, so css may be used to format by float style as well. Default formatting by css is provided for ruled and boxed styles.

⚠ not seem to be a floating environment for HTML output:

Always declare a `\newfloat` before modifying it with `\floatname`, etc.

```
1 \LWR@ProvidesPackageDrop{float}[2001/11/08]
```

`\LWR@floatstyle` The default float style.

```
2 \newcommand*{\LWR@floatstyle}{plain}
```

`\newfloat` `{\langle 1: type \rangle}{\langle 2: placement \rangle}{\langle 3: ext \rangle} [\langle 4: within \rangle]`

Emulates the `\newfloat` command from the `float` package.

“placement” is ignored.

```
3 \NewDocumentCommand{\newfloat}{m m m o}{%
4 \IfValueTF{#4}%
5 {\DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}}%
6 {\DeclareFloatingEnvironment[fileext=#3]{#1}}%
```

Remember the float style:

```
7 \csedef{\LWR@floatstyle@#1}{\LWR@floatstyle}%
```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```
8 \cslet{\listof#1s}\relax%
9 \cslet{\listof#1es}\relax%
```

Like size, `newfloat` also creates `\l@<type>`, but `float` does not, so remove it here:

```
10 \cslet{\l@#1}\relax%
11 }
```

`\floatname` `{\langle type \rangle}{\langle name \rangle}`

Sets the text name of the float, such as “Figure”. Avoids trying to set a recursive name, from `trivfloat`.

```
12 \NewDocumentCommand{\floatname}{m +m}{%
13 \def\LWR@tempone{#2}%
14 \def\LWR@temptwo{\@nameuse{#1name}}%
15 \ifdeffequal{\LWR@tempone}{\LWR@temptwo}{%
16 \SetupFloatingEnvironment{#1}{name=#2}%
17 }%
18 }
```

`\floatplacement` `{\langle type \rangle}{\langle placement \rangle}`

Float placement is ignored.

```

19 \newcommand*{\floatplacement}[2]{%
20 \SetupFloatingEnvironment{#1}{placement=#2}%
21 }

```

`\floatstyle`     $\langle style \rangle$

Remember the style for future floats:

```

22 \newcommand{\floatstyle}[1]{%
23 \def\LWR@floatstyle{#1}%
24 }%

```

`\restylefloat`     $* \langle type \rangle$

Remember the style for this float:

```

25 \NewDocumentCommand{\restylefloat}{s m}{%
26 \csedef{LWR@floatstyle@#2}{\LWR@floatstyle}%
27 }

```

`\listof`    See section 78.2 for the `\LWR@listof` command in the `lwarp` core.

```

28 \newcommand{\listof}{\LWR@listof}

```

File 167    **lwarp-floatflt.sty**

§ 276    Package    **floatflt**

*(Emulates or patches code by MATS DAHLGREN.)*

Pkg    floatflt    floatflt is emulated.

**for HTML output:**    Discard all options for `lwarp-floatflt`:

```

1 \LWR@ProvidesPackageDrop{floatflt}[1997/07/16]

```

Env    [ $\langle \rangle$ ]    `offset`  $\langle type \rangle$   $\langle width \rangle$  Borrowed from the `lwarp` version of `keyfloat`:

```

2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{0{-1.2ex} m m}
3 {%
4 \begin{LWR@setvirtualpage}*%
5 \ifblank{#3}{%
6 \LWR@BlockClassWP{%
7 float:right; %
8 width: 1.5in; % reasonable dummy width for word processor
9 margin:10pt%
10 }%
11 (note)%
12 {marginblock}%
13 }%
14 \setlength{\LWR@templengthone}{#3}%
15 \LWR@BlockClassWP{%
16 float:right; %

```

```

17 width:\LWR@printlength{\LWR@templengthone}; % extra space
18 margin:10pt%
19 }{%
20 width:\LWR@printlength{\LWR@templengthone}%
21 }%
22 (note)%
23 {marginblock}%
24 }%
25 \renewcommand*{\@capttype}{#2}%
26 }
27 {%
28 \endLWR@BlockClassWP%
29 \end{LWR@setvirtualpage}%
30 }

```

Env floatingfigure [*⟨placement⟩*] {*⟨width⟩*}

```

31 \DeclareDocumentEnvironment{floatingfigure}{o m}
32 {\begin{KFLTfloatflt@marginfloat}{figure}{#2}}
33 {\end{KFLTfloatflt@marginfloat}}

```

Env floatingtable [*⟨placement⟩*]

```

34 \DeclareDocumentEnvironment{floatingtable}{o}
35 {\begin{KFLTfloatflt@marginfloat}{table}{}}
36 {\end{KFLTfloatflt@marginfloat}}

```

---

File 168 **lwarp-floatpag.sty**

§ 277 Package **floatpag**

*(Emulates or patches code by VYTAS STATULEVIČIUS AND SIGITAS TOLUŠIS.)*

Pkg floatpag floatpag is ignored.

**for HTML output:** Discard all options for lwarp-floatpag:

```

1 \LWR@ProvidesPackageDrop{floatpag}[2012/05/29]

2 \newcommand*\floatpagestyle[1]{}
3 \newcommand*\rotfloatpagestyle[1]{}
4 \newcommand*\thisfloatpagestyle[1]{}

```

---

File 169 **lwarp-floatrow.sty**

§ 278 Package **floatrow**

*(Emulates or patches code by OLGA LAPKO.)*

Pkg floatrow floatrow is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{floatrow}[2008/08/02]

⚠ Misplaced alignment tab character & Use \StartDefiningTabulars and \StopDefiningTabulars before and after defining macros using \ttabbox with a tabular inside. See section 8.10.1.

⚠ subfig package When combined with the subfig package, while inside a subfloatrow \ffigbox and \ttabbox must have the caption in the first of the two of the mandatory arguments.

⚠ \FBwidth, \FBheight The emulation of floatrow does not support \FBwidth or \FBheight. These values are pre-set to .3\linewidth and 2in. Possible solutions include:

- Use fixed lengths. lwarp will scale the HTML lengths appropriately.
- Use warpprint and warpHTML environments to select appropriate values for each case.
- Inside a warpHTML environment, manually change \FBwidth or \FBheight before the \ffigbox or \ttabbox. Use \FBwidth or \FBheight normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

After everything has loaded, remember whether subcaption was loaded. If not, it is assumed that subfig is used instead:

```
2 \newbool{LWR@subcaptionloaded}
3
4 \AtBeginDocument{
5 \ifpackageloaded{subcaption}
6 {\booltrue{LWR@subcaptionloaded}}
7 {\boolfalse{LWR@subcaptionloaded}}
8 }
```

\floatbox [*1 preamble*] [*2 capttype*] [*3 width*] [*4 height*] [*5 vert pos*] [*6 caption*] [*7 object*]

Only parameters for capttype, width, caption, and object are used.

LWR@insubfloatrow is true if inside a subfloatrow environment.

There are two actions, depending on the use of subcaption or subfig.

```
9 \NewDocumentCommand{\floatbox}{o m o o o +m +m}{%
10 \ifbool{LWR@subcaptionloaded}%
11 {% subcaption
```

For subcaption:

```
12 \ifbool{LWR@insubfloatrow}%
13 {% subcaption in a subfloatrow
```

subfigure and subtable environments take width as an argument.

```
14 \IfValueTF{#3}%
15 {\@nameuse{sub#2}{#3}}%
16 {\@nameuse{sub#2}{\linewidth}}%
17 }% subcaption in a subfloatrow
18 {% subcaption not in subfloatrow
```



figure and table environments do not take a width argument.

```

19 \@nameuse{#2}%
20 }% subcaption not in subfloatrow
21 #6
22
23 #7

```

End the environments:

```

24 \ifbool{LWR@insubfloatrow}%
25 {\@nameuse{endsub#2}}%
26 {\@nameuse{end#2}}%
27 }% subcaption
28 {% assume subfig

```

For subfig:

```

29 \ifbool{LWR@insubfloatrow}%
30 {% subfig in a subfloatrow

```

`\subfloat` is a macro, not an environment.

Package `subfig`'s `\subfloat` command takes an optional argument which is the caption, but `\floatbox` argument #6 contains commands to create the caption and label, not the caption itself. Thus, `\caption` is temporarily disabled to return its own argument without braces.

```

31 \begingroup
32 \let\caption\@firstofone
33 \subfloat[#6]{#7}
34 \endgroup
35 }% subfig in a subfloatrow
36 {% subfig package, but not a subfig

```

figure and table are environments:

```

37 \@nameuse{#2}
38 #6
39
40 #7
41 \@nameuse{end#2}
42 }% subfig package, but not a subfig
43 }% assume subfig
44 }

```

Not used:

```

45 \newcommand*\nocapbeside{}
46 \newcommand*\capbeside{}
47 \newcommand*\captop{}
48 \newlength{\FBwidth}
49 \setlength{\FBwidth}{.3\linewidth}
50 \newlength{\FBheight}
51 \setlength{\FBheight}{2in}
52 \newcommand*\useFCwidth{}
53 \newcommand{\floatsetup}[2][{}
54 \newcommand{\thisfloatsetup}[1]{
55 \newcommand{\clearfloatsetup}[1]{
56 \newcommand*\killfloatstyle{}

```

`\newfloatcommand`     $\langle 1 \text{ command} \rangle$   $\langle 2 \text{ captype} \rangle$  [ $\langle 3 \text{ preamble} \rangle$ ] [ $\langle 4 \text{ default width} \rangle$ ]

Preamble and default width are ignored.

```
57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%
58 \@namedef{#1}{
59 \floatbox{#2}
60 }
61 }
```

`\renewfloatcommand`     $\langle 1 \text{ command} \rangle$   $\langle 2 \text{ captype} \rangle$  [ $\langle 3 \text{ preamble} \rangle$ ] [ $\langle 4 \text{ default width} \rangle$ ]

Preamble and default width are ignored.

```
62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%
63 \@namedef{#1}{%
64 \floatbox{#2}
65 }
66 }
```

`\ffigbox`    [ $\langle width \rangle$ ] [ $\langle height \rangle$ ] [ $\langle vposn \rangle$ ]  $\langle caption \text{ commands} \rangle$   $\langle contents \rangle$

```
67 \newfloatcommand{ffigbox}{figure}[\nocapbeside][[]]
```

`\ttabbox`    [ $\langle width \rangle$ ] [ $\langle height \rangle$ ] [ $\langle vposn \rangle$ ]  $\langle caption \text{ commands} \rangle$   $\langle contents \rangle$

```
68 \newfloatcommand{ttabbox}{table}[\capttop][\FBwidth]
```

`\fcapside`    [ $\langle width \rangle$ ] [ $\langle height \rangle$ ] [ $\langle vposn \rangle$ ]  $\langle caption \text{ commands} \rangle$   $\langle contents \rangle$

```
69 \newfloatcommand{fcapside}{figure}[\capbeside][[]]
```

Env `floatrow`    [ $\langle numfloats \rangle$ ]

The row of floats is placed into a `<div>` of class `floatrow`.

```
70 \newenvironment*{floatrow}[1][2]
71 {%
72 \begin{LWR@setvirtualpage}%
73 \BlockClass{floatrow}%
74 }
75 {
76 \endBlockClass%
77 \end{LWR@setvirtualpage}%
78 }
```

Keys for `\DeclareNewFloatType`:

```
79 \newcommand*{\LWR@frowkeyplacement}{}
80 \newcommand*{\LWR@frowkeyname}{}
81 \newcommand*{\LWR@frowkeyfileext}{}
82 \newcommand*{\LWR@frowkeywithin}{}
83 \newcommand*{\LWR@frowkeycapstyle}{}
84
85 \define@key{frowkeys}{placement}{}%
```

```

86 \define@key{frowkeys}{name}{\renewcommand{\LWR@frowkeyname}{#1}}%
87 \define@key{frowkeys}{fileext}{\renewcommand{\LWR@frowkeyfileext}{#1}}%
88 \define@key{frowkeys}{within}{\renewcommand{\LWR@frowkeywithin}{#1}}%
89 \define@key{frowkeys}{relatedcapstyle}{}%

```

`\DeclareNewFloatType`    *{<type>}* *{<options>}*

Use `\listof{type}{Title}` to print a list of the floats.

```
90 \newcommand*\DeclareNewFloatType[2]{%
```

Reset key values:

```

91 \renewcommand*\LWR@frowkeyplacement{}%
92 \renewcommand*\LWR@frowkeyname{}%
93 \renewcommand*\LWR@frowkeyfileext{}%
94 \renewcommand*\LWR@frowkeywithin{}%
95 \renewcommand*\LWR@frowkeycapstyle{}%

```

Read new key values:

```

96 \LWR@traceinfo{about to setkeys frowkeys}%
97 \setkeys{frowkeys}{#2}%
98 \LWR@traceinfo{finished setkeys frowkeys}%

```

Create a new float with optional [within]:

```

99 \ifthenelse{\equal{\LWR@frowkeywithin}{}}%
100 {%
101 \DeclareFloatingEnvironment[
102 placement=\LWR@frowkeyplacement,
103 fileext=\LWR@frowkeyfileext
104]{#1}%
105 }%
106 {%
107 \DeclareFloatingEnvironment[
108 placement=\LWR@frowkeyplacement,
109 fileext=\LWR@frowkeyfileext,
110 within=\LWR@frowkeywithin
111]{#1}%
112 \LWR@traceinfo{finished newfloat #1}%
113 }%

```

Rename the float if a name was given:

```

114 \ifthenelse{\equal{\LWR@frowkeyname}{}}%
115 {}%
116 {%
117 \SetupFloatingEnvironment{#1}{name={\LWR@frowkeyname}}%
118 }%
119 }

```

Not used:

```

120 \newcommand{\buildFBBOX}[2]{%
121 \newcommand*\CenterFloatBoxes{}%
122 \newcommand*\TopFloatBoxes{}%
123 \newcommand*\BottomFloatBoxes{}%
124 \newcommand*\PlainFloatBoxes{}%

```

```

125
126 \newcommand{\capsubrowsettings}{}
127
128 \NewDocumentCommand{\RawFloats}{o o}{}

```

`\RawCaption`     $\langle text \rangle$   
 To be used inside a minipage or parbox.  
 129 \newcommand{\RawCaption}[1]{#1}

`\floatfoot`     $\langle text \rangle$   
 Places additional text inside a float, inside a CSS `<div>` of class `floatfoot`.

```

130 \NewDocumentCommand{\floatfoot}{s +m}{%
131 \begin{BlockClass}{floatfoot}
132 #2
133 \end{BlockClass}
134 }

```

Used to compute `\linewidth`.

```

135 \newbool{LWR@insubfloatrow}
136 \boolfalse{LWR@insubfloatrow}

```

Env `subfloatrow`     $[\langle num\_floats \rangle]$   
 137 \newenvironment\*{subfloatrow}[1][2]  
 138 {

The row of floats is placed into a `<div>` of class `floatrow`:

```

139 \LWR@forcenewpage
140 \BlockClass{floatrow}

```

While inside the `floatrow`, `LWR@insubfloatrow` is set true, which tells `\floatbox` to use `\subfigure` or `\subtable`.

```

141 \begingroup%
142 \booltrue{LWR@insubfloatrow}%
143 }
144 {%
145 \endgroup%
146 \endBlockClass%
147 \boolfalse{LWR@insubfloatrow}%
148 }

```

---

File 170 **lwarp-fltrace.sty**

§ 279    Package **fltrace**

Pkg `fltrace`    `fltrace` is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{fltrace}[2018/01/08]

---

```

2 \def\tracefloats{}
3 \def\tracefloatsoff{}
4 \def\tracefloatvals{}

```

---

File 171 **lwarp-flushend.sty**

§ 280 Package **flushend**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg flushend **flushend** is ignored.

**for HTML output:** Discard all options for lwarp-flushend:

```

1 \LWR@ProvidesPackageDrop{flushend}[2017/03/27]

2 \newcommand*\flushend{}
3 \newcommand*\raggedend{}
4 \newcommand*\flushcolsend{}
5 \newcommand*\raggedcolsend{}
6 \newcommand*\atColsBreak}[1]{}
7 \newcommand*\atColsEnd}[1]{}
8 \newcommand*\showcolsendrule{}

```

---

File 172 **lwarp-fnbreak.sty**

§ 281 Package **fnbreak**

Pkg fnbreak **fnbreak** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fnbreak}[2012/01/01]

2 \newcommand*\fnbreakverbose{}
3 \newcommand*\fnbreaknonverbose{}
4 \newcommand*\fnbreaklabel{}
5 \newcommand*\fnbreaknolabel{}

```

---

File 173 **lwarp-fncychap.sty**

§ 282 Package **fncychap**

*(Emulates or patches code by ULF A. LINDGREN.)*

Pkg fncychap **fncychap** is ignored.

**for HTML output:** Discard all options for lwarp-fncychap:

```

1 \LWR@ProvidesPackageDrop{fncychap}[2007/07/30]

```

---

```

2 \def\mghrulefill#1{}
3 \def\ChNameLowerCase{}
4 \def\ChNameUpperCase{}
5 \def\ChNameAsIs{}
6 \def\ChTitleLowerCase{}
7 \def\ChTitleUpperCase{}
8 \def\ChTitleAsIs{}
9 \newcommand{\ChRuleWidth}[1]{}
10 \newcommand{\ChNameVar}[1]{}
11 \newcommand{\ChNumVar}[1]{}
12 \newcommand{\ChTitleVar}[1]{}
13 \newcommand{\TheAlphaChapter}{}
14 \newcommand{\DOCH}{}
15 \newcommand{\DOTI}[1]{}
16 \newcommand{\DOTIS}[1]{}
17 \newlength{\mylen}
18 \newlength{\myhi}
19 \newlength{\px}
20 \newlength{\py}
21 \newlength{\pyy}
22 \newlength{\pxx}
23 \newlength{\RW}
24 \newcommand{\FmN}[1]{#1}
25 \newcommand{\FmTi}[1]{#1}

```

---

File 174 **lwarp-fnlineno.sty**

§ 283 Package **fnlineno**

Pkg fnlineno fnlineno is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

---

File 175 **lwarp-fnpara.sty**

§ 284 Package **fnpara**

Pkg fnpara fnpara is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnpara}

---

File 176 **lwarp-fnpos.sty**

§ 285 Package **fnpos**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg fnpos fnpos is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnpos}[1999/07/14]

```
2 \newcommand*\makeFNbottom{}
3 \newcommand*\makeFNmid{}
4 \newcommand*\makeFNbelow{}
5 \newcommand*\makeFNabove{}
```

---


File 177 **lwarp-fontawesome.sty**

§ 286 Package **fontawesome**

*(Emulates or patches code by XAVIER DANAUX.)*

Pkg fontawesome fontawesome is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

 **poppler syntax warning** If using pdfL<sup>A</sup>T<sub>E</sub>X, *poppler* may issue a syntax warning regarding parsing a ligature component. X<sub>H</sub>L<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X may be used to avoid this warning.

In the following, the general strategy is to intercept `\symbol` and embed it inside a `lateximage`. These changes are done inside a local group.

For pdfL<sup>A</sup>T<sub>E</sub>X, the `alt` tag includes the icon (symbol) number. For X<sub>H</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X, the `alt` tag is generic.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{fontawesome}[2016/05/15]

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \ifxetexorluatex
5
6 \newfontfamily{\LWR@orig@FA}{FontAwesome}
7
8 \newcommand*\LWR@fontawesome@xelatex@symbol}[1]{%
9 \LWR@findcurrenttextcolor%
10 \begin{lateximage}*[icon][fontawesomexetex#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
11 \csuse{\LWR@font@size}%
12 \LWR@orig@FA%
13 \LWR@orig@symbol{#1}%
14 \end{lateximage}%
15 }
16
17 \RenewDocumentCommand{\FA}{}{%
18 \LetLtxMacro\symbol\LWR@fontawesome@xelatex@symbol%
19 }
20
21 \else
22
23 \newcommand*\LWR@fontawesome@symbolX}[2]{%
```

```

24 \LWR@findcurrenttextcolor%
25 \begin{lateximage}*[icon #1][fontawesome#2#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
26 \csuse{\LWR@font@size}%
27 \fontencoding{U}\fontfamily{fontawesome#2}\selectfont%
28 \LWR@orig@symbol{#1}%
29 \end{lateximage}%
30 }
31
32 \newcommand*\LWR@fontawesome@symbolone}[1]{%
33 \LWR@fontawesome@symbolX{#1}{one}%
34 }
35
36 \newcommand*\LWR@fontawesome@symboltwo}[1]{%
37 \LWR@fontawesome@symbolX{#1}{two}%
38 }
39
40 \newcommand*\LWR@fontawesome@symbolthree}[1]{%
41 \LWR@fontawesome@symbolX{#1}{three}%
42 }
43
44 \renewrobustcmd\FAone{%
45 \LetLtxMacro\symbol\LWR@fontawesome@symbolone%
46 }
47
48 \renewrobustcmd\FAtwo{%
49 \LetLtxMacro\symbol\LWR@fontawesome@symboltwo%
50 }
51
52 \renewrobustcmd\FAthree{%
53 \LetLtxMacro\symbol\LWR@fontawesome@symbolthree%
54 }
55 \fi

```

---

File 178 **lwarp-fontawesome5.sty**

§ 287 Package **fontawesome5**

*(Emulates or patches code by MARCEL KRÜGER.)*

Pkg fontawesome5 fontawesome5 is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

The alt tag has the name of the icon.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontawesome5}[2018/07/27]
2 \ExplSyntaxOn
3 \cs_set:Nn\fontawesome_use_icon:nn{
4 \LWR@findcurrenttextcolor
5 \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{
6 \begin{lateximage}*[#2][fontawesome5#1SZ\LWR@font@size{}CL\LWR@tempcolor]
7 \csuse{\LWR@font@size}

```



---

```

8 \exp_last_unbraced:Nv
9 __fontawesome_icon_at:nnnn
10 {c__fontawesome_slot_#2_tl}
11 {#1}{#2}
12 \end{lateximage}
13 }{
14 \msg_error:nxxx{fontawesome5}{icon-not-found}{#2}{#1}
15 }
16 }
17 \ExplSyntaxOff

```

---

File 179 **lwarp-fontaxes.sty**

§ 288 Package **fontaxes**

*(Emulates or patches code by ANDREAS BÜHMANN, MICHAEL UMMELS.)*

Pkg fontaxes fontaxes is emulated for HTML, and used as-is for print output.

Functionality for small caps is in the **lwarp** core. Swashes and figure styles are ignored for HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontaxes}[2014/03/23]

2 \ifdef{\LWR@HTML@swshape}{% duplicated by nfssect-cfr
3 \newcommand{\LWR@HTML@swshape}{}
4 \LWR@formatted{swshape}
5
6 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
7 \LWR@formatted{textsw}
8
9 \FilenameNullify{%
10 \LetLtxMacro\swshape\@empty%
11 \LetLtxMacro\textsw\firstofone%
12 }
13 }

```

---

File 180 **lwarp-fontenc.sty**

§ 289 Package **fontenc**

Pkg fontenc If using pdfL<sup>A</sup>T<sub>E</sub>X, lwarp used to require fontenc be loaded before lwarp, but now lwarp itself loads \fontenc with T1 encoding, which lwarp requires. fontenc is now allowed to be loaded with another encoding after lwarp.

lwarp-fontenc is no longer necessary, but is still provided to overwrite older versions.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontenc}[2017/04/05]

```

File 181 **lwarp-footmisc.sty**

§ 290 Package **footmisc**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg footmisc **footmisc** is emulated.

**lwarp** incidentally happens to emulate the stable option.

```
1 \LWR@ProvidesPackageDrop{footmisc}[2011/06/06]
```

Some nullified commands:

```
2 \newcommand{\footnotelayout}{}
3 \newcommand{\setfnsymbol}[1]{}
4 \NewDocumentCommand{\DefineFNSymbols}{s m o m}{}
5
6 \newdimen\footnotemargin
7 \footnotemargin1.8em\relax
8
9 \newcommand*\hangfootparskip{0.5\baselineskip}
10 \newcommand*\hangfootparindent{0em}%
11
12 \let\pagefootnoterule\footnoterule
13 \let\mpfootnoterule\footnoterule
14 \def\splitfootnoterule{\kern-3\p@ \hrule \kern2.6\p@}
15
16 \providecommand*\multiplefootnotemarker}{3sp}
17 \providecommand*\multfootsep}{,}
```

Using **cleveref**. `\labelcref` only prints the number of the object, not its type.

```
18 \providecommand*\footref}[1]{\labelcref{#1}}
```

The following work as-is:

```
19 \newcommand\mpfootnotemark{%
20 \@ifnextchar[%
21 \@xmpfootnotemark%
22 {%
23 \stepcounter\@mpfn%
24 \protected@xdef\@thefnmark{\thempfn}%
25 \@footnotemark%
26 }%
27 }
28 \def\@xmpfootnotemark[#1]{%
29 \begingroup%
30 \csname c@\@mpfn\endcsname #1\relax%
31 \unrestored@protected@xdef\@thefnmark{\thempfn}%
```

```

32 \endgroup%
33 \@footnotemark%
34 }

```

---

File 182 **lwarp-footnote.sty**

§ 291 Package **footnote**

*(Emulates or patches code by MARK WOODING.)*

Pkg footnote footnote is used with minor patches.

**for HTML output:** 1 \LWR@ProvidesPackagePass{footnote}[1997/01/28]

Removed print-version formatting:

```

2 \def\fn@startnote{%
3 % \parboxrestore%
4 \protected@edef\@currentlabel{\csname p@\@mpfn\endcsname\@thefnmark}%
5 % \color@begingroup% *** conflicts with lwarp
6 }
7
8 % \let\fn@endnote\color@endgroup% *** conflicts with lwarp
9 \def\fn@endnote{%
10 \LWR@htmltagc{/\LWR@tagregularparagraph}%
11 \LWR@orignewline%
12 }

```

Removed print-version formatting:

```

13 \def\fn@startfntext{%
14 \setbox\z@\vbox\bgroup%
15 \fn@startnote%
16 \ignorespaces%
17 }

```

Removed print-version formatting, added closing paragraph tag:

```

18 \def\fn@endfntext{%
19 \LWR@htmltagc{/\LWR@tagregularparagraph}%
20 \LWR@orignewline%
21 \egroup%
22 \begingroup%
23 \let\@makefntext\@empty%
24 \let\@finalstrut\@gobble%
25 \LetLtxMacro\rule\@gobbletwo% *8* also the optional argument?
26 \@footnotetext{\unvbox\z@}%
27 \endgroup%
28 }

```

These have been redefined, so re-\let them again:

```
29 \let\endfootnote\fn@endfn@text
30 \let\endfootnotetext\endfootnote
```

---

File 183 **lwarp-footnotebackref.sty**

§ 292 Package **footnotebackref**

Pkg footnotebackref footnotebackref is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

---

File 184 **lwarp-footnotehyper.sty**

§ 293 Package **footnotehyper**

Pkg footnotehyper footnotehyper is a hyperref-safe version of footnote. For lwarp, footnotehyper is emulated.

**for HTML output:** Discard all options for lwarp-footnotehyper:

```
1 \RequirePackage{footnote}
2 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]
```

---

File 185 **lwarp-footnoterange.sty**

§ 294 Package **footnoterange**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

Pkg footnoterange footnoterange is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{footnoterange}[2012/02/17]

```
2 \csletcs{footnoterange}{footnoterange*}
3 \csletcs{endfootnoterange}{endfootnoterange*}
```

---

File 186 **lwarp-footnpag.sty**

§ 295 Package **footnpag**

Pkg footnpag footnpag is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnpag}

---

File 187 **lwarp-foreign.sty**

§ 296 Package **foreign**

*(Emulates or patches code by PHILIP G. RATCLIFFE.)*

Pkg foreign foreign is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{foreign}[2012/09/25]
2 \renewcommand\foreignabbrfont{\emph}
```


---

File 188 **lwarp-forest.sty**

§ 297 Package **forest**

*(Emulates or patches code by SAŠO ŽIVANOVIĆ.)*

Pkg forest forest is patched for use by lwarp.

 **\Forest\*** The starred version of the macro `\Forest*` is not supported. `lwarp` encases each `lateximage` in an environment, so the global results of the starred `\Forest*` are lost.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{forest}[2017/07/14]
2 \BeforeBeginEnvironment{forest}{%
3 \begin{lateximage}[-forest-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{forest}{\end{lateximage}}
7
8 \RenewDocumentCommand{\Forest}{s D(){} m}{%
9 \forest@config{#2}%
10 \IfBooleanTF{#1}{%
11 \PackageError{lwarp-forest}%
12 {\protect\Forest* is not supported}%
13 {Lwarp uses an environment for images,\MessageBreak
14 but \protect\Forest* cannot work in an environment.}%
15 \let\forest@next\forest@env%
16 }{\let\forest@next\forest@group@env}%
17 \begin{lateximage}[-forest-~\PackageDiagramAltText] lwarp
18 \forest@next{#3}%
19 \end{lateximage}%
20 }
21 }
```

---

File 189 **lwarp-fouridx.sty**

§ 298 Package **fouridx**

(Emulates or patches code by STEFAN KARRMANN.)

Pkg fouridx fouridx works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fouridx}[2013/11/21]
2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \newcommand{\fourIdx}[5]{%
5 \vphantom{#5}^{\hphantom{#2}#1}_{\hphantom{#1}#2}{#5}^{\#3}_{#4}%
6 }%
7 }
8 \end{warpMathJax}

```


---

File 190 **lwarp-fourier.sty**

§ 299 Package **fourier**

(Emulates or patches code by MICHEL BOVANI.)

Pkg fourier fourier is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `sloped` and `upright` are honored for Greek characters, but MATHJAX cannot yet honor these for Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fourier}[2020/03/03]
2
3 \LWR@infoprocessingmathjax{fourier}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
7
8 \begin{warpMathJax}
9
10 \@ifpackagewith{fourier}{sloped}
11 {
12 \LWR@mathjax@addgreek@l@up{other}{}
13 \LWR@mathjax@addgreek@u@it*{other}{}
14 }% sloped

```

```

15 {% not sloped
16 \@ifpackagewith{fourier}{upright}
17 {% upright option
18 \LWR@mathjax@addgreek@l@up{}{}
19 \LWR@mathjax@addgreek@u@up*{}{}
20 \LWR@mathjax@addgreek@l@it{other}{}
21 \LWR@mathjax@addgreek@u@it*{other}{}
22 }
23 {% neither sloped nor upright
24 \LWR@mathjax@addgreek@l@up{other}{}
25 \LWR@mathjax@addgreek@u@it*{other}{}
26 }
27 }
28
29 \CustomizeMathJax{\newcommand{\othergreek}[1]{#1}}
30 \CustomizeMathJax{\let\varvarrho\varrho}
31 \CustomizeMathJax{\let\varvarpi\varpi}
32 \CustomizeMathJax{\let\othervarvarpi\othervarpi}
33 \CustomizeMathJax{\let\othervarvarrho\othervarrho}
34 \CustomizeMathJax{\let\varpartialdiff\partial}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

35 \CustomizeMathJax{\let\llbracket\lBrack}
36 \CustomizeMathJax{\let\rrbracket\rBrack}
37 \CustomizeMathJax{\let\dblbrackleft\lBrack}
38 \CustomizeMathJax{\let\dblbrackright\rBrack}
39
40 \CustomizeMathJax{\let\VERT|}
41
42 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
43 \CustomizeMathJax{\newcommand{\thething}{\mathord{\unicode{x1F60E}}}}
44 \CustomizeMathJax{\newcommand{\nparallelslant}{%
45 \mathrel{\LWRoverlaysymbols{-}{\unicode{x02AFD}}}%
46 }}
47 \CustomizeMathJax{\newcommand{\xswordsup}{\mathord{\unicode{x2694}}}}
48 \CustomizeMathJax{\newcommand{\xswordsdown}{\mathord{\unicode{x2694}}}}% up
49 \CustomizeMathJax{\newcommand{\notowns}{\mathrel{\unicode{x220C}}}}
50
51 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
52 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
53 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
54 \CustomizeMathJax{\let\oiintop\oiint}
55 \CustomizeMathJax{\newcommand{\oiiint}{\mathop{\unicode{x2230}}\limits}}
56 \CustomizeMathJax{\let\oiiintop\oiiint}
57 \CustomizeMathJax{\newcommand{\slashint}{\mathop{\unicode{x2A0D}}\limits}}
58 \CustomizeMathJax{\let\slashintop\slashint}
59
60 \CustomizeMathJax{\let\overgroup\overparen}
61 \CustomizeMathJax{\let\wideparen\overparen}
62 \CustomizeMathJax{\let\widearc\overparen}
63 \CustomizeMathJax{\let\wideOarc\overrightarrow}
64 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\unicode{x2218}}{\overgroup{#1}}}}
65
66 \end{warpMathJax}

```

File 191 **lwarp-framed.sty**

§ 300 Package **framed**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg framed **framed** is supported and patched by lwarp.

**for HTML output:** Accept all options for lwarp-framed:

```

1 \LWR@ProvidesPackagePass{framed}[2011/10/22]
2 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

3
4 \renewenvironment{framed}{%
5 \LWR@forcenewpage
6 \BlockClass{framed}%
7 }
8 {\endBlockClass}
9
10 \renewenvironment{oframed}{%
11 \LWR@forcenewpage
12 \BlockClass{framed}%
13 }
14 {\endBlockClass}
15
16
17 \renewenvironment{shaded}{%
18 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
19 \LWR@forcenewpage
20 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
21 }
22 {\endBlockClass}
23
24 \renewenvironment{shaded*}{%
25 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
26 \LWR@forcenewpage
27 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
28 }
29 {\endBlockClass}
30
31
32 \renewenvironment{leftbar}{%
33 \LWR@forcenewpage
34 \BlockClass{framedleftbar}
35 \def\FrameCommand{%
36 \MakeFramed {}
37 }%
38 {\endMakeFramed\endBlockClass}
39
40
```



```

41 \renewenvironment{snugshade}{%
42 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
43 \LWR@forcenewpage
44 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
45 }
46 {\endBlockClass}
47
48 \renewenvironment{snugshade*}{%
49 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
50 \LWR@forcenewpage
51 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
52 }
53 {\endBlockClass}
54
55 \let\oframed\framed
56 \let\endoframed\endframed
57
58
59 \RenewEnviron{titled-frame}[1]{%
60 \CustomFBox{#1}{0pt}{0pt}{0pt}{0pt}{\BODY}
61 }

\CustomFBox {<toptitle>} {<bottitle>} {<thicknesstop>} {<bottom>} {<left>} {<right>}
{<text contents>}

62 \renewcommand{\CustomFBox}[7]{%
63 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
64 \LWR@forcenewpage
65 \begin{BlockClass}[border: 3px solid \LWR@origpound\LWR@tempcolor]{framed}%
66 \ifthenelse{\isempty{#1}}{0pt}{% not empty
67 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
68 \textcolor{TFTitleColor}{\textbf{#1}}%
69 \end{BlockClass}
70 }% not empty
71
72 #7
73
74 \ifthenelse{\isempty{#2}}{0pt}{% not empty
75 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
76 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
77 \textcolor{TFTitleColor}{\textbf{#2}}%
78 \end{BlockClass}
79 }% not empty
80 \end{BlockClass}
81 }

\TitleBarFrame [<marker>] {<title>} {<contents>}

82 \renewcommand\TitleBarFrame[3][[]
83 \CustomFBox
84 {#2}{%
85 \fboxrule\fboxrule\fboxrule\fboxrule
86 {#3}%
87 }

```

```

88 \renewcommand{\TF@Title}[1]{#1}

MakeFramed {(\settings)}

89 \let\MakeFramed\relax
90 \let\endMakeFramed\relax
91
92 \NewEnviron{MakeFramed}[1]{%
93 \FrameCommand{\begin{minipage}{\linewidth}\BODY\end{minipage}}%
94 }

\fb@put@frame {(\frame cmd no split)} {(\frame cmd split)}

95 \renewcommand*\fb@put@frame}[2]{%
96 \relax%
97 \@tempboxa%
98 }

```

---

File 192 **lwarp-froufrou.sty**

§ 301 Package **froufrou**

(Emulates or patches code by NELSON LAGO.)

Pkg froufrou **froufrou** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{froufrou}[2020/12/22]

2 \ExplSyntaxOn
3 \xpretocmd{\setfroufrou}
4 {\edef\LWR@latestfroufrou{\detokenize{#1}}}
5 {}
6 {\LWR@patcherror{froufrou}{setfroufrou}}
7 \ExplSyntaxOff
8
9 \RenewDocumentCommand{\froufrou}{s O{}}{%
10 \nopagebreak[4]\par
11
12 \IfBooleanTF{#1}{\@afterindenttrue}{\@afterindentfalse}
13
14 \nopagebreak[4]\@froufrouospacebefore\nopagebreak[4]
15
16 \bgroup
17 \setfroufrou{#2}%
18 \normalsize
19 \ifdefvoid{\setstretch}{\setstretch{\set@space@single}}% normally 1
20 \setlength{\parskip}{0pt}
21 \noindent\centering\bgroup%
22 \begin{center}% lwarp
23 \begin{lateximage}*[froufrou][\LWR@latestfroufrou]% lwarp
24 \@froufrouOrnament%
25 \end{lateximage}% lwarp

```

```

26 \end{center}%
27 \egroup\par
28 \egroup
29
30 \nopagebreak[4]\@froufrouSpaceAfter\nopagebreak[4]
31
32 \@froufrouFixSpacingAfter
33
34 \nopagebreak[3]
35
36 \@afterheading
37 }

```

---

File 193 **lwarp-ftcap.sty**

§ 302 Package **ftcap**

Pkg ftcap ftcap is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ftcap}

---

File 194 **lwarp-ftnright.sty**

§ 303 Package **ftnright**

Pkg ftnright ftnright is ignored.

**for HTML output:** Discard all options for lwarp-ftnright:

1 \LWR@ProvidesPackageDrop{ftnright}[2014/10/28]

---

File 195 **lwarp-fullminipage.sty**

§ 304 Package **fullminipage**

Pkg fullminipage fullminipage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]

2 \newenvironment{fullminipage}[1][{}]{}

---

File 196 **lwarp-fullpage.sty**

§ 305 Package **fullpage**

Pkg fullpage fullpage is ignored.

**for HTML output:** Discard all options for lwarp-fullpage:

```
1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]
```

---

File 197 **lwarp-fullwidth.sty**

§ 306 Package **fullwidth**

*(Emulates or patches code by MARCO DANIEL.)*

Pkg fullwidth **fullwidth** is emulated.

A minipage is used, of no HTML width.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fullwidth}[2011/11/18]

```
2 \newenvironment*{fullwidth}[1][]{%
3 \minipagefullwidth%
4 \minipage{\linewidth}%
5 }
6 {%
7 \endminipage%
8 }
```

---

File 198 **lwarp-fvextra.sty**

§ 307 Package **fvextra**

*(Emulates or patches code by GEOFFREY M. POORE.)*

Pkg fvextra **fvextra** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fvextra}[2019/02/04]

Ignored are highlight, showtabs, obeytabs, tab, tabcolor. Also ignored are all options regarding line breaking except breaklines, which is emulated as true.

tabsize is honored.

If line numbers on the right side are used along with breaklines, the line numbers will not be aligned.

```
2
3 \define@booleankey{FV}{obeytabs}%
4 % {\let\FV@ObeyTabsInit\FV@ObeyTabsInit}%
5 {\let\FV@ObeyTabsInit\relax}
6 {\let\FV@ObeyTabsInit\relax}
7
8 \define@key{FV}{tabcolor}%
9 {}
```

```

10
11 \define@key{FV}{tab}{}
12
13 \define@booleankey{FV}{showtabs}%
14 % {\def\FV@TabChar{\FV@TabColor{\FancyVerbTab}}}%
15 {\let\FV@TabChar\relax}
16 {\let\FV@TabChar\relax}
17
18 \newbool{LWR@FV@breaklines}
19
20 \define@booleankey{FV}{breaklines}%
21 {\FV@BreakLinesfalse}
22 \booltrue{LWR@FV@breaklines}
23 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
24 {\FV@BreakLinesfalse}
25 \boolfalse{LWR@FV@breaklines}
26 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
27 % \fvset{breaklines}
28
29 \define@key{FV}{breakanywheresymbolpre}{\def\FancyVerbBreakAnywhereSymbolPre{}}
30 \fvset{breakanywheresymbolpre={}}
31
32 \define@key{FV}{breakanywheresymbolpost}{\def\FancyVerbBreakAnywhereSymbolPost{}}
33 \fvset{breakanywheresymbolpost={}}
34
35 \define@key{FV}{breakbeforesymbolpre}{\def\FancyVerbBreakBeforeSymbolPre{}}
36 \fvset{breakbeforesymbolpre={}}
37
38 \define@key{FV}{breakbeforesymbolpost}{\def\FancyVerbBreakBeforeSymbolPost{}}
39 \fvset{breakbeforesymbolpost={}}
40
41 \define@key{FV}{breakaftersymbolpre}{\def\FancyVerbBreakAfterSymbolPre{}}
42 \fvset{breakaftersymbolpre={}}
43
44 \define@key{FV}{breakaftersymbolpost}{\def\FancyVerbBreakAfterSymbolPost{}}
45 \fvset{breakaftersymbolpost={}}
46
47 \define@key{FV}{breaksymbolleft}{\def\FancyVerbBreakSymbolLeft{}}
48
49 \define@key{FV}{breaksymbol}{\fvset{breaksymbolleft={}}}
50
51 \fvset{breaksymbolleft={}}
52
53 \define@key{FV}{breaksymbolright}{\def\FancyVerbBreakSymbolRight{}}
54 \fvset{breaksymbolright={}}
55
56 \def\FV@ListProcessLine@NoBreak#1{%
57 % \hbox to \hsize{%
58 % \kern\leftmargin
59 % \hbox to \linewidth{%
60 \FV@LeftListNumber%
61 \FV@LeftListFrame%
62 \FancyVerbFormatLine{%
63 \FancyVerbHighlightLine{%
64 \FV@ObeyTabs{\FancyVerbFormatText{#1}}}%\hss

```

```

65 \FV@RightListFrame%
66 \FV@RightListNumber%
67 % }%
68 % \hss}%
69 \null\par% lwarp
70 }
71
72
73 \newcommand*{\LWR@FV@linethensep}{%
74 \ifbool{LWR@FV@breakLines}%
75 {\theFancyVerbLine\kern\FV@NumberSep}%
76 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}%
77 }
78
79 \newcommand*{\LWR@FV@sephenline}{%
80 \ifbool{LWR@FV@breakLines}%
81 {\kern\FV@NumberSep\theFancyVerbLine}%
82 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}%
83 }
84
85 \xpatchcmd{\FV@Numbers@left}
86 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
87 {\LWR@FV@linethensep}
88 {}
89 {\LWR@patcherror{fvextra}{FV@Numbers@left A}}
90
91 \xpatchcmd{\FV@Numbers@left}
92 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
93 {\LWR@FV@linethensep}
94 {}
95 {\LWR@patcherror{fvextra}{FV@Numbers@left B}}
96
97 \xpatchcmd{\FV@Numbers@left}
98 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
99 {\LWR@FV@linethensep}
100 {}
101 {\LWR@patcherror{fvextra}{FV@Numbers@left C}}
102
103 \xpatchcmd{\FV@Numbers@right}
104 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
105 {\LWR@FV@sephenline}
106 {}
107 {\LWR@patcherror{fvextra}{FV@Numbers@right A}}
108
109 \xpatchcmd{\FV@Numbers@right}
110 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
111 {\LWR@FV@sephenline}
112 {}
113 {\LWR@patcherror{fvextra}{FV@Numbers@right B}}
114
115 \xpatchcmd{\FV@Numbers@right}
116 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
117 {\LWR@FV@linethensep}
118 {}
119 {\LWR@patcherror{fvextra}{FV@Numbers@right C}}

```

```

120
121 \xpatchcmd{\FV@Numbers@both}
122 {\hbox to\z@\hss\theFancyVerbLine\kern\FV@NumberSep}}
123 {\LWR@FV@linethensep}
124 {}
125 {\LWR@patcherror{fvextra}{FV@Numbers@both A}}
126
127 \xpatchcmd{\FV@Numbers@both}
128 {\hbox to\z@\hss\theFancyVerbLine\kern\FV@NumberSep}}
129 {\LWR@FV@linethensep}
130 {}
131 {\LWR@patcherror{fvextra}{FV@Numbers@both B}}
132
133 \xpatchcmd{\FV@Numbers@both}
134 {\hbox to\z@\hss\theFancyVerbLine\kern\FV@NumberSep}}
135 {\LWR@FV@linethensep}
136 {}
137 {\LWR@patcherror{fvextra}{FV@Numbers@both C}}
138
139 \xpatchcmd{\FV@Numbers@both}
140 {\hbox to\z@\kern\FV@NumberSep\theFancyVerbLine\hss}}
141 {\LWR@FV@septhenline}
142 {}
143 {\LWR@patcherror{fvextra}{FV@Numbers@both D}}
144
145 \xpatchcmd{\FV@Numbers@both}
146 {\hbox to\z@\kern\FV@NumberSep\theFancyVerbLine\hss}}
147 {\LWR@FV@septhenline}
148 {}
149 {\LWR@patcherror{fvextra}{FV@Numbers@both E}}
150
151 \xpatchcmd{\FV@Numbers@both}
152 {\hbox to\z@\hss\theFancyVerbLine\kern\FV@NumberSep}}
153 {\LWR@FV@linethensep}
154 {}
155 {\LWR@patcherror{fvextra}{FV@Numbers@both F}}

```

---

File 199 **lwarp-fwlw.sty**

§ 308 Package **fwlw**

Pkg fwlw **fwlw** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fwlw}

```

2 \newbox\FirstWordBox \global\setbox\FirstWordBox\hbox{}
3 \newbox\NextWordBox \global\setbox\NextWordBox\hbox{}
4 \newbox\LastWordBox \global\setbox\LastWordBox\hbox{}
5 \def\ps@fwlwhead{}
6 \def\ps@NextWordFoot{}

```

---

File 200 **lwarp-gensymb.sty**

§ 309 Package **gensymb**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg gensymb gensymb works as-is for SVG math, and uses the MATHJAX package.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{gensymb}[2003/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{gensymb}}
4 \end{warpMathJax}
```

---

File 201 **lwarp-gentombow.sty**

§ 310 Package **gentombow**

Pkg gentombow gentombow is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{gentombow}[2018/05/17]

2 \newcommand{\settombowbanner}[1]{}
3 \newcommand{\settombowbannerfont}[1]{}
4 \newcommand{\settombowwidth}[1]{}
5 \newcommand{\settombowbleed}[1]{}
6 \newcommand{\settombowcolor}[1]{}

```

---

File 202 **lwarp-geometry.sty**

§ 311 Package **geometry**

*(Emulates or patches code by HIDEO UMEKI.)*

Pkg geometry geometry is preloaded by lwarp, but must be nullified as seen by the user's source code.

**for HTML output:** Discard all options for lwarp-geometry:

```
1 \LWR@ProvidesPackageDropA{geometry}{2018/04/16}
```

If geometry is never loaded by the user, it will be loaded by lwarp \AtBeginDocument. If this is the case, the page layout should not be changed but the user macros should still be nullified.

```
2 \ifbool{LWR@allowanothergeometry}{%
```



Assign and set the selected geometry with reset prepended. `\AtEndPreamble lwarp` will save this, then set its own geometry.

```
3 \edef\LWR@tempone{reset,\@ptionlist{\@currname.\@currentt}}%
4 \expandafter\LWR@origgeometry\expandafter{\LWR@tempone}%
5 }{}% LWR@allowanothergeometry
```

The user-level commands are nullified:

```
6 \renewcommand*\geometry}[1]{}
7 \renewcommand*\newgeometry}[1]{}
8 \renewcommand*\restoregeometry}{}
9 \renewcommand*\savegeometry}[1]{}
10 \renewcommand*\loadgeometry}[1]{}

```


---

File 203 **lwarp-ghsystem.sty**

§ 312 Package **ghsystem**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg ghsystem ghsystem is patched for use by lwarp.

 **\ghspic images** Images must be provided in SVG format, unless JPG is specified. It is recommended to create a local images directory, copy into it the relevant PDF ghsystem images, and then convert them with

Enter ⇒ **lwarpmk pdftosvg images/\*.pdf**

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{ghsystem}[2020/02/17]
2 \ExplSyntaxOn
3
4 \cs_set_protected:Npn \ghsystem_filler:n #1
5 { \emph { \textless #1 \textgreater } }
6
7 \cs_set_protected:Npn \ghsystem_pic:n #1
8 {
9 __ghsystem_includegraphics:xn
10 {
11 % scale = \fp_to_tl:N \l__ghsystem_picture_scale_fp
12 width = 1.25cm
13 \exp_not:V \l__ghsystem_picture_includegraphics_tl
14 }
15 { ghsystem_ #1 . \l__ghsystem_picture_type_tl }
16 }
17
18 \ExplSyntaxOff
```

File 204 **lwarp-gindex.sty**

§ 313 Package **gindex**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg gindex gindex is patched for use by lwarp.

See section [8.6.15](#).

**for HTML output:** 1 \LWR@ProvidesPackagePass{gindex}[2019/10/07]

Set the index page and range separators. These are set \AtBeginDocument to allow the user to change them. They are then protected so that the lwarp core looks for the tokens instead of their expanded contents, since the \*.ind files will contain \indexpagesep and \indexrangesep instead of their literal contents. Finally, lwarp is told of the gindex macros.

```

2 \AtBeginDocument{
3 \robustify{\indexpagesep}
4 \robustify{\indexrangesep}
5 \renewcommand*\IndexPageSeparator{\indexpagesep}
6 \renewcommand*\IndexRangeSeparator{\indexrangesep}
7 }

```

\hyperindexref is added:

```

8 \def\addindexitem#1#2{%
9 \indexflushitem
10 \gix@getspecial#1\indexspecial\indexspecial\@@\indexitem{\hyperindexref{#2}}
11
12 \def\addindexsubitem#1#2{%
13 \stepcounter{indexsubitems}%
14 \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubitem{\hyperindexref{#2}}
15
16 \def\addindexsubsubitem#1#2{%
17 \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubsubitem{\hyperindexref{#2}}

```

Uses a <div> of class indexheading:

```

18 \renewcommand\indexheading[1]{%
19 \begin{BlockClass}{indexheading}
20 \MakeUppercase{#1}%
21 \end{BlockClass}
22 }

```

---

File 205 **lwarp-gloss.sty**

§ 314 Package **gloss**

(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)

Pkg gloss gloss is patched for use by lwarp.

To process the HTML glossary:

```
bibtex <projectname>_html.gls
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{gloss}[2002/07/26]

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
2 \xpatchcmd{\gls@gloss@iii}
3 {\thepage}
4 {\theLWR@previousautopagelabel}
5 {}
6 {\LWR@patcherror{gloss}{\gls@gloss@iii}}
7
8 \def\gls@page@i#1#2{%
9 \endgroup%
10 \global\@namedef{gls@#1}{\nameref{\BaseJobname-autopage-#2}}}%
```

---

File 206 **lwarp-glossaries.sty**

§ 315 Package **glossaries**

(Emulates or patches code by NICOLA L.C. TALBOT.)

Pkg glossaries  
**processing glossaries**

Opt GlossaryCmd

Default: **makeglossaries**

Opt [lwarpmk] printglossary

Opt [lwarpmk] htmlglossary

*lwarpmk* has the commands **lwarpmk printglossary** and **lwarpmk htmlglossary**, which process the glossaries created by the glossaries package using that package's *makeglossaries* program.

The shell command to execute is set by the **lwarp** option **GlossaryCmd**, which defaults to **makeglossaries**. The print or HTML glossary filename is appended to this command.

 **makeglossaries not found**

In some situations it may be required to modify the default command, such as to add the **perl** command in front:

```
\usepackage[
 GlossaryCmd={perl makeglossaries},
] {lwarp}
```

**xindy language**

To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
 GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for *makeglossaries* may be set as well.

#### placement and toc options

The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

#### Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection=noLabel]{glossaries}
...
\printglossaries
```

#### Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

#### Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ **glossary style** The default `style=item` option for `glossaries` conflicts with `lwarp`, so the style is forced to `index` instead.

⚠ **number list** The page number list in the printed form would become `\namerefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

#### print/HTML versions

The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

#### for HTML output:

```
1 \PassOptionsToPackage{xindy}{glossaries}
2
3 \LWR@ProvidesPackagePass{glossaries}[2018/07/23]
4
5 \setupglossaries{nonumberlist}
6 \setglossarystyle{index}
```

Patched to fix TOC pointing to the previous page:

```
7 \renewcommand*{\@p@glossarysection}[2]{%
8 \glsclearpage
9 \LWR@phantomsection
10 \ifdefempty\@glossarysecstar
11 {%
12 \csname\@glossarysec\endcsname{#2}%
13 }%
14 {%
```

In the original, the toc entry was made before the section, thus linking to the phantomsection in the printed version, but for HTML, this caused the link to point to the page before the glossaries, which could be a different HTML file. Here, the toc entry is made after the section is created:

```

15 \csname\@glossarysec\endcsname*{#2}%
16 \@gls@toc{#1}{\@glossarysec}% Moved after the previous line.
17 }%
18 \@glossaryseclabel
19 }

```

lwarp's sectioning commands cannot handle robust macros when splitting HTML into named filenames. glossaries uses \translate in sectioning names, and \translate is robust and cannot be expanded. The following pre-expands the translations at this moment, making use of \translatelet.

```

20 \newcommand*\LWR@comp@glossaryname{\translate{Glossary}}
21
22 \ifdefstrequal{\glossaryname}{\LWR@comp@glossaryname}{
23 \translatelet\LWR@translatetemp{Glossary}
24 \edef\glossaryname{\LWR@translatetemp}
25 }{}
26
27 \newcommand*\LWR@comp@acronymname{\translate{Acronym}}
28
29 \ifdefstrequal{\acronymname}{\LWR@comp@acronymname}{
30 \translatelet\LWR@translatetemp{Acronym}
31 \edef\acronymname{\LWR@translatetemp}
32 }{}
33
34 \newcommand*\LWR@comp@glsymbolsgroupname{\translate{Symbols (glossaries)}}
35
36 \ifdefstrequal{\glsymbolsgroupname}{\LWR@comp@glsymbolsgroupname}{
37 \translatelet\LWR@translatetemp{Symbols (glossaries)}
38 \edef\glsymbolsgroupname{\LWR@translatetemp}
39 }{}
40
41 \newcommand*\LWR@comp@glsnumbersgroupname{\translate{Numbers (glossaries)}}
42
43 \ifdefstrequal{\glsnumbersgroupname}{\LWR@comp@glsnumbersgroupname}{
44 \translatelet\LWR@translatetemp{Numbers (glossaries)}
45 \edef\glsnumbersgroupname{\LWR@translatetemp}
46 }{}

```

---

File 207 **lwarp-gmeometric.sty**

§ 316 Package **gmeometric**

Pkg gmeometric gmeometric is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]
2 \RequirePackageWithOptions{geometry}

```

File 208 **lwarp-graphics.sty**

§ 317 Package **graphics**

*(Emulates or patches code by D. P. CARLISLE.)*

Pkg graphics graphics is emulated.

**for HTML output:** 1 \LWR@ProvidesPackagePass{graphics}[2020/08/30]

§ 317.1 **Graphics extensions**

\DeclareGraphicsExtensions `{\list}`

\AtBeginDocument allow SVG files instead of PDF:

```
2 \AtBeginDocument{
3 \DeclareGraphicsExtensions{.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}
4 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
5 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
6 }
```

Inside a lateximage, allow PDF instead of SVG:

```
7 \ifpdf
8 \appto\LWR@restoreorigformatting{%
9 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
10 }
11 \else% \ifpdf
12 \ifXeTeX
13 \appto\LWR@restoreorigformatting{%
14 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
15 }
16 \else
17 \appto\LWR@restoreorigformatting{%
18 \DeclareGraphicsExtensions{.eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
19 }
20 \fi
21 \fi
```

## § 317.2 Length conversions and graphics options



whitespace

A scaled image in L<sup>A</sup>T<sub>E</sub>X by default takes only as much space on the page as it requires, but HTML browsers use as much space as the original unscaled image would have taken, with the scaled image over- or under-flowing the area.

Used to store the user’s selected dimensions and HTML class.

The class defaults to “inlineimage” unless changed by a `class=xyx` option.

```

22 \newlength{\LWR@igwidth}
23 \newlength{\LWR@igheight}
24 \newcommand*\LWR@igwidthstyle{}
25 \newcommand*\LWR@igheightstyle{}
26 \newcommand*\LWR@igorigin{}
27 \newcommand*\LWR@igangle{}
28 \newcommand*\LWR@igxscale{1}
29 \newcommand*\LWR@igyscale{1}
30
31 \newbool{\LWR@igkeepaspectratio}
32 \boolfalse{\LWR@igkeepaspectratio}
33
34 \newcommand*\LWR@igclass{inlineimage}

```

```

35 \newcommand*\LWR@igalt{\ImageAltText}

```

Set the actions of each of the key/value combinations for `\includegraphics`. Many are ignored.

If an optional width was given, set an HTML style:

```

36 \define@key{igraph}{width}{%
37 \setlength{\LWR@igwidth}{#1}%
38 \ifthenelse{\lengthtest{\LWR@igwidth > 0pt}}%
39 {%

```

Default to use the converted fixed length given:

```

40 \renewcommand*\LWR@igwidthstyle{width:\LWR@printlength{\LWR@igwidth}}%

```

If ex or em dimensions were given, use those instead:

```

41 \IfEndWith{#1}{ex}%
42 {\renewcommand*\LWR@igwidthstyle{width:#1}}% yes ex
43 {}% not ex
44 \IfEndWith{#1}{em}%
45 {\renewcommand*\LWR@igwidthstyle{width:#1}}% yes em
46 {}% not em
47 \IfEndWith{#1}{\}%
48 {\renewcommand*\LWR@igwidthstyle{width:#1}}% yes percent
49 {}% not percent
50 \IfEndWith{#1}{px}%
51 {\renewcommand*\LWR@igwidthstyle{width:#1}}% yes px
52 {}% not px

```

```
53 }{}% end of length > 0pt
54 }
```

If an optional height was given, set an HTML style:

```
55 \define@key{igraph}{height}{%
56 \setlength{\LWR@igheight}{#1}%
57 \ifthenelse{\lengthtest{\LWR@igheight > 0pt}}%
58 {%
```

Default to use the converted fixed length given:

```
59 \renewcommand*\LWR@igheightstyle{%
60 height:\LWR@printlength{\LWR@igheight} % extra space
61 }%
```

If ex or em dimensions were given, use those instead:

```
62 \IfEndWith{#1}{ex}%
63 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes ex
64 {}% not ex
65 \IfEndWith{#1}{em}%
66 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes em
67 {}% not em
68 \IfEndWith{#1}{\}%
69 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes percent
70 {}% not percent
71 \IfEndWith{#1}{px}%
72 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes px
73 {}% not px
74 }{}% end of length > 0pt
75 }
```

Handle keepaspectratio key:

```
76 \define@key{igraph}{keepaspectratio}[false]{%
77 \booltrue{\LWR@igkeepaspectratio}%
78 }
```

Handle origin key:

```
79 \define@key{igraph}{origin}[c]{%
80 \renewcommand*\LWR@igorigin}{#1}%
81 }
```

Handle angle key:

```
82 \define@key{igraph}{angle}{\renewcommand*\LWR@igangle}{#1}}
```

Handle class key:

```
83 \define@key{igraph}{class}{\renewcommand*\LWR@igclass}{#1}}
```



Handle alt key:

```
84 \define@key{igraph}{alt}{\renewcommand*\LWR@igalt}{#1}}
```

It appears that `graphicx` does not have separate keys for `xscale` and `yscale`. `scale` adjusts both at the same time.

```
85 \define@key{igraph}{scale}{%
86 \ifthenelse{\equal{#1}{1}}{ }{% must expand #1
87 \PackageWarning{lwarp}{%
88 It is recommended to use ‘‘[width=xx\protect\linewidth]’’\MessageBreak
89 instead of ‘‘[scale=yy]’’,%
90 }%
91 }%
92 \renewcommand*\LWR@igxscale}{#1}%
93 \renewcommand*\LWR@igyyscale}{#1}%
94 }
```

Numerous ignored keys:

```
95 \define@key{igraph}{bb}{}
96 \define@key{igraph}{bblx}{}
97 \define@key{igraph}{bblly}{}
98 \define@key{igraph}{bburx}{}
99 \define@key{igraph}{bbury}{}
100 \define@key{igraph}{natwidth}{}
101 \define@key{igraph}{natheight}{}
102 \define@key{igraph}{hiresbb}[true]{}
103 \define@key{igraph}{viewport}{}
104 \define@key{igraph}{trim}{}
105 \define@key{igraph}{totalheight}{}
106 \define@key{igraph}{clip}[true]{}
107 \define@key{igraph}{draft}[true]{}
108 \define@key{igraph}{type}{}
109 \define@key{igraph}{ext}{}
110 \define@key{igraph}{read}{}
111 \define@key{igraph}{command}{}

```

New in v1.1a:

```
112 \define@key{igraph}{quite}{}
113 \define@key{igraph}{page}{}
114 \define@key{igraph}{pagebox}{}
115 \define@key{igraph}{interpolate}[true]{}

```

New in v1.1b:

```
116 \define@key{igraph}{decodearray}{}

```

### § 317.3 Printing HTML styles

`\LWR@rotstyle`     $\{\langle prefix \rangle\} \{\langle degrees \rangle\}$

Prints the rotate style with the given prefix.

prefix is `-ms-` or `-webkit-` or nothing, and is used to generate three versions of the `transform:rotate` style.

```
117 \newcommand*\LWR@rotstyle}[2]{%
118 \edef\LWR@tempone{#2}%
119 \setcounter{LWR@tempcountone}{-1*\real{\LWR@tempone}} % space
120 #1transform:rotate(\arabic{LWR@tempcountone}deg); % space
121 }
```

`\LWR@scalestyle`     $\{\langle prefix \rangle\} \{\langle xscale \rangle\} \{\langle yscale \rangle\}$

Prints the scale style with the given prefix.

prefix is `-ms-` or `-webkit-` or nothing, and is used to generate three versions of the `transform:scale` style.

```
122 \newcommand*\LWR@scalestyle}[3]{%
123 #1transform:scale(#2,#3);
124 }
```

### § 317.4 `\includegraphics`

`\LWR@opacity`    For HTML, used only for `\includegraphics`.

`\LWR@opacity` may be set by the transparent package.

```
125 \def\LWR@opacity{1}
```

`\LWR@imagesizebox`    Used to determine the actual image size if needed.

```
126 \newsavebox{\LWR@imagesizebox}
```

`\LWR@HTML@Gin@setfile`     $\{\langle w \rangle\} \{\langle h \rangle\} \{\langle filename \rangle\}$  Sets the parsed filename for HTML output.

```
127 \newcommand*\LWR@HTML@Gin@setfile}[3]{%
128 \xdef\LWR@parsedfilename{#3}%
129 }
```

Key [Gin]    class    css class for the image.

Define the new class key for the print-mode version of `\includegraphics`, which is enabled inside a `lateximage`.

```
130 \AtBeginDocument{
131 \define@key{Gin}{class}{}
132 \define@key{Gin}{alt}{}
133 }
```

`\LWR@replaceEPSSVG`

Usually, references to EPS files become SVG files, but if the `epstopdf` package is being used, it automatically converts EPS to PDF, and the following must NOT be done.

```

134 \AtBeginDocument{
135 \ifpackageloaded{epstopdf}
136 {
137 \newcommand*\LWR@replacEPSSVG{}
138 }{%
139 \newcommand*\LWR@replacEPSSVG{%
140 \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]%
141 \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]%
142 }
143 }%
144 }

```

\* [*<2: options>*] [*<3: options>*] {*<4: filename>*}

\LWR@ig@useactualimagesize

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of svg to find the original bounding box:

```

145 \newcommand*\LWR@ig@useactualimagesize[4]{%
146 \begingroup%
147 \LWR@restoreorigformatting%
148 \ifpdf%
149 \appto\LWR@restoreorigformatting{%
150 \DeclareGraphicsExtensions{%
151 .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
152 }%
153 }%
154 \else% \ifpdf
155 \ifXeTeX%
156 \appto\LWR@restoreorigformatting{%
157 \DeclareGraphicsExtensions{%
158 .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
159 }%
160 }%
161 \else%
162 \appto\LWR@restoreorigformatting{%
163 \DeclareGraphicsExtensions{%
164 .eps, .EPS, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
165 }%
166 }%
167 \fi%
168 \fi% \ifpdf

```

For a word processor, do not use rotation:

```

169 \ifbool{FormatWP}{\define@key{Gin}{angle}{}{}}{%
170 \IfBooleanTF{#1}%
171 {% starred
172 \IfValueTF{#3}%
173 {%
174 \global\setbox\LWR@imagesizebox{%
175 \LWR@origincludgraphics*[#2][#3][#4]%
176 }%
177 }%
178 {%
179 \IfValueTF{#2}%
180 {%

```

```

181 \global\sbox{\LWR@imagesizebox}{%
182 \LWR@originincludegraphics*[#2]{#4}%
183 }%
184 }{%
185 \global\sbox{\LWR@imagesizebox}{%
186 \LWR@originincludegraphics*{#4}%
187 }%
188 }%
189 }%
190 }% starred
191 {% not starred
192 \IfValueTF{#3}%
193 {%
194 \global\sbox{\LWR@imagesizebox}{%
195 \LWR@originincludegraphics[#2][#3]{#4}%
196 }%
197 }%
198 {%
199 \IfValueTF{#2}%
200 {%
201 \global\sbox{\LWR@imagesizebox}{%
202 \LWR@originincludegraphics[#2]{#4}%
203 }%
204 }{%
205 \global\sbox{\LWR@imagesizebox}{%
206 \LWR@originincludegraphics{#4}%
207 }%
208 }%
209 }%
210 }% not starred
211 \endgroup%
212 \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
213 \global\renewcommand*{\LWR@igwidthstyle}{%
214 width:\LWR@printlength{\LWR@igwidth}%
215 }%
216 \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
217 \global\renewcommand*{\LWR@igheightstyle}{%
218 height:\LWR@printlength{\LWR@igheight}%
219 }%
220 }

```

`\LWR@ig@htmltag` For the HTML reference, add the graphicspath, filename, extension, alt tag, style, and class.

```

221 \newcommand*{\LWR@ig@htmltag}{%
222 img\LWR@indentHTML%
223 src=\textquotedbl%

224 \detokenize\expandafter{\LWR@parsedfilename}%

225 \textquotedbl\LWR@indentHTML%

```

Only include a style tag if a width, height, angle, or scale was given:

```

226 \ifthenelse{
227 \NOT\equal{\LWR@igwidthstyle}{ } \OR

```

```

228 \NOT\equal{\LWR@igheightstyle}{ } \OR
229 \NOT\equal{\LWR@igorigin}{ } \OR
230 \NOT\equal{\LWR@igangle}{ } \OR
231 \NOT\equal{\LWR@igxscale}{1} \OR
232 \NOT\equal{\LWR@igyscale}{1}
233 }%
234 {%
235 style=\textquotedbl\LWR@indentHTML
236 \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{ }}%
237 {\LWR@igwidthstyle;\LWR@indentHTML}{ }%
238 \ifthenelse{\NOT\equal{\LWR@igheightstyle}{ }}%
239 {\LWR@igheightstyle;\LWR@indentHTML}{ }%
240 \ifthenelse{\NOT\equal{\LWR@igorigin}{ }}%
241 {%
242 transform-origin: \LWR@originnames{\LWR@igorigin};%
243 \LWR@indentHTML%
244 }{}%
245 \ifthenelse{\NOT\equal{\LWR@igangle}{ }}%
246 {%
247 \LWR@rotstyle{-ms-}{\LWR@igangle}\LWR@indentHTML
248 \LWR@rotstyle{-webkit-}{\LWR@igangle}\LWR@indentHTML
249 \LWR@rotstyle}{\LWR@igangle } \LWR@indentHTML
250 }{}%
251 \ifthenelse{%
252 \NOT\equal{\LWR@igxscale}{1}\OR%
253 \NOT\equal{\LWR@igyscale}{1}%
254 }%
255 {%
256 \LWR@scalestyle{-ms-}{\LWR@igxscale}{\LWR@igyscale}%
257 \LWR@indentHTML
258 \LWR@scalestyle{-webkit-}{\LWR@igxscale}{\LWR@igyscale}%
259 \LWR@indentHTML
260 \LWR@scalestyle}{\LWR@igxscale}{\LWR@igyscale}%
261 \LWR@indentHTML
262 }{}%
263 %
264 \ifthenelse{\NOT\equal{\LWR@opacity}{1}}%
265 {opacity:\LWR@opacity;\LWR@indentHTML}{ }%
266 %
267 \textquotedbl\LWR@indentHTML%
268 }{}%

```

Set the class and alt tag:

```

269 class=\textquotedbl\LWR@igclass\textquotedbl\LWR@indentHTML%
270 alt=\textquotedbl\AltTextOpen\LWR@igalt\AltTextClose\textquotedbl \LWR@originewline%
271]% end of image tags

```

`\LWR@includegraphicsb` \* [*2: options*] [*3: options*] {*4: filename*}

**graphics** syntax is `\includegraphics * [llx, lly] [urx, ury] {filename}`

**graphicx** syntax is `\includegraphics [key values] {filename}`

If #3 is empty, only one optional argument was given, thus **graphicx** syntax.

If using `\epsfig` or `\psfig` from the `epsfig` package, #4 will be `\LWR@epsfig@filename`, which will have been set by the `file` or `figure` keys. Therefore, #4 must not be used until after the keys have been processed.

```
272 \NewDocumentCommand{\LWR@includegraphicsb}{s o m}
273 {%
```

Start the image tag on a new line, allow PDF output word wrap:

```
274 \LWR@origtilde \LWR@orignewline%
```

Temporarily compute `\linewidth`, `\textwidth`, `\textheight` arguments with a 6x9 inch size until the next `\endgroup`.

```
275 \begin{LWR@setvirtualpage}%
```

For correct em sizing during the width and height conversions:

```
276 \large%
```

Temporarily prevent underfull `\hbox` warnings.

```
277 \hbadness=10000\relax%
```

Reset some defaults, possibly will be changed below if options were given:

```
278 \setlength{\LWR@igwidth}{0pt}%
279 \setlength{\LWR@igheight}{0pt}%
280 \renewcommand*\LWR@igwidthstyle{}%
281 \renewcommand*\LWR@igheightstyle{}%
282 \renewcommand*\LWR@igorigin{}%
283 \renewcommand*\LWR@igangle{}%
284 \renewcommand*\LWR@igxscale}{1}%
285 \renewcommand*\LWR@igyyscale}{1}%
286 \renewcommand*\LWR@igclass}{inlineimage}%
287 \boolfalse{LWR@igkeepaspectratio}%
```

```
288 \ifdefvoid{\LWR@ThisAltText}{%
289 \edef\LWR@igalt{\ImageAltText}%
290 }{%
291 \edef\LWR@igalt{\LWR@ThisAltText}%
292 }%
```

If #3 is empty, only one optional argument was given, thus `graphicx` syntax:

```
293 \IfValueF{#3}{%
294 \IfValueTF{#2}%
295 {\setkeys{igraph}{#2}}%
296 {\setkeys{igraph}{}}%
297 }%
```

Fully expand and detokenize the filename, changing the file extension to `.svg` if necessary.

Note that uppercase file extensions are detected and reported as lowercase, so `lwarp` can only report to the browser lowercase extensions, so all images must have lowercase file extensions.

```
298 \begingroup%
299 \LetLtxMacro\Gin@setfile\LWR@HTML@Gin@setfile%
300 \edef\LWR@tempone{#4}%
```

PDF extensions are removed to allow a search for another graphics format such as svg or PNG.

```

301 \StrSubstitute{\LWR@tempone}{.pdf}}{\LWR@tempone}%
302 \StrSubstitute{\LWR@tempone}{.PDF}}{\LWR@tempone}%

303 \LWR@replaceEPSSVG%
304 \xdef\LWR@parsedfilename{\LWR@tempone}%
305 \Gininclude@graphics{\detokenize\expandafter{\LWR@parsedfilename}}%
306 \endgroup%
307 \filename@parse{\LWR@parsedfilename}%

```

Remove doubled // in the directory path, from the 2020/10/01 L<sup>A</sup>T<sub>E</sub>X kernel change.

```

308 \StrSubstitute{\LWR@parsedfilename}{//}{/}{\LWR@parsedfilename}%
309 \LWR@traceinfo{\LWR@parsedfilename is \LWR@parsedfilename}%

```

If formatting for a word processor, or if using `keepaspectratio`, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

310 \ifboolexpr{
311 bool {FormatWP} or
312 bool {\LWR@igkeepaspectratio}
313 }{\LWR@ig@useactualimagesize{#1}{#2}{#3}{#4}}}%

```

Create the HTML reference with the graphicspath, filename, extension, alt tag, style, and class:

```

314 \LWR@traceinfo{\LWR@includegraphicsb: about to create href}%
315 \LWR@href{\LWR@parsedfilename}%
316 {% start of href
317 \LWR@traceinfo{\LWR@includegraphicsb: about to LWR@htmltag}%
318 \LWR@htmltag{\LWR@ig@htmltag}%
319 }% end of href

```

Return to original page size and font size:

```

320 \end{\LWR@setvirtualpage}%

```

Clear the single-use alt text:

```

321 \gdef\LWR@ThisAltText{}%
322 \LWR@traceinfo{\LWR@includegraphicsb done}%
323 }

```

`\includegraphics` [*(key=val)*] {*(filename)*}

Handles width and height, converted to fixed width and heights.

The user should always use no file suffix in the document source.

```

324 \AtBeginDocument{
325
326 \LWR@traceinfo{Patching includegraphics.}
327
328 \LetLtxMacro\LWR@originincludegraphics\includegraphics

```

```
329 \renewrobustcmd*{\includegraphics}
330 {%
```

This graphic should trigger an HTML paragraph even if alone, so ensure that are doing paragraph handling:

```
331 \LWR@traceinfo{includegraphics}%
332 \LWR@ensuredoingapar%
333 \LWR@includegraphicsb%
334 }% includegraphics
335 }% AtBeginDocument
```

### § 317.5 Boxes

`\LWR@rotboxorigin` Holds the origin key letters.

```
336 \newcommand*{\LWR@rotboxorigin}{}
```

`\LWR@originname`  $\{\langle letter \rangle\}$

Given one L<sup>A</sup>T<sub>E</sub>X origin key value, translate into an HTML origin word:

```
337 \newcommand*{\LWR@originname}[1]{%
338 \ifthenelse{equal{#1}{t}}{top}{}%
339 \ifthenelse{equal{#1}{b}}{bottom}{}%
340 \ifthenelse{equal{#1}{c}}{center}{}%
341 \ifthenelse{equal{#1}{l}}{left}{}%
342 \ifthenelse{equal{#1}{r}}{right}{}%
343 }
```

`\LWR@originnames`  $\{\langle letters \rangle\}$

Given one- or two-letter L<sup>A</sup>T<sub>E</sub>X origin key values, translate into HTML origin words:

```
344 \newcommand*{\LWR@originnames}[1]{%
345 \StrChar{#1}{1}[\LWR@strresult]%
346 \LWR@originname{\LWR@strresult}
347 \StrChar{#1}{2}[\LWR@strresult]%
348 \LWR@originname{\LWR@strresult}
349 }
```

Handle the origin key for `\rotatebox`:

```
350 \define@key{krotbox}{origin}{%
351 \renewcommand*{\LWR@rotboxorigin}{#1}%
352 }
```

These keys are ignored:

```
353 \define@key{krotbox}{x}{}
354 \define@key{krotbox}{y}{}
355 \define@key{krotbox}{units}{}

```

`\rotatebox`  $[\langle keyval list \rangle] \{\langle angle \rangle\} \{\langle text \rangle\}$

```
356 \AtBeginDocument{
```



The HTML version:

```
357 \NewDocumentCommand{\LWR@HTML@rotatebox}{0}{ m +m}{%
```

Reset the origin to “none-given”:

```
358 \renewcommand*\LWR@rotboxorigin{}
```

Process the optional keys, which may set `\LWR@rotateboxorigin`:

```
359 \setkeys{krotbox}{#1}%
```

Select inline-block so that HTML will transform this span:

```
360 \LWR@htmltagc{%
361 span\LWR@indentHTML
362 style=\textquotedbl\LWR@indentHTML
363 display: inline-block;\LWR@indentHTML
```

If an origin was given, translate and print the origin information:

```
364 \ifthenelse{\NOT\equal{\LWR@rotboxorigin}{}}%
365 {transform-origin: \LWR@originnames{\LWR@rotboxorigin};\LWR@indentHTML}%
366 {}%
```

Print the rotation information:

```
367 \LWR@rotstyle{-ms-}{#2}\LWR@indentHTML
368 \LWR@rotstyle{-webkit-}{#2}\LWR@indentHTML
369 \LWR@rotstyle{}{#2}\textquotedbl\LWR@orignewLine%
370 }\LWR@orignewLine%
```

Print the text to be rotated:

```
371 \begin{LWR@nestspan}%
372 #3%
```

Close the span:

```
373 \LWR@htmltagc{/span}%
374 \end{LWR@nestspan}%
375 }
```

The high-level interface:

```
376 \LWR@formatted{rotatebox}
377
378 }% AtBeginDocument
```

`\scalebox`  $\langle h-scale \rangle$  [ $\langle v-scale \rangle$ ]  $\langle text \rangle$

```
379 \AtBeginDocument{
```

The HTML version:

```
380 \NewDocumentCommand{\LWR@HTML@scalebox}{m o m}{%
```

Select inline-block so that HTML will transform this span:

```
381 \LWR@htmltagc{%
382 span\LWR@indentHTML
383 style=\textquotedbl\LWR@indentHTML
384 display: inline-block;\LWR@indentHTML
```

Print the scaling information:

```
385 \LWR@scalestyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
386 \LWR@scalestyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
387 \LWR@scalestyle{}{#1}{\IfNoValueTF{#2}{#1}{#2}}
388 \textquotedbl\LWR@originewline
389 }\LWR@originewline%
```

Print the text to be scaled:

```
390 \begin{LWR@nestspan}%
391 #3%
```

Close the span:

```
392 \LWR@htmltagc{/span}%
393 \end{LWR@nestspan}%
394 }
```

The high-level interface:

```
395 \LWR@formatted{scalebox}
396
397 }% AtBeginDocument
```

`\reflectbox`  $\{\langle text \rangle\}$

```
398 \AtBeginDocument{
399
400 \newcommand{\LWR@HTML@reflectbox}[1]{%
401 \scalebox{-1}[1]{#1}%
402 }% \reflectbox
403
404 \LWR@formatted{reflectbox}
405
406 }% AtBeginDocument
```

`\resizebox`  $\{\langle h-length \rangle\} \{\langle v-length \rangle\} \{\langle text \rangle\}$

Simply prints its text argument.

```

407 \AtBeginDocument{
408
409 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%
410 #4%
411 }
412
413 \LWR@formatted{resizebox}
414
415 }% AtBeginDocument

```

---

File 209 **lwarp-graphics.sty**

§ 318 Package **graphicx**

Pkg graphicx graphicx is emulated.

graphicx loads graphics, which also loads lwarp-graphics, which remembers the original graphics definitions for use inside a lateximage, and then patches them \AtBeginDocument for HTML output.

lwarp-graphics handles the syntax of either graphics or graphicx.

**for HTML output:** 1 \LWR@ProvidesPackagePass{graphicx}[2020/09/09]

---

File 210 **lwarp-grffile.sty**

§ 319 Package **grffile**

Pkg grffile grffile is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.



matching PDF and SVG

lwarp-grffile now exists as a placeholder since grffile used to be emulated by lwarp, and thus older versions of lwarp-grffile may exist and should be overwritten by this newer version.

**for HTML output:** 1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]

---

File 211 **lwarp-grid.sty**

§ 320 Package **grid**

Pkg grid grid is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]

---

```
2 \newenvironment*{gridenv}{}{}
```

---

File 212 **lwarp-grid-system.sty**

§ 321 Package **grid-system**

(Emulates or patches code by MARCUS BITZL.)

Pkg grid-system grid-system is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{grid-system}[2014/02/16]

(\ifdef is in case the older syntax is removed.)

```
2 \AtBeginEnvironment{Row}{\setlength{\linewidth}{6in}}
3
4 \ifdef{\endrow}{
5 \AtBeginEnvironment{row}{\setlength{\linewidth}{6in}}
6 }{}
7
8 \renewcommand{\gridsystem@finishcell}{\hspace{\gridsystem@cellsep}}
```

---

File 213 **lwarp-gridset.sty**

§ 322 Package **gridset**

Pkg gridset gridset is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gridset}[2020-02-12]

```
2 \newcommand*{\gridbase}{}
3 \newcommand*{\gridinterval}{}
4 \newcommand*{\SavePos}[1]{}
5 \ifLuaTeX
6 \else
7 \let\savepos\SavePos
8 \fi
9 \newcommand*{\vskipnextgrid}{}
10 \newcommand*{\thegridinfo}[1]{(thegridinfo)}
11 \newcommand*{\theposinfo}[1]{(theposinfo)}
12 \newcommand*{\theypos}[1]{(theypos)}
```

---

File 214 **lwarp-hang.sty**

§ 323 Package **hang**

(Emulates or patches code by ANDREAS NOLDA.)

Pkg hang hang is emulated.

```

for HTML output: 1 \LWR@ProvidesPackageDrop{hang}[2017/02/18]

2 \newlength{\hangingindent}
3 \setlength{\hangingindent}{1em}
4 \newlength{\hangingleftmargin}
5 \setlength{\hangingleftmargin}{0em}
6
7 \newcommand*\LWR@findhangingleftmargin{%
8 \setlength{\LWR@templengthone}{\hangingleftmargin}%
9 \addtolength{\LWR@templengthone}{\hangingindent}%
10 }
11
12 \newenvironment{hangingpar}
13 {
14 \LWR@findhangingleftmargin%
15 \BlockClass[%
16 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
17 \LWR@print@mbbox{text-indent:-\LWR@printlength{\hangingindent}}%
18]%
19 {hangingpar}%
20 }
21 {\endBlockClass}
22
23 \newenvironment{hanginglist}
24 {%
25 \renewcommand*\LWR@printcloselist{\LWR@printcloseitemize}%
26 \renewcommand*\LWR@printopenlist{%
27 \LWR@findhangingleftmargin%
28 ul style=\textquotedbl%
29 \LWR@print@mbbox{list-style-type:none;} % extra space
30 \LWR@print@mbbox{%
31 margin-left:\LWR@printlength{\LWR@templengthone}%
32 } ; % extra space
33 \LWR@print@mbbox{%
34 text-indent:-\LWR@printlength{\hangingindent}%
35 }%
36 \textquotedbl%
37 }%
38 \let\item\LWR@itemizeitem%
39 \list{}{}%
40 }
41 {\endlist}
42
43 \newenvironment{compacthang}
44 {\hanginglist}
45 {\endhanginglist}
46
47 \newlength{\labeledleftmargin}
48 \setlength{\labeledleftmargin}{0em}
49
50 \newenvironment{labeledpar}[2]
51 {%
52 \BlockClass[%

```

```

53 \LWR@findhangingleftmargin%
54 \LWR@print@mbx{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
55 \LWR@print@mbx{text-indent:-\LWR@printlength{\hangingindent}}%
56]{labeledpar}#2%
57 }
58 {\endBlockClass}
59
60 \newenvironment{labeledlist}[1]
61 {\hanginglist}
62 {\endhanginglist}
63
64 \newenvironment{compactlabel}[1]
65 {\hanginglist}
66 {\endhanginglist}

```

---

File 215 **lwarp-hanging.sty**

§ 324 Package **hanging**

Pkg hanging hanging is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hanging}[2009/09/02]

```

2 \@ifclassloaded{memoir}{
3 \let\hangpara\relax
4 \let\hangparas\relax
5 \let\endhangparas\relax
6 \let\hangpunct\relax
7 \let\endhangpunct\relax
8 }{}

```

\hangpara {<indent>} {<afternum>}

**Use hangparas instead.**

```

9 \newcommand*{\hangpara}[2]{}

```

Env hangparas {<indent>} {<afternum>}

```

10 \newenvironment*{hangparas}[2]
11 {%
12 \BlockClass[%
13 \LWR@print@mbx{margin-left:\LWR@printlength{#1}} ; %
14 \LWR@print@mbx{text-indent:-\LWR@printlength{#1}}%
15]%
16 {hangingpar}%
17 }
18 {\endBlockClass}

```

Env hangpunct

```

19 \newenvironment*{hangpunct}

```

```

20 {\BlockClass{hangpunct}}
21 {\endBlockClass}

22 \newcommand{\nhpt}{.}
23 \newcommand{\nhlq}{‘}
24 \newcommand{\nhrq}{’}

```

---

File 216 **lwarp-hepunits.sty**

§ 325 Package **hepunits**

*(Emulates or patches code by ANDY BUCKLEY.)*

Pkg hepunits hepunits is used as-is, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hepunits}[2020/04/10]

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{hepunits}
4
5 \ifx\@HEPopt@sicmds\@yes
6 \CustomizeMathJax{\newcommand{\micron}{\micro\metre}}
7 \CustomizeMathJax{\newcommand{\mrad}{\milli\radian}}
8 \fi
9
10 \CustomizeMathJax{\newcommand{\gauss}{\mathrm{G}}}
11
12 \CustomizeMathJax{\newcommand{\invcmsq}{\centi\metre\tothe{-2}}}
13 \CustomizeMathJax{\newcommand{\invcmsqpersecond}{\invcmsq\second\tothe{-1}}}
14 \CustomizeMathJax{\newcommand{\invcmsqpersec}{\invcmsqpersecond}}
15
16 %% (Inverse) cross-sections
17 \CustomizeMathJax{\newcommand{\invbarn}{\barn\tothe{-1}}}
18
19 \ifx\@HEPopt@noprefixcmds\@empty
20 \CustomizeMathJax{\newcommand{\millibarn}{\milli\barn}}
21 \CustomizeMathJax{\newcommand{\microbarn}{\micro\barn}}
22 \CustomizeMathJax{\newcommand{\nanobarn}{\nano\barn}}
23 \CustomizeMathJax{\newcommand{\picobarn}{\pico\barn}}
24 \CustomizeMathJax{\newcommand{\femtobarn}{\femto\barn}}
25 \CustomizeMathJax{\newcommand{\attobarn}{\atto\barn}}
26 \CustomizeMathJax{\newcommand{\zeptobarn}{\zepto\barn}}
27 \CustomizeMathJax{\newcommand{\yoctobarn}{\yocto\barn}}
28 \CustomizeMathJax{\newcommand{\invnanobarn}{\nano\invbarn}}
29 \CustomizeMathJax{\newcommand{\invpicobarn}{\pico\invbarn}}
30 \CustomizeMathJax{\newcommand{\invfemtobarn}{\femto\invbarn}}
31 \CustomizeMathJax{\newcommand{\invattobarn}{\atto\invbarn}}
32 \CustomizeMathJax{\newcommand{\invzeptobarn}{\zepto\invbarn}}
33 \CustomizeMathJax{\newcommand{\invyoctobarn}{\yocto\invbarn}}
34 \CustomizeMathJax{\newcommand{\invnb}{\invnanobarn}}
35 \CustomizeMathJax{\newcommand{\invpb}{\invpicobarn}}
36 \CustomizeMathJax{\newcommand{\invfb}{\invfemtobarn}}

```

```

37 \CustomizeMathJax{\newcommand{\invab}{\invattobarn}}
38 \CustomizeMathJax{\newcommand{\invzb}{\invzeptobarn}}
39 \CustomizeMathJax{\newcommand{\invyb}{\invyoctobarn}}
40 \fi
41
42 \CustomizeMathJax{\newcommand{\electronvoltc}{\electronvolt\per\mathit{c}}}
43 \CustomizeMathJax{\newcommand{\electronvoltcqs}{\electronvolt\per\mathit{c}\squared}}
44 \CustomizeMathJax{\let\evc\electronvoltc}
45 \CustomizeMathJax{\let\evcsq\electronvoltcqs}
46
47 \ifx\@HEPopt@noprefixcmds\@empty
48 \CustomizeMathJax{\newcommand{\meV}{\milli\ev}}
49 \CustomizeMathJax{\newcommand{\keV}{\kilo\ev}}
50 \CustomizeMathJax{\newcommand{\MeV}{\mega\ev}}
51 \CustomizeMathJax{\newcommand{\GeV}{\giga\ev}}
52 \CustomizeMathJax{\newcommand{\TeV}{\tera\ev}}
53 \CustomizeMathJax{\newcommand{\meVc}{\milli\evc}}
54 \CustomizeMathJax{\newcommand{\keVc}{\kilo\evc}}
55 \CustomizeMathJax{\newcommand{\MeVc}{\mega\evc}}
56 \CustomizeMathJax{\newcommand{\GeVc}{\giga\evc}}
57 \CustomizeMathJax{\newcommand{\TeVc}{\tera\evc}}
58 \CustomizeMathJax{\newcommand{\meVcsq}{\milli\evcsq}}
59 \CustomizeMathJax{\newcommand{\keVcsq}{\kilo\evcsq}}
60 \CustomizeMathJax{\newcommand{\MeVcsq}{\mega\evcsq}}
61 \CustomizeMathJax{\newcommand{\GeVcsq}{\giga\evcsq}}
62 \CustomizeMathJax{\newcommand{\TeVcsq}{\tera\evcsq}}
63 \fi
64 \end{warpMathJax}

```

---

File 217 **lwarp-hhline.sty**

§ 326 Package **hhline**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg hhline **hhline** is patched for use by **lwarp**.

Only a rudimentary emulation is provided so far. If the argument contains any = characters, the result is a double \hhline. If none, the result is a single \hhline.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hhline}[2014/10/28]
2 \newrobustcmd*{\LWR@HTML@hhline}[1]{%
3 \edef\LWR@tempone{\detokenize\expandafter{#1}}%
4 \IfSubStr[1]{\LWR@tempone}{=}{\hhline\hhline}{\hhline}%
5 }
6 % ^^A or:
7 % ^^A \newrobustcmd*{\LWR@HTML@hhline}[1]{\LWR@getmynexttoken}
8
9 \AtBeginDocument{\LWR@expandableformatted{hhline}}

```

For **MATHJAX**. A simple \hhline is used.



```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\hhline}[1]{\hline}}
12 \end{warpMathJax}

```

---

File 218 **lwarp-hhtensor.sty**

§ 327 Package **hhtensor**

*(Emulates or patches code by HARALD HARDERS.)*

Pkg hhtensor hhtensor is used as-is, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hhtensor}[2011/12/29]

2 \begin{warpMathJax}
3 \iftensor@bold
4 \CustomizeMathJax{\newcommand{\vec}[1]{\boldsymbol{#1}}}
5 \CustomizeMathJax{\newcommand{\matr}[1]{\boldsymbol{#1}}}
6 \CustomizeMathJax{\newcommand{\tens}[2]{\boldsymbol{#1}}}
7 \else
8 \iftensor@uline
9 \CustomizeMathJax{\newcommand{\vec}[1]{\ushort{#1}}}
10 \CustomizeMathJax{\newcommand{\matr}[1]{\ushorTd{#1}}}
11 \CustomizeMathJax{\newcommand{\tens}[2]{
12 \underset{
13 \raise{.5ex}{\underset{#2}{\sim}}
14 }{#1}
15 }}
16 \else
17 \CustomizeMathJax{\newcommand{\matr}[1]{\vec{\vec{#1}}}}
18 \CustomizeMathJax{\newcommand{\tens}[2]{
19 \underset{
20 \raise{.5ex}{\underset{#2}{\sim}}
21 }{#1}
22 }}
23 \fi
24 \fi
25 \CustomizeMathJax{\newcommand{\dcdot}{\mathrel{\cdot\mkern 0.0mu \cdot}}}
26 \CustomizeMathJax{\newcommand{\trans}{\mathrm{T}}}
27 \end{warpMathJax}

```

---

File 219 **lwarp-hypbmsec.sty**

§ 328 Package **hypbmsec**

Pkg hypbmsec hypbmsec is emulated by the lwarp core.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

```

---

File 220 **lwarp-hypcap.sty**

§ 329 Package **hypcap**

Pkg hypcap hypcap is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypcap}[2016/05/16]

```
2 \newcommand*\capstart{}
3 \newcommand*\hypcapSPACE{}
4 \newcommand*\hypcapPreDef[1]{}
5 \newcommand*\capstartfalse{}
6 \newcommand*\capstarttrue{}
```

---

File 221 **lwarp-hypdestopt.sty**

§ 330 Package **hypdestopt**

Pkg hypdestopt hypdestopt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

---

File 222 **lwarp-hypernat.sty**

§ 331 Package **hypernat**

Pkg hypernat hypernat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

---

File 223 **lwarp-hyperref.sty**

§ 332 Package **hyperref**

*(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK, THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)*

Pkg hyperref hyperref is emulated.

**for HTML output:** 1 % \LWR@ProvidesPackageDrop{hyperref}% not allowed  
 2 % \ProvidesPackage{lwarp-#1-#2}% not allowed  
 3 \PackageInfo{lwarp}{%  
 4 Using the lwarp HTML version of package ‘hyperref’,\MessageBreak

```
5 and discarding options except backref, pagebackref.\MessageBreak
6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
7 do not attempt to patch lwarp's version of 'hyperref'.)\MessageBreak}
```

```
8 \SetupKeyvalOptions{family=LWR@hyperref,prefix=LWR@hyperref@}
9
10 \newcommand{\hypersetup}[1]{\setkeys{LWR@hyperref}{#1}}
11
12 \define@key{LWR@hyperref}{a4paper}[]{}
13 \define@key{LWR@hyperref}{a5paper}[]{}
14 \define@key{LWR@hyperref}{b5paper}[]{}
15 \define@key{LWR@hyperref}{letterpaper}[]{}
16 \define@key{LWR@hyperref}{legalpaper}[]{}
17 \define@key{LWR@hyperref}{executivepaper}[]{}
18 \define@key{LWR@hyperref}{implicit}[]{}
19 \define@key{LWR@hyperref}{draft}[]{}
20 \define@key{LWR@hyperref}{final}[]{}
21 \define@key{LWR@hyperref}{setpagesize}[]{}
22 \define@key{LWR@hyperref}{debug}[]{}
23 \define@key{LWR@hyperref}{linktocpage}[]{}
24 \define@key{LWR@hyperref}{linktoc}[]{}
25 \define@key{LWR@hyperref}{extension}[]{}
26 \define@key{LWR@hyperref}{verbose}[]{}
27 \define@key{LWR@hyperref}{typexml}[]{}
28 \define@key{LWR@hyperref}{raiselinks}[]{}
29 \define@key{LWR@hyperref}{breaklinks}[]{}
30 \define@key{LWR@hyperref}{localanchorname}[]{}
31 \define@key{LWR@hyperref}{pageanchor}[]{}
32 \define@key{LWR@hyperref}{plainpages}[]{}
33 \define@key{LWR@hyperref}{naturalnames}[]{}
34 \define@key{LWR@hyperref}{hypertextnames}[]{}
35 \define@key{LWR@hyperref}{nesting}[]{}
36 \define@key{LWR@hyperref}{destlabel}[]{}
37 \define@key{LWR@hyperref}{unicode}[]{}
38 \define@key{LWR@hyperref}{pdfencoding}[]{}
39 \define@key{LWR@hyperref}{psdextra}[]{}
40 \define@key{LWR@hyperref}{pdfversion}[]{}
41 \define@key{LWR@hyperref}{dvipdfmx-outline-open}[]{}
42 \define@key{LWR@hyperref}{driverfallback}[]{}
43 \define@key{LWR@hyperref}{customdriver}[]{}
44 \define@key{LWR@hyperref}{hyperfigures}[]{}
45 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
46 \define@key{LWR@hyperref}{hyperindex}[]{}
47 \define@key{LWR@hyperref}{encap}[]{}
48 \define@key{LWR@hyperref}{colorlinks}[]{}
49 \define@key{LWR@hyperref}{ocgcolorlinks}[]{}
50 \define@key{LWR@hyperref}{frenchlinks}[]{}
51 \define@key{LWR@hyperref}{bookmarks}[]{}
52 \define@key{LWR@hyperref}{bookmarksopen}[]{}
53 \define@key{LWR@hyperref}{bookmarksdepth}[]{}
54 \define@key{LWR@hyperref}{bookmarksopenlevel}[]{}
55 \define@key{LWR@hyperref}{bookmarkstype}[]{}
56 \define@key{LWR@hyperref}{bookmarksnumbered}[]{}
57 \define@key{LWR@hyperref}{CJKbookmarks}[]{}
58 \define@key{LWR@hyperref}{link}[]{}

```

```
59 \define@key{LWR@hyperref}{anchor}[]{}
60 \define@key{LWR@hyperref}{cite}[]{}
61 \define@key{LWR@hyperref}{file}[]{}
62 \define@key{LWR@hyperref}{url}[]{}
63 \define@key{LWR@hyperref}{menu}[]{}
64 \define@key{LWR@hyperref}{run}[]{}
65 \define@key{LWR@hyperref}{linkbordercolor}[]{}
66 \define@key{LWR@hyperref}{anchorbordercolor}[]{}
67 \define@key{LWR@hyperref}{citebordercolor}[]{}
68 \define@key{LWR@hyperref}{filebordercolor}[]{}
69 \define@key{LWR@hyperref}{urlbordercolor}[]{}
70 \define@key{LWR@hyperref}{menubordercolor}[]{}
71 \define@key{LWR@hyperref}{runbordercolor}[]{}
72 \define@key{LWR@hyperref}{pagecolor}[]{}
73 \define@key{LWR@hyperref}{baseurl}[]{}
74 \define@key{LWR@hyperref}{linkfileprefix}[]{}
75 \define@key{LWR@hyperref}{pdfpagetransition}[]{}
76 \define@key{LWR@hyperref}{pdfpageduration}[]{}
77 \define@key{LWR@hyperref}{pdfpagehidden}[]{}
78 \define@key{LWR@hyperref}{pagebordercolor}[]{}
79 \define@key{LWR@hyperref}{allbordercolors}[]{}
80 \define@key{LWR@hyperref}{pdfhighlight}[]{}
81 \define@key{LWR@hyperref}{pdfborder}[]{}
82 \define@key{LWR@hyperref}{pdfborderstyle}[]{}
83 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
84 \define@key{LWR@hyperref}{pdfusetitle}[]{}
85 \define@key{LWR@hyperref}{pdftitle}[]{}
86 \define@key{LWR@hyperref}{pdfauthor}[]{}
87 \define@key{LWR@hyperref}{pdfproducer}[]{}
88 \define@key{LWR@hyperref}{pdfcreator}[]{}
89 \define@key{LWR@hyperref}{addtopdfcreator}[]{}
90 \define@key{LWR@hyperref}{pdfcreationdate}[]{}
91 \define@key{LWR@hyperref}{pdfmoddate}[]{}
92 \define@key{LWR@hyperref}{pdfsubject}[]{}
93 \define@key{LWR@hyperref}{pdfkeywords}[]{}
94 \define@key{LWR@hyperref}{pdftrapped}[]{}
95 \define@key{LWR@hyperref}{pdfinfo}[]{}
96 \define@key{LWR@hyperref}{pdfview}[]{}
97 \define@key{LWR@hyperref}{pdflinkmargin}[]{}
98 \define@key{LWR@hyperref}{pdfstartpage}[]{}
99 \define@key{LWR@hyperref}{pdfstartview}[]{}
100 \define@key{LWR@hyperref}{pdfremotestartview}[]{}
101 \define@key{LWR@hyperref}{pdfpagescrop}[]{}
102 \define@key{LWR@hyperref}{pdftoolbar}[]{}
103 \define@key{LWR@hyperref}{pdfmenubar}[]{}
104 \define@key{LWR@hyperref}{pdfwindowui}[]{}
105 \define@key{LWR@hyperref}{pdffitwindow}[]{}
106 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}
107 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
108 \define@key{LWR@hyperref}{pdfa}[]{}
109 \define@key{LWR@hyperref}{pdfnewwindow}[]{}
110 \define@key{LWR@hyperref}{pdflang}[]{}
111 \define@key{LWR@hyperref}{pdfpageLabels}[]{}
112 \define@key{LWR@hyperref}{pdfescapeform}[]{}
113 \define@key{LWR@hyperref}{english}[]{}

```

```
114 \define@key{LWR@hyperref}{UKenglish}[]{}
115 \define@key{LWR@hyperref}{british}[]{}
116 \define@key{LWR@hyperref}{USenglish}[]{}
117 \define@key{LWR@hyperref}{american}[]{}
118 \define@key{LWR@hyperref}{german}[]{}
119 \define@key{LWR@hyperref}{austrian}[]{}
120 \define@key{LWR@hyperref}{ngerman}[]{}
121 \define@key{LWR@hyperref}{naustrian}[]{}
122 \define@key{LWR@hyperref}{russian}[]{}
123 \define@key{LWR@hyperref}{brazil}[]{}
124 \define@key{LWR@hyperref}{brazilian}[]{}
125 \define@key{LWR@hyperref}{portuguese}[]{}
126 \define@key{LWR@hyperref}{spanish}[]{}
127 \define@key{LWR@hyperref}{catalan}[]{}
128 \define@key{LWR@hyperref}{afrikaans}[]{}
129 \define@key{LWR@hyperref}{french}[]{}
130 \define@key{LWR@hyperref}{frenchb}[]{}
131 \define@key{LWR@hyperref}{français}[]{}
132 \define@key{LWR@hyperref}{acadian}[]{}
133 \define@key{LWR@hyperref}{canadien}[]{}
134 \define@key{LWR@hyperref}{italian}[]{}
135 \define@key{LWR@hyperref}{magyar}[]{}
136 \define@key{LWR@hyperref}{hungarian}[]{}
137 \define@key{LWR@hyperref}{greek}[]{}
138 \define@key{LWR@hyperref}{dutch}[]{}
139 \define@key{LWR@hyperref}{tex4ht}[]{}
140 \define@key{LWR@hyperref}{pdftex}[]{}
141 \define@key{LWR@hyperref}{luatex}[]{}
142 \define@key{LWR@hyperref}{nativepdf}[]{}
143 \define@key{LWR@hyperref}{dvi pdfm}[]{}
144 \define@key{LWR@hyperref}{dvi pdfmx}[]{}
145 \define@key{LWR@hyperref}{xetex}[]{}
146 \define@key{LWR@hyperref}{pdfmark}[]{}
147 \define@key{LWR@hyperref}{dvips}[]{}
148 \define@key{LWR@hyperref}{hypertex}[]{}
149 \define@key{LWR@hyperref}{vtex}[]{}
150 \define@key{LWR@hyperref}{vtex pdfmark}[]{}
151 \define@key{LWR@hyperref}{dvi windo}[]{}
152 \define@key{LWR@hyperref}{dvi psone}[]{}
153 \define@key{LWR@hyperref}{textures}[]{}
154 \define@key{LWR@hyperref}{latex2html}[]{}
155 \define@key{LWR@hyperref}{ps2pdf}[]{}
156 \define@key{LWR@hyperref}{vietnamese}[]{}
157 \define@key{LWR@hyperref}{vietnam}[]{}
158 \define@key{LWR@hyperref}{arabic}[]{}
159 \define@key{LWR@hyperref}{hidelinks}[]{}
160 \define@key{LWR@hyperref}{draft}[]{}
161 \define@key{LWR@hyperref}{nolinks}[]{}
162 \define@key{LWR@hyperref}{final}[]{}
163 \define@key{LWR@hyperref}{pdfa}[]{}
164 \define@key{LWR@hyperref}{pdfversion}[]{}
165 \define@key{LWR@hyperref}{typexml}[]{}
166 \define@key{LWR@hyperref}{tex4ht}[]{}
167 \define@key{LWR@hyperref}{pdftex}[]{}
168 \define@key{LWR@hyperref}{nativepdf}[]{}

```

```
169 \define@key{LWR@hyperref}{dvi pdfm}[]{}
170 \define@key{LWR@hyperref}{dvi pdfmx}[]{}
171 \define@key{LWR@hyperref}{dvi pdfmx-outline-open}[]{}
172 \define@key{LWR@hyperref}{pdfmark}[]{}
173 \define@key{LWR@hyperref}{dvips}[]{}
174 \define@key{LWR@hyperref}{hypertex}[]{}
175 \define@key{LWR@hyperref}{vtex}[]{}
176 \define@key{LWR@hyperref}{vtexpdfmark}[]{}
177 \define@key{LWR@hyperref}{dviwindo}[]{}
178 \define@key{LWR@hyperref}{dvipsone}[]{}
179 \define@key{LWR@hyperref}{textures}[]{}
180 \define@key{LWR@hyperref}{latex2html}[]{}
181 \define@key{LWR@hyperref}{ps2pdf}[]{}
182 \define@key{LWR@hyperref}{xetex}[]{}
183 \define@key{LWR@hyperref}{driverfallback}[]{}
184 \define@key{LWR@hyperref}{customdriver}[]{}
185 \define@key{LWR@hyperref}{pdfversion}[]{}
186 \define@key{LWR@hyperref}{bookmarks}[]{}
187 \define@key{LWR@hyperref}{ocgcolorlinks}[]{}
188 \define@key{LWR@hyperref}{colorlinks}[]{}
189 \define@key{LWR@hyperref}{frenchlinks}[]{}
190 \define@key{LWR@hyperref}{backref}[]{}
191 \define@key{LWR@hyperref}{pagebackref}[]{}
192 \define@key{LWR@hyperref}{destlabel}[]{}
193 \define@key{LWR@hyperref}{pdfpagescrop}[]{}
194 \define@key{LWR@hyperref}{pdfpagemode}[]{}
195 \define@key{LWR@hyperref}{pdfnonfullscreenpagemode}[]{}
196 \define@key{LWR@hyperref}{pdfdirection}[]{}
197 \define@key{LWR@hyperref}{pdfviewarea}[]{}
198 \define@key{LWR@hyperref}{pdfviewclip}[]{}
199 \define@key{LWR@hyperref}{pdfprintarea}[]{}
200 \define@key{LWR@hyperref}{pdfprintclip}[]{}
201 \define@key{LWR@hyperref}{pdfprintscaling}[]{}
202 \define@key{LWR@hyperref}{pdfduplex}[]{}
203 \define@key{LWR@hyperref}{pdfpicktraybypdfsize}[]{}
204 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
205 \define@key{LWR@hyperref}{pdfnumcopies}[]{}
206 \define@key{LWR@hyperref}{pdfstartview}[]{}
207 \define@key{LWR@hyperref}{pdfstartpage}[]{}
208 \define@key{LWR@hyperref}{pdftoolbar}[]{}
209 \define@key{LWR@hyperref}{pdfmenubar}[]{}
210 \define@key{LWR@hyperref}{pdfwindowui}[]{}
211 \define@key{LWR@hyperref}{pdffitwindow}[]{}
212 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}
213 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
214 \define@key{LWR@hyperref}{pdfpagelayout}[]{}
215 \define@key{LWR@hyperref}{pdflang}[]{}
216 \define@key{LWR@hyperref}{baseurl}[]{}
217 \define@key{LWR@hyperref}{pdfusetitle}[]{}
218 \define@key{LWR@hyperref}{pdfpagelabels}[]{}
219 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
220 \define@key{LWR@hyperref}{hyperfigures}[]{}
221 \define@key{LWR@hyperref}{hyperindex}[]{}
222 \define@key{LWR@hyperref}{encap}[]{}
223 \define@key{LWR@hyperref}{linkcolor}[]{}

```

```

224 \define@key{LWR@hyperref}{anchorcolor}[]{}
225 \define@key{LWR@hyperref}{citecolor}[]{}
226 \define@key{LWR@hyperref}{filecolor}[]{}
227 \define@key{LWR@hyperref}{urlcolor}[]{}
228 \define@key{LWR@hyperref}{menucolor}[]{}
229 \define@key{LWR@hyperref}{runcolor}[]{}
230 \define@key{LWR@hyperref}{allcolors}[]{}
231
232 \DeclareStringOption[false]{backref}[section]
233
234 \DeclareBoolOption{pagebackref}
235
236 \DeclareDefaultOption{}
237
238 \ProcessKeyvalOptions*\relax

```

Maybe load backref:

```

239 \ifdefstring{\LWR@hyperref@backref}{section}
240 {\RequirePackage{backref}}
241 {}
242
243 \ifdefstring{\LWR@hyperref@backref}{slide}
244 {\RequirePackage{backref}}
245 {}
246
247 \ifdefstring{\LWR@hyperref@backref}{page}
248 {\RequirePackage{backref}}
249 {}
250
251 \ifLWR@hyperref@pagebackref
252 \RequirePackage{backref}
253 \fi

254 \LetLtxMacro\href\LWR@href
255 \LetLtxMacro\nolinkurl\LWR@nolinkurl
256 \LetLtxMacro\url\LWR@url
257 \LetLtxMacro\phantomsection\LWR@phantomsection

258 \newcommand*{\hyperbaseurl}[1]{}

```

`\hyperimage`     $\{\langle URL \rangle\} \{\langle alt \text{ text} \rangle\}$

Insert an image with alt text:

```

259 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
260 \LWR@ensuredoingapar%
261 \def\LWR@templink{#1}%
262 \@onelevel@sanitize\LWR@templink%
263 \LWR@htmltag{%
264 img src=\textquotedbl\LWR@templink\textquotedbl\ %
265 alt=\textquotedbl#2\textquotedbl\ %
266 class=\textquotedbl{}hyperimage\textquotedbl%
267 }%

```

```

268 \LWR@ensuredoingapar%
269 \endgroup%
270 }
271
272 \newrobustcmd*\hyperimage}{%
273 \begingroup%
274 \LWR@linkcatcodes%
275 \LWR@hyperimageb%
276 }
277

```

`\hyperdef`     $\langle 1: category \rangle \langle 2: name \rangle \langle 3: text \rangle$

Creates an HTML anchor to `category.name` with the given text.

```

278 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
279 \LWR@ensuredoingapar%
280 \LWR@label@createtag{#1.#2}%
281 #3%
282 \endgroup%
283 }
284
285 \newcommand*\hyperdef}{%
286 \begingroup%
287 \LWR@linkcatcodes%
288 \LWR@hyperdefb%
289 }
290

```

`\LWR@hyperrefb`     $\langle 1: URL \rangle \langle 2: category \rangle \langle 3: name \rangle \langle 4: text \rangle$

Creates an HTML link to `URL#category.name` with the given text.

To avoid nested links, `\ref` is temporarily redefined to the print version.

```

291 \newcommand{\LWR@hyperreffinish}[1]{%
292 \begingroup%
293 \RenewDocumentCommand{\ref}{s m}{\LWR@print@ref{##2}}%
294 #1%
295 \endgroup%
296 \LWR@htmltag{/a}%
297 }
298
299 \newcommand*\LWR@hyperrefbb}[3]{%
300 \LWR@htmltag{%
301 a href=\textquotedbl%
302 \detokenize\expandafter{#1}\LWR@hashmark%
303 \detokenize\expandafter{#2}.\detokenize\expandafter{#3}%
304 \textquotedbl%
305 \LWR@addlinktitle%
306 }%
307 \endgroup%
308 \LWR@hyperreffinish%
309 }
310
311 \newrobustcmd*\LWR@hyperrefb}{%
312 \begingroup%

```



```

313 \LWR@linkcatcodes%
314 \LWR@hyperrefbb%
315 }

```

`\LWR@hyperrefc` [*label*] {*text*}

Creates text as an HTML link to the L<sup>A</sup>T<sub>E</sub>X label.

```

316
317 \NewDocumentCommand{\LWR@hyperrefcb}{0{label}}{%
318 \LWR@startref{#1}%
319 \endgroup%
320 \LWR@hyperreffinish%
321 }
322
323 \newcommand*{\LWR@hyperrefc}{%
324 \begingroup%
325 \LWR@linkcatcodes%
326 \LWR@hyperrefcb%
327 }

```

`\hyperref` {*1: URL*} {*2: category*} {*3: name*} {*4: text*} — or —  
{*1: label*} {*2: text*}

```

328 \DeclareRobustCommand*\hyperref{%
329 \LWR@ensuredoingapar%
330 \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
331 }

```

`\hypertarget` {*name*} {*text*}

Creates an anchor to name with the given text.

```

332 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%
333 \label{LWR-ht-#1}%
334 #2%
335 \endgroup%
336 }
337
338 \newcommand*{\hypertarget}{%
339 \begingroup%
340 \LWR@linkcatcodes%
341 \LWR@hypertargetb%
342 }

```

`\hyperlink` {*name*} {*text*}

Creates a link to the anchor created by `hypertarget`, with the given link text.

Declared because also defined by `memoir`.

```

343 \DeclareDocumentCommand{\LWR@hyperlinkb}{m}{%
344 \ifbool{LWR@insidemathcomment}%
345 {\endgroup}%
346 {\LWR@hyperrefcb[LWR-ht-#1]}%
347 }

```

```

348
349 \DeclareDocumentCommand{\hyperlink}{}{%
350 \LWR@ensuredoingapar%
351 \begingroup%
352 \LWR@Linkcatcodes%
353 \LWR@hyperlinkb%
354 }

```

`\autoref` \*  $\langle label \rangle$

For HTML, `\cleveref` is used instead.

```

355 \NewDocumentCommand{\autoref}{s m}{%
356 \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
357 }

```

`\autopageref`  $\langle label \rangle$

For HTML, `\cleveref` is used instead.

```

358 \NewDocumentCommand{\autopageref}{s m}{%
359 \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
360 }

```

Default names:

```

361 \def\equationautorefname{Equation}%
362 \def\footnoteautorefname{footnote}%
363 \def\itemautorefname{item}%
364 \def\figureautorefname{Figure}%
365 \def\tableautorefname{Table}%
366 \def\partautorefname{Part}%
367 \def\appendixautorefname{Appendix}%
368 \def\chapterautorefname{chapter}%
369 \def\sectionautorefname{section}%
370 \def\subsectionautorefname{subsection}%
371 \def\subsubsectionautorefname{subsubsection}%
372 \def\paragraphautorefname{paragraph}%
373 \def\subparagraphautorefname{subparagraph}%
374 \def\FancyVerbLineautorefname{line}%
375 \def\theoremautorefname{Theorem}%
376 \def\pageautorefname{page}%

```

`\pdfstringdef`  $\langle macroname \rangle$   $\langle TEXstring \rangle$

```

377 \newcommand{\pdfstringdef}[2]{}

```

`\pdfbookmark` [ $\langle level \rangle$ ]  $\langle text \rangle$   $\langle name \rangle$

```

378 \newcommand{\pdfbookmark}[3]{}

```

`\currentpdfbookmark`  $\langle text \rangle$   $\langle name \rangle$

```

379 \newcommand{\currentpdfbookmark}[2]{}

```

```
\subpdfbookmark {<text>} {<name>}
380 \newcommand{\subpdfbookmark}[2]{}
```

```
\belowpdfbookmark {<text>} {<name>}
381 \newcommand{\belowpdfbookmark}[2]{}
```

```
\texorpdfstring {<TEXstring>} {<PDFstring>}
382 \let\texorpdfstring\relax
383 \newcommand{\texorpdfstring}[2]{#1}
```

```
{<commands>}
\pdfstringdefDisableCommands
384 \newcommand{\pdfstringdefDisableCommands}[1]{}
```

```
\hypercalcbp {<dimen>} From hyperref.
385 \def\hypercalcbp#1{%
386 \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
387 }%
```

```
\Acrobatmenu {<menuoption>} {<text>}
388 \newcommand{\Acrobatmenu}[2]{}
```

```
\TextField [<parameters>] {<label>}
389 \DeclareRobustCommand{\TextField}[2][{}]
```

```
\CheckBox [<parameters>] {<label>}
390 \DeclareRobustCommand{\CheckBox}[2][{}]
```

```
\ChoiceMenu [<parameters>] {<label>} {<choices>}
391 \DeclareRobustCommand{\ChoiceMenu}[3][{}]
```

```
\PushButton [<parameters>] {<label>}
392 \DeclareRobustCommand{\PushButton}[2][{}]
```

```
\Submit [<parameters>] {<label>}
393 \DeclareRobustCommand{\Submit}[2][{}]
```

```
\Reset [<parameters>] {<label>}
394 \DeclareRobustCommand{\Reset}[2][{}]
```

```

\Gauge [⟨parameters⟩] {⟨label⟩}
395 \DeclareRobustCommand{\Gauge}[2]{}

\LayoutTextField {⟨label⟩} {⟨field⟩}
396 \newcommand*{\LayoutTextField}[2]{}

\LayoutChoiceField {⟨label⟩} {⟨field⟩}
397 \newcommand*{\LayoutChoiceField}[2]{}

\LayoutCheckField {⟨label⟩} {⟨field⟩}
398 \newcommand*{\LayoutCheckField}[2]{}

\MakeRadioField {⟨width⟩} {⟨height⟩}
399 \newcommand*{\MakeRadioField}[2]{}

\MakeCheckField {⟨width⟩} {⟨height⟩}
400 \newcommand*{\MakeCheckField}[2]{}

\MakeTextField {⟨width⟩} {⟨height⟩}
401 \newcommand*{\MakeTextField}[2]{}

\MakeChoiceField {⟨width⟩} {⟨height⟩}
402 \newcommand*{\MakeChoiceField}[2]{}

\MakeFieldButton {⟨text⟩}
403 \newcommand{\MakeFieldButton}[1]{}

```

---

File 224 **lwarp-hyperxmp.sty**

§ 333 Package **hyperxmp**

Pkg hyperxmp hyperxmp is ignored.

**for HTML output:** Discard all options for lwarp-hyperxmp:

```

1 \LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]
2
3 \define@key{LWR@hyperref}{pdfdate}[]{}
4 \define@key{LWR@hyperref}{pdfmetadate}[]{}

```

```

5 \define@key{LWR@hyperref}{pdfcopyright}[]{}
6 \define@key{LWR@hyperref}{pdftype}[]{}
7 \define@key{LWR@hyperref}{pdflicenseurl}[]{}
8 \define@key{LWR@hyperref}{pdfauthoritle}[]{}
9 \define@key{LWR@hyperref}{pdfcaptionwriter}[]{}
10 \define@key{LWR@hyperref}{pdfmetalang}[]{}
11 \define@key{LWR@hyperref}{pdfapart}[]{}
12 \define@key{LWR@hyperref}{pdfaconformance}[]{}
13 \define@key{LWR@hyperref}{pdfuapart}[]{}
14 \define@key{LWR@hyperref}{pdfxstandard}[]{}
15 \define@key{LWR@hyperref}{pdfsource}[]{}
16 \define@key{LWR@hyperref}{pdfdocumentid}[]{}
17 \define@key{LWR@hyperref}{pdfinstanceid}[]{}
18 \define@key{LWR@hyperref}{pdfversionid}[]{}
19 \define@key{LWR@hyperref}{pdfrendition}[]{}
20 \define@key{LWR@hyperref}{pdfpublication}[]{}
21 \define@key{LWR@hyperref}{pdfpubtype}[]{}
22 \define@key{LWR@hyperref}{pdfbytes}[]{}
23 \define@key{LWR@hyperref}{pdfnumpages}[]{}
24 \define@key{LWR@hyperref}{pdfissn}[]{}
25 \define@key{LWR@hyperref}{pdfeissn}[]{}
26 \define@key{LWR@hyperref}{pdfisbn}[]{}
27 \define@key{LWR@hyperref}{pdfbookedition}[]{}
28 \define@key{LWR@hyperref}{pdfpublisher}[]{}
29 \define@key{LWR@hyperref}{pdfvolumenum}[]{}
30 \define@key{LWR@hyperref}{pdfissuenum}[]{}
31 \define@key{LWR@hyperref}{pdfpagerange}[]{}
32 \define@key{LWR@hyperref}{pdfdoi}[]{}
33 \define@key{LWR@hyperref}{pdfurl}[]{}
34 \define@key{LWR@hyperref}{pdfidentifier}[]{}
35 \define@key{LWR@hyperref}{pdfsubtitle}[]{}
36 \define@key{LWR@hyperref}{pdfpubstatus}[]{}
37 \define@key{LWR@hyperref}{pdfcontactaddress}[]{}
38 \define@key{LWR@hyperref}{pdfcontactcity}[]{}
39 \define@key{LWR@hyperref}{pdfcontactregion}[]{}
40 \define@key{LWR@hyperref}{pdfcontactpostcode}[]{}
41 \define@key{LWR@hyperref}{pdfcontactcountry}[]{}
42 \define@key{LWR@hyperref}{pdfcontactphone}[]{}
43 \define@key{LWR@hyperref}{pdfcontactemail}[]{}
44 \define@key{LWR@hyperref}{pdfcontacturl}[]{}
45 \define@key{LWR@hyperref}{keeppdfinfo}[]{}
46 \define@key{LWR@hyperref}{pdfauthor}[]{}
47 \define@key{LWR@hyperref}{pdfkeywords}[]{}

```

---

File 225 **lwarp-hyphenat.sty**

§ 334 Package **hyphenat**

Pkg hyphenat **hyphenat** is emulated during HTML output, while the print-mode version is used inside a lateximage.

**for HTML output:** 1 \LWR@ProvidesPackagePass{hyphenat}[2009/09/02]

```

2 \LetLtxMacro\LWRHYNAT@origtextnhtt\textnhtt
3 \LetLtxMacro\LWRHYNAT@originhttfamily\nhttfamily
4 \LetLtxMacro\LWRHYNAT@orignohyphens\nohyphens
5 \LetLtxMacro\LWRHYNAT@origbshyp\bshyp
6 \LetLtxMacro\LWRHYNAT@origfshyp\fshyp
7 \LetLtxMacro\LWRHYNAT@origdothyp\dothyp
8 \LetLtxMacro\LWRHYNAT@origcolonyhyp\colonyhyp
9 \LetLtxMacro\LWRHYNAT@orighyp\hyp
10
11 \LetLtxMacro\textnhtt\texttt
12 \LetLtxMacro\nhttfamily\ttfamily
13
14 \renewcommand{\nohyphens}[1]{#1}
15 \renewrobustcmd{\bshyp}{%
16 \ifmmode\backslash\else\textbackslash\fi%
17 }
18 \renewrobustcmd{\fshyp}{/}
19 \renewrobustcmd{\dothyp}{.}
20 \renewrobustcmd{\colonyhyp}{:}
21 \renewrobustcmd{\hyp}{-}
22
23 \appto\LWR@restoreorigformatting{%
24 \LetLtxMacro\textnhtt\LWRHYNAT@origtextnhtt%
25 \LetLtxMacro\nhttfamily\LWRHYNAT@originhttfamily%
26 \LetLtxMacro\nohyphens\LWRHYNAT@orignohyphens%
27 \LetLtxMacro\bshyp\LWRHYNAT@origbshyp%
28 \LetLtxMacro\fshyp\LWRHYNAT@origfshyp%
29 \LetLtxMacro\dothyp\LWRHYNAT@origdothyp%
30 \LetLtxMacro\colonyhyp\LWRHYNAT@origcolonyhyp%
31 \LetLtxMacro\hyp\LWRHYNAT@orighyp%
32 }

```

---

File 226 **lwarp-idxlayout.sty**

§ 335 Package **idxlayout**

*(Emulates or patches code by THOMAS TITZ.)*

Pkg idxlayout idxlayout is emulated.

**for HTML output:** Discard all options for lwarp-idxlayout:

```
1 \LWR@ProvidesPackageDrop{idxlayout}[2012/03/30]
```

```
2 \newcommand{\LWR@indexprenote}{}

```

\AtBeginDocument to help with package load order.

```

3 \AtBeginDocument{
4 \preto\printindex{
5
6 \LWR@maybe@orignewpage

```

```

7 \LWR@startpars
8
9 \LWR@indexprenote
10
11 }
12 }

13 \newcommand{\setindexprenote}[1]{\renewcommand{\LWR@indexprenote}{#1}}
14 \newcommand*\noindexprenote{\renewcommand{\LWR@indexprenote}{}}
15
16 \newcommand{\idxlayout}[1]{}
17 \newcommand*\indexfont{}
18 \newcommand*\indexjustific{}
19 \newcommand*\indexsubsdelim{}
20 \newcommand*\indexstheadcase{}

```

---

File 227 **lwarp-ifoddpage.sty**

§ 336 Package **ifoddpage**

*(Emulates or patches code by MARTIN SCHARRER.)*

Pkg ifoddpage ifoddpage is emulated.

**for HTML output:** Discard all options for lwarp-ifoddpage:

```

1 \LWR@ProvidesPackageDrop{ifoddpage}[2016/04/23]

2 \newif\ifoddpage
3
4 \newif\ifoddpageoroneside
5
6 \DeclareRobustCommand{\checkoddpage}{\oddpagetrue\oddpageoronesidetrue}
7
8 \def\oddpage@page{1}
9
10 \def\@ifoddpage{%
11 \expandafter\@firstoftwo
12 }
13
14 \def\@ifoddpageoroneside{%
15 \expandafter\@firstoftwo
16 }

```

---

File 228 **lwarp-imakeidx.sty**

§ 337 Package **imakeidx**

*(Emulates or patches code by ENRICO GREGORIO.)*

Pkg imakeidx imakeidx is patched for use by lwarp.

**letter headings** When using *makeindex*, to match the print and HTML output's display of index letter headings, specify the `lwarp.ist` style:

```
\makeindex[options={-s lwarp.ist}]
```

(For HTML the `lwarp.ist` style is used automatically, which displays letter headings. When using *xindy* the default style also displays letter headings.)

**index setup** See section 8.6.18 for how to setup *lwarpmk* to process the indexes with imakeidx, both with and without shell escape.

**for HTML output:** 1 \LWR@ProvidesPackagePass[imakeidx][2016/10/15]

Use the new HTML suffix:

```
2 \catcode'_ =12%
3 \define@key{imki}{name}{\def\imki@name{#1_html}}
4 \catcode'_ =8%
```

`\printindex` The HTML version of `\printindex`:

```
5 \catcode'_ =12%
6
7 \renewcommand*\printindex[1][\imki@jobname]{%
8 \LWR@maybe@orignewpage%
9 \LWR@startpars%
10 \ifstrequal{#1}{\imki@jobname}{%
11 \@ifundefined{#1@idxfile}{%
12 \imki@error{#1}%
13 }{%
14 \imki@putindex{#1}%
15 }%
16 }{%
17 \@ifundefined{#1_html@idxfile}{\imki@error{#1_html}}{\imki@putindex{#1_html}}%
18 }%
19 }
20
21 \catcode'_ =8%
```

`\@index` The HTML version of `\@index`:

```
22 \catcode'_ =12%
23
24 \def\@index[#1]{%
25 \ifstrequal{#1}{\imki@jobname}%
26 {%
27 \@ifundefined{#1@idxfile}%
28 {%
29 \PackageWarning{l warp-imakeidx}{Undefined index file '#1'}%
30 \begingroup
31 \@sanitize
32 \imki@nowrindex%
```



```

33 }%
34 {%
35 \edef\@idxfile{#1}%
36 \begingroup
37 \@sanitize
38 \@wrindex\@idxfile%
39 }%
40 }%
41 {%
42 \@ifundefined{#1_html@idxfile}%
43 {%
44 \PackageWarning{lwarp-imakeidx}{Undefined index file '#1_html'}%
45 \begingroup
46 \@sanitize
47 \imki@nowrindex%
48 }%
49 {%
50 \edef\@idxfile{#1_html}%
51 \begingroup
52 \@sanitize
53 \@wrindex\@idxfile%
54 }%
55 }%
56 }
57
58 \catcode'_ =8%

```

```

\item
\subitem
\subsubitem HTML versions of \item, etc.:

```

```

59 \appto\theindex{%
60 \let\item\LWR@indexitem%
61 \let\subitem\LWR@indexsubitem%
62 \let\subsubitem\LWR@indexsubsubitem%
63 }

```

```

\imki@wrindexentrysplit {\file} {\entry} {\page}
\imki@wrindexentryunique {\file} {\entry} {\page}

```

While writing index entries, adds an HTML label, and writes the label's index instead of the page number:

```

64 \renewcommand\imki@wrindexentrysplit[3]{%
65 \addtocounter{LWR@autoindex}{1}%
66 \label{LWRindex-\arabic{LWR@autoindex}}%
67 \expandafter\protected@write\csname#1@idxfile\endcsname{%
68 {\string\indexentry{#2}{\arabic{LWR@autoindex}}}%
69 }
70
71 \renewcommand\imki@wrindexentryunique[3]{%
72 \addtocounter{LWR@autoindex}{1}%
73 \label{LWRindex-\arabic{LWR@autoindex}}%
74 \protected@write\@indexfile{%

```

```

75 {\string\indexentry[#1]{#2}{\arabic{LWR@autoindex}}}%
76 }
77
78 \def\imki@wrindexsplit#1#2{%
79 \imki@wrindexentrysplit{#1}{#2}{\thepage}%
80 \endgroup\imki@showindexentry{#1}{#2}%
81 \@esphack%
82 }
83
84 \def\imki@wrindexunique#1#2{%
85 \imki@wrindexentryunique{#1}{#2}{\thepage}%
86 \endgroup\imki@showindexentry{#1}{#2}%
87 \@esphack%
88 }
89

```

`\LWR@imki@setxdydefopts`

Sets the *xindy* HTML options, ignoring the user's settings.

```

90 \newcommand*\LWR@imki@setxdydefopts{%
91 \edef\imki@options{ \space %
92 -M \space \LWR@xindyStyle\space %
93 -L \space \LWR@xindyLanguage\space %
94 -C \space \LWR@xindyCodepage\space %
95 }%
96 }

```

`\LWR@imki@setdefopts`    `{⟨user options⟩}`

Sets the HTML options, added to the user's settings, depending on whether *makeindex* or *xindy* are used.

For *makeindex*, the user's choice is ignored, and only the *lwarp* version is used. (Only one style at a time is possible.)

For *xindy*, multiple modules may be specified, and the *lwarp* version is appended.

```

97 \newcommand*\LWR@imki@setdefopts}[1]{%
98 \ifblank{#1}{%
99 \edef\imki@options{\space -s \space \LWR@makeindexStyle \space}%
100 \ifdefstring{\imki@progdefault}{xindy}{\LWR@imki@setxdydefopts}{}%
101 \ifdefstring{\imki@progdefault}{texindy}{\LWR@imki@setxdydefopts}{}%
102 \ifdefstring{\imki@progdefault}{truexindy}{\LWR@imki@setxdydefopts}{}%
103 }{%
104 \edef\imki@options{\space #1 \space}%
105 }%
106 }

```

`\imki@makeindex`    Use the new HTML options:

```

107 \xpatchcmd{\imki@makeindex}
108 {\let\imki@options\space}
109 {\LWR@imki@setdefopts}{}%
110 {}
111 {\LWR@patcherror{imakeidx}{makeindex}}

```

Use the new HTML options.

```
112 \define@key{imki}{options}{\LWR@imki@setdefopts{#1}}
```

`\imki@resetdefaults` Use the new HTML options:

```
113 \xpatchcmd{\imki@resetdefaults}
114 {\def\imki@options{ }}
115 {\LWR@imki@setdefopts{}}
116 {}
117 {\LWR@patcherror{imakeidx}{resetdefaults}}
```

`theindex` was already defined `\AtBeginDocument` by the `lwarp` core, so it must be redefined here similarly, but patched for `imakeidx`:

Env `theindex`

```
118 \AtBeginDocument{
119 \renewenvironment*{theindex}{%
120 \imki@maybeaddtoc
121 \imki@indexlevel{\indexname}
122 \let\item\LWR@indexitem%
123 \let\subitem\LWR@indexsubitem%
124 \let\subsubitem\LWR@indexsubsubitem%
125 }{}
126}% AtBeginDocument
```

Update to the new defaults:

```
127 \imki@resetdefaults
```

Update to the new patches:

`\AtBeginDocument` is because `\@wrindex` is previously defined as `\AtBeginDocument` in the `lwarp` core.

```
128 \ifimki@splitindex
129 \let\imki@startidx\imki@startidxunique
130 \AtBeginDocument{\let\@wrindex\imki@wrindexunique}
131 \let\imki@putindex\imki@putindexunique
132 \let\imki@wrindexentry\imki@wrindexentryunique
133 \let\imki@startidxsplit\@undefined
134 \let\imki@wrindexsplit\@undefined
135 \let\imki@putindexsplit\@undefined
136 \else
137 \let\imki@startidx\imki@startidxsplit
138 \AtBeginDocument{\let\@wrindex\imki@wrindexsplit}
139 \let\imki@putindex\imki@putindexsplit
140 \let\imki@wrindexentry\imki@wrindexentrysplit
141 \let\imki@startidxunique\@undefined
142 \let\imki@wrindexunique\@undefined
143 \let\imki@putindexunique\@undefined
144 \fi
```

---

File 229 **lwarp-impnatty.sty**

§ 338 Package **impnatty**

Pkg impnatty impnatty is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{impnatty}[2019/03/04]

---

File 230 **lwarp-index.sty**

§ 339 Package **index**

*(Emulates or patches code by DAVID M. JONES.)*

Pkg index index is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use `\theLWR@autoindex` instead of `\thepage`. `\@tempwatrue` is used to force an immediate write to the index file instead of waiting until the end of the page.

```

2 \xpatchcmd{\newindex}
3 {\x@newindex[thepage]}
4 {%
5 \@tempwatrue%
6 \x@newindex[theLWR@autoindex]%
7 }
8 {}
9 {\LWR@patcherror{index}{newindex}}
10
11 \xpatchcmd{\renewindex}
12 {\x@renewindex[thepage]}
13 {%
14 \@tempwatrue%
15 \x@renewindex[theLWR@autoindex]%
16 }
17 {}
18 {\LWR@patcherror{index}{renewindex}}

```

Patched to set a new autoindex:

```

19 \xpatchcmd{\@wrindex}
20 {\beginindex}
21 {%
22 \addtocounter{LWR@autoindex}{1}%
23 \label{LWRindex-\arabic{LWR@autoindex}}%
24 \beginindex%
25 }

```

lwarp

```

26 {}
27 {\LWR@patcherror{index}{@windex}}

```

\AtBeginDocument **lwarp** core \lets \@windex to \LWR@windex. Since the `index` package has been loaded, \let to its version instead:

```

28 \let\LWR@index@windex\@windex
29
30 \AtBeginDocument{
31 \let\@windex\LWR@index@windex
32 }

```

Modified to add \index@prologue:

```

33 \AtBeginDocument{
34 \renewenvironment*{theindex}{%
35 \LWR@indexsection{\indexname}%
36 \ifx\index@prologue\@empty\else
37 \index@prologue
38 \bigskip
39 \fi
40 \let\item\LWR@indexitem%
41 \let\subitem\LWR@indexsubitem%
42 \let\subsubitem\LWR@indexsubsubitem%
43 }{}
44 }% AtBeginDocument

```

Disabled:

```

45 \def\@showidx#1{}
46 \let\@texttop\relax
47 \renewcommand*{\raggedbottom}{}
48 \renewcommand*{\flushbottom}{}
49 \renewcommand*{\markboth}[2]{}
50 \renewcommand*{\markright}[1]{}

```

File 231 **lwarp-inputtrc.sty**

§ 340 Package **inputtrc**

*(Emulates or patches code by Uwe Lück.)*

Pkg inputtrc inputtrc is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{inputtrc}[2012/10/10]

Patched to remove extraneous spaces, which sometimes showed up in logos inside a lateximage.

```

2 \renewcommand*{\IT@prim@input}[1]{%
3 \typeout{\IT@indent\IT@currfile INPUTTING #1}%
4 %% ... TODO: option to write to '.log' only.

```

```

5 \xdef\IT@filestack{{\IT@currfile}\IT@filestack}%
6 \xdef\IT@currfile{#1}%
7 \expandafter \gdef\expandafter \IT@indent\expandafter{%
8 \IT@indent \IT@indent@unit}% lwarp
9 \@@input#1% lwarp
10 \expandafter\IT@pop@indent\IT@indent \@nil% lwarp
11 \expandafter\IT@pop@file \IT@filestack\@nil% lwarp
12 \IT@maybe@returnmessage% v0.2 lwarp
13 }

```

---

File 232 **lwarp-intopdf.sty**

§ 341 Package **intopdf**

Pkg intopdf intopdf is emulated.

The filespec, MIME type, and description are ignored for now.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop[intopdf][2019/05/28]

2 \NewDocumentCommand{\attachandlink}{o m o m m}{%
3 \LWR@href{#2}{#5}%
4 }

```


---

File 233 **lwarp-isomath.sty**

§ 342 Package **isomath**

*(Emulates or patches code by GÜNTER MILDE.)*

Pkg isomath isomath is used as-is for SVG math, and emulated for MATHJAX.

 **MATHJAX sans** MATHJAX does not provide a sans math font, so sans is typeset as roman.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass[isomath][2012/09/04]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\mathbfit\boldsymbol}
4 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
5 \CustomizeMathJax{\let\mathsfhit\mathit}% not sans
6 \CustomizeMathJax{\let\mathsfsym\mathbfit}
7 \CustomizeMathJax{\let\mathmxsym\mathbfit}
8 \CustomizeMathJax{\let\mathsfsym\mathsfbfit}
9 \CustomizeMathJax{\let\mathboldsans\mathsfbfit}
10 \CustomizeMathJax{\let\mathbold\mathbfit}
11 \CustomizeMathJax{\let\mathsans\mathrm}% not sans
12 \end{warpMathJax}

```

File 234 **lwarp-isotope.sty**

§ 343 Package **isotope**

(Emulates or patches code by HEIKO BAUKE.)

Pkg isotope isotope is patched for use by lwarp with svg math, and emulated for MATHJAX.

```

for HTML output: 1 \LWR@ProvidesPackagePass{isotope}[2011/08/26]

2 \newcommand{\LWR@HTML@isotope@two}[2][]{%
3 \renewcommand{\isotope@atomicnumber}{#1}%
4 \edef\LWR@isotope@alttag{%
5 \textbackslash(
6 \textbackslash}{isotope
7 [\isotope@nucleonnumber]%
8 [\isotope@atomicnumber]%
9 \{#2\}
10 \textbackslash)%
11 }%
12 \ifbool{mathjax}%
13 {\LWR@isotope@alttag}%
14 {% SVG
15 \m@th%
16 \LWR@subsingledollar*%
17 {% alt tag
18 \LWR@isotope@alttag%
19 }%
20 {isotope}% add'l hashing
21 {% contents
22 \settowidth\@tempdimb{%
23 \ensuremath{\scriptstyle\isotope@nucleonnumber}%
24 }%
25 \settowidth\@tempdimc{%
26 \ensuremath{\scriptstyle\isotope@atomicnumber}%
27 }%
28 \ifdim\@tempdimb<\@tempdimc\@tempdimb=\@tempdimc\fi%
29 \ensuremath{
30 {}%
31 ^{\makebox[\@tempdimb][r]{%
32 \ensuremath{%
33 \scriptstyle\isotope@nucleonnumber%
34 }% ensuremath
35 }}%
36 _{\makebox[\@tempdimb][r]{%
37 \ensuremath{%
38 \scriptstyle\isotope@atomicnumber%
39 }% ensuremath
40 }}%
41 \isotopestyle{#2}%
42 }% ensuremath

```

```

43 }% contents
44 }% SVG
45 \endgroup%
46 }%
47 \LWR@formatted{isotope@two}
48
49 \begin{warpMathJax}
50 \CustomizeMathJax{%
51 \newcommand{\LWRisotopetwo}[2][[]]{%
52 {%
53 \vphantom{\mathrm{#2}}}%
54 {\LWRisotopenucleonnumber}_{#1}%
55 \mathrm{#2}%
56 }%
57 }%
58 }
59
60 \CustomizeMathJax{%
61 \newcommand{\isotope}[1][[]]{%
62 \def\LWRisotopenucleonnumber{#1}%
63 \LWRisotopetwo%
64 }%
65 }
66 \end{warpMathJax}

```

---

File 235 **lwarp-jurabib.sty**

§ 344 Package **jurabib**

(Emulates or patches code by JENS BERGER.)

Pkg jurabib jurabib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{jurabib}[2004/01/25]
2 \renewrobustcmd{\jblangle}{\textless}
3
4 \renewrobustcmd{\jbrangle}{\textgreater}
5
6 \renewcommand*{\jb@biblaw@item}{%
7 \hspace{0.5em}%
8 \triangleright
9 \HTMLUnicode{25B7}% lwarp
10 \hspace{0.5em}%
11 }
12
13 \renewrobustcmd{\jbarchsig}[2]{%
14 \ifjbweareinbib
15 \settowidth{\jb@subarchitemwidth}{\jbsamesubarchindent+#1}%
16 \setlength{\jb@subarchentrywidth}{\textwidth-\jb@subarchitemwidth-4em}%
17 \begin{tabular}{@{}p{\jb@subarchitemwidth}@{}j{\jb@subarchentrywidth}@{}}%
18 #1\ifjb@dot\unskip\unskip\unskip.\fi
19 &

```



```

20 \quad% lwarp
21 \ifthenelse{\equal{#2}{}}{\jbarchnameformat{#2}}%
22 % \end{tabular}
23 \fi
24 }%
25
26
27 \xpatchcmd{\jb@do@post@item}
28 {\begin{tabular}{p{\jb@biblaw@item@width}j{\jb@biblaw@entry@width}}}
29 {}
30 {}
31 {\LWR@patcherror{jurabib}{jb@do@post@item 1}}
32
33 \xpatchcmd{\jb@do@post@item}
34 {\multicolumn{2}{p{\columnwidth}}{\jb@name}}
35 {\jb@name}
36 {}
37 {\LWR@patcherror{jurabib}{jb@do@post@item 2}}
38
39 \xpatchcmd{\jb@do@post@item}
40 {\jb@biblaw@item & \jb@fulltitle}
41 {\jb@biblaw@item \quad \jb@fulltitle}
42 {}
43 {\LWR@patcherror{jurabib}{jb@do@post@item 3}}
44
45 \xpatchcmd{\jb@do@post@item}
46 {\end{tabular}}
47 {}
48 {}
49 {\LWR@patcherror{jurabib}{jb@do@post@item 4}}
50
51 \xpatchcmd{\jb@do@post@item}
52 {\begin{minipage}[t]{\bibnumberwidth}}
53 {}
54 {}
55 {\LWR@patcherror{jurabib}{jb@do@post@item 5}}
56
57 \xpatchcmd{\jb@do@post@item}
58 {\end{minipage}}
59 {\quad}
60 {}
61 {\LWR@patcherror{jurabib}{jb@do@post@item 6}}

```

---

File 236 **lwarp-karnaugh-map.sty**

§ 345 Package **karnaugh-map**

(Emulates or patches code by MATTIAS JACOBSSON.)

Pkg karnaugh-map **karnaugh-map** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]



```

53 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(0011
54 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(0010
55 \& \& \& \& \&
56 }%
57 \fi
58 \ifnum\@karnaughmap@var@mapsize@<\@karnaughmap@var@mapsize@<\@karnaughmap@var@mapsize@=442
59 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
60 \& 00 \& 01 \& 11 \& 10 \& \phanto
61 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(0000
62 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(0001
63 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(0011
64 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(0010
65 \& \& \& \& \&
66 }%
67 \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
68 \fi
69 \ifnum\@karnaughmap@var@mapsize@<\@karnaughmap@var@mapsize@<\@karnaughmap@var@mapsize@=444
70 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
71 \& 00 \& 01 \& 11 \& 10 \& \phanto
72 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(0000
73 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(0001
74 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(0011
75 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(0010
76 \& \& \& \& \&
77 00 \& |(100000)| \& |(100001)| \& |(100011)| \& |(1000
78 01 \& |(100100)| \& |(100101)| \& |(100111)| \& |(1001
79 11 \& |(101100)| \& |(101101)| \& |(101111)| \& |(1011
80 10 \& |(101000)| \& |(101001)| \& |(101011)| \& |(1010
81 \& \& \& \& \&
82 }%
83 \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
84 \renewcommand{\@karnaughmap@local@maprealignmenty@}{-2.5}%
85 \fi
86 % [END]}
87 % test if a matrix template is found or not(aka "\@karnaughmap@local@matrixtemplate@" equals to '0')
88 \ifdefstring{\@karnaughmap@local@matrixtemplate@}{0}{% lwarp
89 % \ifnum0=\@karnaughmap@local@matrixtemplate@% original
90 % print error if no template could be found
91 \PackageError{lwarp-karnaugh-map}{%
92 Can not find a template fitting your specification
93 (\@karnaughmap@var@mapsize@<\space x \@karnaughmap@var@mapsize@<\space x
94 \@karnaughmap@var@mapsize@)%
95 }{%
96 Existing templates have the following dimensions:
97 2x2x1, 2x4x1, 4x2x1, 4x4x1, 4x4x2, and 4x4x4.
98 }%
99 \fi original
100 }{\relax}% lwarp
101 \begin{tikzpicture}
102 % grid
103 % for all dimensions
104 \draw[color=black, ultra thin] (0,0) grid (\@karnaughmap@var@mapsize@,\@karnaughmap@var@mapsize@);
105 % when there are 2 sub maps
106 \ifnum\@karnaughmap@var@mapsize@=2
107 \draw[color=black, ultra thin] (5,0) grid (9,4);

```

```

108 \fi
109 % when there are 4 sub maps
110 \ifnum\@karnaughmap@var@mapsize@=4
111 \draw[color=black, ultra thin] (5,0) grid (9,4);
112 \draw[color=black, ultra thin] (0,-5) grid (4,-1);
113 \draw[color=black, ultra thin] (5,-5) grid (9,-1);
114 \fi
115 % labels
116 % for all dimensions
117 \node[above] at (\@karnaughmap@var@mapsize@*0.5,\@karnaughmap@var@mapsize@*0.9) {\small{#5}};
118 \node[left] at (-0.9,\@karnaughmap@var@mapsize@*0.5) {\small{#6}};
119 % when there are 2 sub maps
120 \ifnum\@karnaughmap@var@mapsize@=2
121 \node[above] at (7,4.9) {\small{#5}};
122 % extra sub maps labels
123 \node[below] at (2,-0.1) {\small{#7$=0$}};
124 \node[below] at (7,-0.1) {\small{#7$=1$}};
125 \fi
126 % when there are 4 sub maps
127 \ifnum\@karnaughmap@var@mapsize@=4
128 \node[above] at (7,4.9) {\small{#5}};
129 \node[left] at (-0.9,-3) {\small{#6}};
130 % extra sub maps labels
131 \node[below] at (2,-0.1) {\small{#7$=00$}};
132 \node[below] at (7,-0.1) {\small{#7$=01$}};
133 \node[below] at (2,-5.1) {\small{#7$=10$}};
134 \node[below] at (7,-5.1) {\small{#7$=11$}};
135 \fi
136 % data
137 \matrix[
138 matrix of nodes,
139 ampersand replacement=\&,
140 column sep={1cm,between origins},
141 row sep={1cm,between origins},
142] at (\@karnaughmap@var@mapsize@*0.5+\@karnaughmap@local@maprealignment@,\@karnaughmap@var@mapsize@*0.5+\@karnaughmap@local@matrixtemplate@);
143 \end{matrix}
144 };
145 }{
146 \end{tikzpicture}
147 \endgroup
148 }

```

---

File 237 **lwarp-keyfloat.sty**

§ 346 Package **keyfloat**

(Emulates or patches code by BRIAN DUNN.)

Pkg keyfloat **keyfloat** is supported with a considerable amount of hacking. (It's a mashup of **lwarp**, **keyfloat**, and **tocdata**.)

⚠ **keywrap** If placing a `\keyfig[H]` inside a **keywrap**, use an absolute width for `\keyfig`, instead of

lw-proportional widths. (The [H] option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the lw option.)

For wrapped figures, overhang and number of lines are ignored.

for HTML output:

```

1 \LWR@ProvidesPackagePass[keyfloat][2019/09/23]
2
3 \ifpackageafter[keyfloat]{2019/09/23}{\relax}{
4 \PackageError{lwarp-keyfloat}
5 {%
6 The keyfloat package is out of date.\MessageBreak
7 Update to keyfloat v2.01 2019/09/23 or later%
8 }
9 {%
10 Please update the keyfloat package. It's worth it!%
11 }
12 }
```

After keyfloat has loaded:

```

13 \AtBeginDocument{

14 \providecommand*\KFLT@LWR@hook@boxouter{ }
15 \renewcommand*\KFLT@LWR@hook@boxouter{%
16 \ifbool{KFLT@keywrap}{%
17 }{%
18 \ifnumequal{\value{KFLT@keyfloatdepth}}{0}{%
19 \setlength{\linewidth}{6in}%
20 \setlength{\textwidth}{6in}%
21 \setlength{\textheight}{9in}%
22 }{%
23 }%
24 \normalcolor%
25 }

26 \LetLtxMacro\KFLT@LWR@hook@keysubfloats\KFLT@LWR@hook@boxouter
27
28 \let\KFLT@LWR@hook@keyfloatsminipage\relax
29 \let\endKFLT@LWR@hook@keyfloatsminipage\relax
30 \newenvironment*{KFLT@LWR@hook@keyfloatsminipage}[1]{}{ }

31 \LetLtxMacro\KFLT@LWR@hook@keyfloats\KFLT@LWR@hook@boxouter
32
33 \renewcommand*\KFLT@maybeendfloatrow{%
34 \ifnumless{\value{KFLT@thiscol}}{\value{KFLT@numcols}}%
35 }{% thiscol < numcols
36 }% >=
37 \defcounter{KFLT@thiscol}{0}%
38 }%
39 }%
40
41 \renewcommand{\KFLT@trackrows}%
42 {%
```

If are nested inside a keyfloats or a subfloat:

```

43 \ifboolexpr{%
44 test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or%
45 bool{KFLT@inkeysubfloats}%
46 }%
47 {% nested

```

Tracks row start and end:

```

48 \KFLT@maybestartfloatrow%

```

Possibly fill space between columns:

```

49 \ifnumgreater{\value{KFLT@thiscol}}{1}%
50 {%
51 % \hfill%
52 }%
53 {%}
54 }% nested
55 {}% not nested
56 }

57 \RenewDocumentCommand{\KFLT@onefigureimage}{m}
58 {%
59 \LWR@traceinfo{KFLT@onefigureimage}%
60 % \begin{lrbox}{\KFLT@envbox}%
61 \ifthenelse{\NOT\equal{\KFLT@lw}{}}{%
62 {%

63 \ifdimgreater{\KFLT@h}{0pt}%
64 {%
65 \KFLT@frame{%
66 \includegraphics%
67 [%
68 scale=\KFLT@s,%
69 width=\KFLT@imagewidth,%
70 height=\KFLT@h,%
71 \KFLT@keepaspectratio,%
72]{#1}%
73 }%
74 }%
75 {%
76 \KFLT@frame{\includegraphics%
77 [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
78 }%
79 }%
80 }% not linewidth
81 \ifthenelse{\dimtest{\KFLT@w}{>}{0pt}}%
82 {% width is given
83 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
84 {% w and h
85 \KFLT@frame{\includegraphics[%
86 scale=\KFLT@s,%

```

```

87 width=\KFLT@imagewidth,%
88 height=\KFLT@h,%
89 \KFLT@keepaspectratio,%
90]{#1}}%
91 }% w and h
92 {% only w
93 \KFLT@frame{\includegraphics%
94 [scale=\KFLT@es,width=\KFLT@imagewidth]{#1}}%
95 }% only w
96 }% width is given
97 {% width is not given
98 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
99 {%
100 \KFLT@frame{\includegraphics%
101 [scale=\KFLT@es,height=\KFLT@h]{#1}}%
102 }%
103 {%
104 \KFLT@frame{\includegraphics%
105 [scale=\KFLT@es]{#1}}%
106 }%
107 }% width is not given
108 }% not linewidth
109 % \end{lrbox}%
110 % \unskip%
111 % \KFLT@findenvboxwidth%
112 % \begin{turn}{\KFLT@r}%
113 % \KFLT@frame{\usebox{\KFLT@envbox}}%
114 % \unskip%
115 % \end{turn}%
116 \LWR@traceinfo{KFLT@onefigureimage: done}%
117 }

118 \RenewDocumentEnvironment{KFLT@boxinner}{}
119 {%
120 \LWR@traceinfo{KFLT@boxinner}%
121 \LWR@stoppars%
122 \minipagefullwidth%
123 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
124 \fminipage{\KFLT@imagewidth}%
125 }{%
126 \minipage{\KFLT@imagewidth}%
127 }%
128 }
129 {%
130 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
131 \endfminipage%
132 }{%
133 \endminipage%
134 }%
135 \LWR@startpars%
136 \LWR@traceinfo{KFLT@boxinner: done}%
137 }

138 \newcommand*{\LWR@KFLT@settalign}[1]{%
139 \def\LWR@KFLT@textalign{justify}%

```

```

140 \ifcsstring{KFLT@#1textalign}{\centering}%
141 {\def\LWR@KFLT@textalign{center}}%
142 {}%
143 \ifcsstring{KFLT@#1textalign}{\raggedleft}%
144 {\def\LWR@KFLT@textalign{right}}%
145 {}%
146 \ifcsstring{KFLT@#1textalign}{\raggedright}%
147 {\def\LWR@KFLT@textalign{left}}%
148 {}%
149 }
150
151 \renewcommand{\KFLT@addtext}[1]
152 {%

```

Is there text to add?

```

153 \ifcseempty{KFLT@#1t}%
154 {}% no text
155 {% text to add
156 {% local

```

Add some space, then create a <div> to contain the text:

```

157 \addvspace{\smallskipamount}%
158 \LWR@KFLT@settextalign{#1}%
159 \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%

```

Set the alignment and some text parameters:

```

160 % \csuse{KFLT@#1textalign}%
161 % \footnotesize%
162 \setlength{\parskip}{1.5ex}%
163 \setlength{\parindent}{0em}%

```

Typeset the actual text:

```

164 \csuse{KFLT@#1t}%

```

Close it all out with a little more space:

```

165 \end{BlockClass}%
166 % \par\addvspace{2ex}%
167 }% local
168 }% text to add
169 }
170
171 \@ifpackageloaded{tocdata}
172 {}
173 {% tocdata not loaded
174
175 \newcommand*\LWR@KFLT@setnamealign}[1]{%
176 \def\LWR@KFLT@textalign{justify}%
177 \ifstrequal{#1}{\centering}%
178 {\def\LWR@KFLT@textalign{center}}%

```



```

179 {}%
180 \ifstrequal{#1}{\raggedleft}%
181 {\def\LWR@KFLT@textalign{right}}%
182 {}%
183 \ifstrequal{#1}{\raggedright}%
184 {\def\LWR@KFLT@textalign{left}}%
185 {}%
186 }
187
188 \renewcommand*\KFLT@addartisttext}[3]{%
189

```

Add space and create the name inside a <div>:

```

190 % \addvspace{\medskipamount}%
191 % \begin{minipage}{\linewidth}%
192 \LWR@KFLT@setnamealign{#3}%
193 \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%
194

```

Text alignment is #3, and depends on artist or author:

```

195 % #3%
196

```

#1 is empty or 'subgrp'  
#2 is empty for artist, 'u' for author:

```

197 \footnotesize\textsc{%
198 \KFLT@optionalname{\csuse{KFLT@#1a#2p}}%
199 \KFLT@optionalname{\csuse{KFLT@#1a#2f}}%
200 \csuse{KFLT@#1a#2l}%
201 \csuse{KFLT@#1a#2s}%
202 }%
203 % \end{minipage}%
204 \end{BlockClass}
205 % \par\addvspace{2ex}%
206 }
207
208 }% tocd data not loaded

```

Env KFLT@marginfloat [*<offset>*] {*<type>*}

```

209 \DeclareDocumentEnvironment{KFLT@marginfloat}{0{-1.2ex} m}
210 {%
211 \uselengthunit{PT}%
212 \LWR@BlockClassWP%
213 {float:right; width:2in; margin:10pt}%
214 {}%
215 (note)%
216 {marginblock}%
217 \renewcommand*\@capttype{#2}%
218 \minipage{1.2\LWR@usersmarginparwidth}%
219 \setlength{\marginparwidth}{.95\LWR@usersmarginparwidth}%

```

```

220 }
221 {%
222 \endminipage%
223 \endLWR@BlockClassWP%
224 }

225 \DeclareDocumentEnvironment{marginfigure}{o}
226 {\begin{KFLT@marginfloat}{figure}}
227 {\end{KFLT@marginfloat}}
228
229 \DeclareDocumentEnvironment{margintable}{o}
230 {\begin{KFLT@marginfloat}{table}}
231 {\end{KFLT@marginfloat}}

```

Env keywrap  $\{\langle width \rangle\} \{\langle keyfloat \rangle\}$

```

232 \DeclareDocumentEnvironment{keywrap}{m +m}
233 {%
234 \begin{LWR@setvirtualpage}*
235 \setlength{\LWR@templengthone}{#1}%
236 \begin{LWR@BlockClassWP}%
237 {%
238 float:right; width:\LWR@printlength{\LWR@templengthone}; % extra space
239 margin:10pt%
240 }%
241 {}%
242 (note)%
243 {marginblock}%
244 \setlength{\linewidth}{.95\LWR@templengthone}%
245 \booltrue{KFLT@keywrap}%
246 #2%
247 \end{LWR@BlockClassWP}%
248 \end{LWR@setvirtualpage}%
249 }
250 {}

251 }% AtBeginDocument

```

---

File 238 **lwarp-keystroke.sty**

§ 347 Package **keystroke**

*(Emulates or patches code by WERNER FINK.)*

Pkg keystroke **keystroke** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{keystroke}[2010/04/23]

2 \newcommand*{\LWR@HTML@keystroke}[1]{
3 \InlineClass{keystroke}{#1}
4 }

```


```
5 \LWR@formatted{keystroke}
6
7
8 \newcommand*\LWR@HTML@Return{\keystroke{\HTMLUnicode{021A9}}}
9 \LWR@formatted{Return}
10
11 \newcommand*\LWR@HTML@BSpace{\keystroke{\HTMLUnicode{027FB}}}
12 \LWR@formatted{BSpace}
13
14 \newcommand*\LWR@HTML@Tab{\keystroke{|HTMLUnicode{021C6}|}}
15 \LWR@formatted{Tab}
16
17 \newcommand*\LWR@HTML@UArrow{\keystroke{\HTMLUnicode{02191}}}
18 \LWR@formatted{UArrow}
19
20 \newcommand*\LWR@HTML@DArrow{\keystroke{\HTMLUnicode{02193}}}
21 \LWR@formatted{DArrow}
22
23 \newcommand*\LWR@HTML@LArrow{\keystroke{\HTMLUnicode{02190}}}
24 \LWR@formatted{LArrow}
25
26 \newcommand*\LWR@HTML@RArrow{\keystroke{\HTMLUnicode{02192}}}
27 \LWR@formatted{RArrow}
28
29 % Preserves the language options:
30 \LetLtxMacro\LWR@HTML@Shift\Shift
31 \xpatchcmd{\LWR@HTML@Shift}
32 {\Uparrow}
33 {\HTMLUnicode{21D1}}
34 {}
35 {}
36 \LWR@formatted{Shift}
37
38 \LetLtxMacro\LWR@HTML@PgUp\PgUp
39 \xpatchcmd{\LWR@HTML@PgUp}
40 {\uparrow}
41 {\HTMLUnicode{2191}}
42 {}
43 {}
44 \LWR@formatted{PgUp}
45
46 \LetLtxMacro\LWR@HTML@PgDown\PgDown
47 \xpatchcmd{\LWR@HTML@PgDown}
48 {\downarrow}
49 {\HTMLUnicode{2193}}
50 {}
51 {}
52 \LWR@formatted{PgDown}
```

File 239 **lwarp-kpfonts.sty**

§ 348 Package **kpfonts**

(Emulates or patches code by CHRISTOPHE CAIGNAERT.)

Pkg kpfonts **kpfonts** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options `uprightRoman` for `\D` only, `classicReIm`, `frenchstyle` for Greek only, `upright` for Greek only, `uprightgreeks`, `slantedGreeks`, and `mathcalassscript`.

The dedicated macros for Greek work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{kpfonts}[2010/08/20]
2
3 \LWR@infoprocessingmathjax{kpfonts}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12 \CustomizeMathJax{\let\LWRorigmathscr\mathscr}
13 \CustomizeMathJax{\let\LWRorigmathcal\mathcal}
14 \CustomizeMathJax{\let\mathscr\LWRorigmathcal}
15 \CustomizeMathJax{\let\mathcal\LWRorigmathscr}
16 \fi
17
18 \ifkp@upgrk % lowercase
19 \LWR@mathjax@addgreek@l@up{}{}
20 \LWR@mathjax@addgreek@l@it{other}{}
21 \else
22 \LWR@mathjax@addgreek@l@up{other}{}
23 \fi
24
25 \ifkp@slGrk
26 \LWR@mathjax@addgreek@u@it*{}{}
27 \LWR@mathjax@addgreek@u@up*{other}{}
28 \LWR@mathjax@addgreek@u@up*{var}{}
29 \else
30 \LWR@mathjax@addgreek@u@it*{other}{}
31 \LWR@mathjax@addgreek@u@it*{var}{}
32 \fi
33
34 \LWR@mathjax@addgreek@u@up*{}{up}
35 \LWR@mathjax@addgreek@l@up{}{up}

```

```

36
37 \LWR@mathjax@addgreek@u@it*{}{sl}
38 \LWR@mathjax@addgreek@l@it{}{sl}
39
40 \CustomizeMathJax{\newcommand{\partialsl}{\mathord{\unicode{x1D715}}}}
41 \CustomizeMathJax{\let\partialup\upartial}% not upright
42
43 \ifkp@oldReIm
44 \else
45 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
46 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
47 \fi
48
49 \ifkp@Dcommand
50 \ifkp@upRm%
51 \CustomizeMathJax{
52 \def\D#1{\mathclose{\, \mathrm{d}}#1}
53 }
54 \else
55 \CustomizeMathJax{
56 \def\D#1{\mathclose{\, \mathit{d}}#1}
57 }
58 \fi
59 \fi
60
61 \CustomizeMathJax{\let\pounds\mathsterling}
62 \CustomizeMathJax{\let\kppounds\mathsterling}
63
64 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}% never sans
65 \CustomizeMathJax{\let\mathupright\mathup}
66
67 \end{warpMathJax}

```


---

File 240 **lwarp-kpfonts-otf.sty**

§ 349 Package **kpfonts-otf**


*(Emulates or patches code by DANIEL FLIPO.)*

Pkg kpfonts-otf kpfonts-otf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options fancyReIm, mathcal, frenchstyle for Greek only, and mathcalasscript.

Also see the options for unicode-math, which is loaded by kpfonts-otf.

The unicode-math dedicated macros for Greek work correctly.

 **\mathversion** The MATHJAX emulation does not change with the use of \mathversion. Whatever emulation is established at the begin of the document will remain.

SVG math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{kpfonts-otf}[2020/06/20]
2
3 \LWR@infoprocesingmathjax{kpfonts-otf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12 \CustomizeMathJax{\let\mathscr\mathcal}
13 \else
14 \CustomizeMathJax{\let\mathcal\mathscr}
15 \fi
16
17 \ifkp@frenchstyle
18 \LWR@mathjax@addgreek@l@up{}{}
19 \LWR@mathjax@addgreek@u@up*{}{}
20 \fi
21
22 \ifkp@oldReIm
23 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
24 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
25 \else
26 \fi
27
28 \ifkp@Dcommand
29 \CustomizeMathJax{
30 \def\D#1{\mathclose{\,\mathrm{d}}#1}
31 }
32 \fi
33
34 \CustomizeMathJax{\let\varint\int}
35 \CustomizeMathJax{\let\variint\iint}
36 \CustomizeMathJax{\let\variiint\iiint}
37 \CustomizeMathJax{\let\variiiint\iiiint}
38 \CustomizeMathJax{\let\varidotsint\idotsint}
39
40 \CustomizeMathJax{\newcommand{\varointctrlockwise}{\mathop{\unicode{x2939}\!\!\unicode{x0222E}}}}
41 \CustomizeMathJax{\newcommand{\oiintclockwise}{\mathop{\unicode{x0222F}\!\!\unicode{x2938}}}}
42 \CustomizeMathJax{\newcommand{\oiintctrlockwise}{\mathop{\unicode{x2939}\!\!\unicode{x0222F}}}}
43 \CustomizeMathJax{\newcommand{\varoiintclockwise}{\mathop{\unicode{x0222F}\!\!\unicode{x2938}}}}
44 \CustomizeMathJax{\newcommand{\varoiintctrlockwise}{\mathop{\unicode{x2939}\!\!\unicode{x0222F}}}}
45 \CustomizeMathJax{\newcommand{\oiintclockwise}{\mathop{\unicode{x02230}\!\!\unicode{x2938}}}}
46 \CustomizeMathJax{\newcommand{\oiintctrlockwise}{\mathop{\unicode{x2939}\!\!\unicode{x02230}}}}
47 \CustomizeMathJax{\newcommand{\varoiintclockwise}{\mathop{\unicode{x02230}\!\!\unicode{x2938}}}}
48 \CustomizeMathJax{\newcommand{\varoiintctrlockwise}{\mathop{\unicode{x2939}\!\!\unicode{x02230}}}}
49 \CustomizeMathJax{\newcommand{\sqiint}{\mathop{\unicode{x2A16}\!\!\unicode{x2A16}}}}
50 \CustomizeMathJax{\newcommand{\sqiint}{\mathop{\unicode{x2A16}\!\!\unicode{x2A16}\!\!\unicode{x2A16}}}}
51
52 \CustomizeMathJax{\let\widearc\overparen}
53 \CustomizeMathJax{\let\widearcarrow\overrightarrow}
54 \CustomizeMathJax{\let\overrightarc\overrightarrow}
55
56 \end{warpMathJax}

```

---

File 241 **lwarp-layaureo.sty**

§ 350 Package **layaureo**

Pkg layaureo layaureo is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

---

File 242 **lwarp-layout.sty**

§ 351 Package **layout**

Pkg layout layout is ignored.

**for HTML output:** Discard all options for lwarp-layout:

1 \LWR@ProvidesPackageDrop{layout}[2014/10/28]

2 \NewDocumentCommand{\layout}{s}{}

---

File 243 **lwarp-layouts.sty**

§ 352 Package **layouts**

Pkg layouts layouts is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layouts}[2009/09/02]

2 \newif\ifoddpagelayout  
 3 \oddpagelayouttrue  
 4 \newif\iftwocolumnlayout  
 5 \twocolumnlayoutfalse  
 6 \newif\ifdrawmarginpars  
 7 \drawmarginparstrue  
 8 \newif\ifdrawparameters  
 9 \drawparameterstrue  
 10 \newif\iflistaspara  
 11 \listasparatrue  
 12 \newif\ifruninhead  
 13 \runinheadfalse  
 14 \newif\ifprintparameters  
 15 \printparameterstrue  
 16 \newif\ifdrawdimensions  
 17 \drawdimensionsfalse  
 18 \newif\ifprintheadings

```
19 \printheadingstrue
20 \newcommand{\testdrawdimensions}{}
21 \newcommand{\testprintparameters}{}
22 \newcommand{\setlabelfont}[1]{}
23 \newcommand{\setparameterfont}[1]{}
24 \newcommand{\setvaluestextsize}[1]{}
25 \newcommand{\setlayoutscale}[1]{}
26 \newcommand{\setuplayouts}{}
27 \newcommand{\printinunitsof}[1]{}
28 \newcommand{\prntlen}[1]{}
29 \newcommand{\trypaperwidth}[1]{}
30 \newcommand{\trypaperheight}[1]{}
31 \newcommand{\tryoffset}[1]{}
32 \newcommand{\tryvoffset}[1]{}
33 \newcommand{\trytopmargin}[1]{}
34 \newcommand{\tryheadheight}[1]{}
35 \newcommand{\tryheadsep}[1]{}
36 \newcommand{\trytextheight}[1]{}
37 \newcommand{\tryfootskip}[1]{}
38 \newcommand{\tryoddsidemargin}[1]{}
39 \newcommand{\tryevensidemargin}[1]{}
40 \newcommand{\trytextwidth}[1]{}
41 \newcommand{\trymarginparsep}[1]{}
42 \newcommand{\trymarginparwidth}[1]{}
43 \newcommand{\trymarginparpush}[1]{}
44 \newcommand{\trycolumnsep}[1]{}
45 \newcommand{\trycolumnseprule}[1]{}
46 \newcommand{\setfootbox}[2]{}
47 \newcommand{\currentpage}{}
48 \newcommand{\drawpage}{(draw page)}
49 \newcommand{\pagediagram}{(page diagram)}
50 \newcommand{\pagedesign}{(page design)}
51 \newcommand{\pagevalues}{(page values)}
52 \newcommand{\trystockwidth}[1]{}
53 \newcommand{\trystockheight}[1]{}
54 \newcommand{\trytrimedge}[1]{}
55 \newcommand{\trytrimtop}[1]{}
56 \newcommand{\tryuppermargin}[1]{}
57 \newcommand{\tryspinemargin}[1]{}
58 \newcommand{\currentstock}{}
59 \newcommand{\drawstock}{(draw stock)}
60 \newcommand{\stockdiagram}{(stock diagram)}
61 \newcommand{\stockdesign}{(stock design)}
62 \newcommand{\stockvalues}{(stock values)}
63 \newcommand{\tryitemindent}[1]{}
64 \newcommand{\trylabelwidth}[1]{}
65 \newcommand{\trylabelsep}[1]{}
66 \newcommand{\tryleftmargin}[1]{}
67 \newcommand{\tryrightmargin}[1]{}
68 \newcommand{\trylistparindent}[1]{}
69 \newcommand{\trytopsep}[1]{}
70 \newcommand{\tryparskip}[1]{}
71 \newcommand{\trypartopsep}[1]{}
72 \newcommand{\tryparsep}[1]{}
73 \newcommand{\tryitemsep}[1]{}

```



```
74 \newcommand{\currentlist}{}
75 \newcommand{\drawlist}{(draw list)}
76 \newcommand{\listdiagram}{(list diagram)}
77 \newcommand{\listdesign}{(list design)}
78 \newcommand{\listvalues}{(list values)}
79 \newcommand{\tryfootins}[1]{}
80 \newcommand{\tryfootnotesep}[1]{}
81 \newcommand{\tryfootnotebaseline}[1]{}
82 \newcommand{\tryfootruleheight}[1]{}
83 \newcommand{\tryfootrulefrac}[1]{}
84 \newcommand{\currentfootnote}{}
85 \newcommand{\drawfootnote}{(draw footnote)}
86 \newcommand{\footnotediagram}{(footnote diagram)}
87 \newcommand{\footnotedesign}{(footnote design)}
88 \newcommand{\footnotevalues}{(footnote values)}
89 \newcommand{\tryparindent}[1]{}
90 \newcommand{\tryparlinewidth}[1]{}
91 \newcommand{\tryparbaselineskip}[1]{}
92 \newcommand{\currentparagraph}{}
93 \newcommand{\drawparagraph}{(draw paragraph)}
94 \newcommand{\paragraphdiagram}{(paragraph diagram)}
95 \newcommand{\paragraphdesign}{(paragraph design)}
96 \newcommand{\paragraphvalues}{(paragraph values)}
97 \newcommand{\trybeforeskip}[1]{}
98 \newcommand{\tryafterskip}[1]{}
99 \newcommand{\tryindent}[1]{}
100 \newcommand{\currentheading}{}
101 \newcommand{\drawheading}[1]{(draw heading)}
102 \newcommand{\headingdiagram}[1]{(heading diagram)}
103 \newcommand{\headingdesign}[1]{(heading design)}
104 \newcommand{\headingvalues}{(heading values)}
105 \newcommand{\trytextfloatsep}[1]{}
106 \newcommand{\tryfloatsep}[1]{}
107 \newcommand{\tryintextsep}[1]{}
108 \newcommand{\trytopfigrule}[1]{}
109 \newcommand{\trybotfigrule}[1]{}
110 \newcommand{\currentfloat}{}
111 \newcommand{\drawfloat}{(draw float)}
112 \newcommand{\floatdiagram}{(float diagram)}
113 \newcommand{\floatdesign}{(float design)}
114 \newcommand{\floatvalues}{(float values)}
115 \newcommand{\trytotalnumber}[1]{}
116 \newcommand{\trytopnumber}[1]{}
117 \newcommand{\trybottomnumber}[1]{}
118 \newcommand{\trytopfraction}[1]{}
119 \newcommand{\trytextfraction}[1]{}
120 \newcommand{\trybottomfraction}[1]{}
121 \newcommand{\currentfloatpage}{}
122 \newcommand{\drawfloatpage}{(draw floatpage)}
123 \newcommand{\floatpagediagram}{(floatpage diagram)}
124 \newcommand{\floatpagedesign}{(floatpage design)}
125 \newcommand{\floatpagevalues}{(floatpage values)}
126 \newcommand{\trytocindent}[1]{}
127 \newcommand{\trytocnumwidth}[1]{}
128 \newcommand{\trytoclinewidth}[1]{}

```

```

129 \newcommand{\trytocrmarg}[1]{}
130 \newcommand{\trytocpnumwidth}[1]{}
131 \newcommand{\trytocdotsep}[1]{}
132 \newcommand{\currenttoc}{}
133 \newcommand{\drawtoc}{(draw toc)}
134 \newcommand{\tocdiagram}{(toc diagram)}
135 \newcommand{\tocdesign}{(toc design)}
136 \newcommand{\tocvalues}{(toc values)}
137 \newcommand{\drawspread}[8][0]{(a spread)}
138 \newcommand{\drawfontframe}[1]{(font frame)}
139 \newcommand{\drawfontframeLabel}[1]{}

```

---

File 244 **lwarp-leading.sty**

§ 353 Package **leading**

Pkg leading leading is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]

2 \newcommand\leading[1]{}

---

File 245 **lwarp-leftidx.sty**

§ 354 Package **leftidx**

*(Emulates or patches code by HARALD HARDERS.)*

Pkg leftidx leftidx works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{leftidx}[2003/09/24]

2 \begin{warpMathJax}

3 \CustomizeMathJax{\newcommand{\leftidx}[3]{\vphantom{#2}}#1#2#3}}

4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx{^\mathrm{t}}{\!#1}{}}}

5 \end{warpMathJax}

---

File 246 **lwarp-letterspace.sty**

§ 355 Package **letterspace**

*(Emulates or patches code by R SCHLICHT.)*

Pkg letterspace letterspace is a subset of microtype, which is pre-loaded by lwarp. All user options and macros are ignored and disabled.

**for HTML output:**

Discard all options for `lwarp-letterspace`:

```
1 \LWR@ProvidesPackageDrop{letterspace}[2018/01/14]

2 \newcommand*\lsstyle{}
3 \newcommand\textls[2][{}]{
4 \def\textls#1#{}
5 \newcommand*\lslig[1]{#1}
```

---

File 247 **lwarp-lettrine.sty**

§ 356 Package **lettrine**

*(Emulates or patches code by DANIEL FLIPO.)*

Pkg lettrine **lettrine** is emulated.

**for HTML output:** Discard all options for `lwarp-lettrine`:

```
1 \LWR@ProvidesPackageDrop{lettrine}[2018-08-28]
```

The initial letter is in a `<span>` of class `lettrine`, and the following text is in a `<span>` of class `lettrinetext`. `\lettrine [⟨keys⟩] {⟨letter⟩} {⟨additional text⟩}`

```
2 \DeclareDocumentCommand{\lettrine}{o m m}{%
3 \InlineClass{lettrine}{#2}\InlineClass{lettrinetext}{#3} % extra space
4 }
5
6 \newcounter{DefaultLines}
7 \setcounter{DefaultLines}{2}
8 \newcounter{DefaultDepth}
9 \newcommand*\DefaultOptionsFile{\relax}
10 \newcommand*\DefaultLoversize{0}
11 \newcommand*\DefaultLraise{0}
12 \newcommand*\DefaultLhang{0}
13 \newdimen\DefaultFindent
14 \setlength{\DefaultFindent}{\z@}
15 \newdimen\DefaultNindent
16 \setlength{\DefaultNindent}{0.5em}
17 \newdimen\DefaultSlope
18 \setlength{\DefaultSlope}{\z@}
19 \newdimen\DiscardVskip
20 \setlength{\DiscardVskip}{0.2\p@}
21 \newif\ifLettrineImage
22 \newif\ifLettrineOnGrid
23 \newif\ifLettrineRealHeight
24
25 \newcommand*\LettrineTextFont{\scshape}
26 \newcommand*\LettrineFontHook{}
27 \newcommand*\LettrineFont[1]{\InlineClass{lettrine}{#1}}
28 \newcommand*\LettrineFontEPS[1]{\includegraphics[height=1.5ex]{#1}}
```

File 248 **lwarp-libertinust1math.sty**

§ 357 Package **libertinust1math**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg libertinust1math **libertinust1math** is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors frenchmath for Greek but not Latin characters, and slantedGreek, uprightGreek, and ISO also adjust Greek characters. MATHJAX cannot yet honor options for adjusting Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

Some of the symbol font macros such as `\mathsfbf` do not use a sans font because MATHJAX does not yet have sans Greek.

SVG math honors all font choices, and should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{libertinust1math}[2020/06/10]
2
3 \LWR@infoprocessingmathjax{libertinust1math}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \iflibus@slantedG
9 \LWR@mathjax@addgreek@u@it*{}{}
10 \else
11 \LWR@mathjax@addgreek@u@up*{}{}
12 \fi
13
14 \LWR@mathjax@addgreek@u@it*{}{it}
15 \LWR@mathjax@addgreek@u@up*{}{up}
16 \LWR@mathjax@addgreek@u@up*{}{up}
17
18 \iflibus@frenchm
19 \LWR@mathjax@addgreek@l@up{}{}
20 \else
21 \LWR@mathjax@addgreek@l@it{}{}
22 \fi
23
24 \LWR@mathjax@addgreek@l@it*{}{it}
25 \LWR@mathjax@addgreek@l@up*{}{up}
26 \LWR@mathjax@addgreek@l@up*{}{}
27
28 \CustomizeMathJax{\let\upartial\partial}% not upright

29 \CustomizeMathJax{\let\mathsfbf\mathbf}% not sans

```

```

30 % \CustomizeMathJax{\newcommand{\mathsfbf}[1]{%
31 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}% not greek
32 % }}% not sans
33
34 % \CustomizeMathJax{\newcommand{\mathbfit}[1]{\boldsymbol{#1}}}
35 \CustomizeMathJax{\let\mathbfit\boldsymbol}

36 % \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{\boldsymbol{#1}}}% not sans
37 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
38 % \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{%
39 % \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}% not greek
40 % }}%

```

```

41 \CustomizeMathJax{\let\mathsfit\mathit}% not sans
42 % \CustomizeMathJax{\newcommand{\mathsfit}[1]{%
43 % \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}% not greek
44 % }}
45
46 \CustomizeMathJax{\let\vectorsym\mathbfit}
47 \CustomizeMathJax{\let\matrixsym\mathbfit}
48 \CustomizeMathJax{\let\tensorsym\mathsfbfit}
49 \CustomizeMathJax{\let\mathboldsans\mathsfbfit}
50 \CustomizeMathJax{\let\mathbold\mathbfit}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

51 \CustomizeMathJax{\let\dlb\lBrack}
52 \CustomizeMathJax{\let\drb\rBrack}
53
54 \CustomizeMathJax{\let\sqrtsign\sqrt}
55
56 \CustomizeMathJax{\let\smallintsl\smallint}
57 \CustomizeMathJax{\newcommand{\smallliintsl}{\mathop{\unicode{x222C}}\limits}}
58 \CustomizeMathJax{\newcommand{\smallliintsl}{\mathop{\unicode{x222D}}\limits}}
59 \CustomizeMathJax{\newcommand{\smallliiintsl}{\mathop{\unicode{x2A0C}}\limits}}
60 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\unicode{x222E}}\limits}}
61 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\unicode{x222F}}\limits}}
62
63 \CustomizeMathJax{\let\smallintup\smallint}
64 \CustomizeMathJax{\newcommand{\smallliintup}{\mathop{\unicode{x222C}}\limits}}
65 \CustomizeMathJax{\newcommand{\smallliintup}{\mathop{\unicode{x222D}}\limits}}
66 \CustomizeMathJax{\newcommand{\smallliiintup}{\mathop{\unicode{x2A0C}}\limits}}
67 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\unicode{x222E}}\limits}}
68 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\unicode{x222F}}\limits}}
69
70 \CustomizeMathJax{\let\intslop\int}
71 \CustomizeMathJax{\newcommand{\iintsllop}{\mathop{\unicode{x222C}}\limits}}
72 \CustomizeMathJax{\newcommand{\iintsllop}{\mathop{\unicode{x222D}}\limits}}
73 \CustomizeMathJax{\newcommand{\iintsllop}{\mathop{\unicode{x2A0C}}\limits}}
74 \CustomizeMathJax{\let\ointsl\oint}
75 \CustomizeMathJax{\newcommand{\oiintsllop}{\mathop{\unicode{x222F}}\limits}}
76 \CustomizeMathJax{\newcommand{\oiintsllop}{\mathop{\unicode{x2230}}\limits}}
77
78 \CustomizeMathJax{\let\intupop\int}

```

```

79 \CustomizeMathJax{\newcommand{\iintupop}{\mathop{\unicode{x222C}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiintupop}{\mathop{\unicode{x222D}}\limits}}
81 \CustomizeMathJax{\newcommand{\iiintupop}{\mathop{\unicode{x2A0C}}\limits}}
82 \CustomizeMathJax{\let\ointup\oint}
83 \CustomizeMathJax{\newcommand{\oiintupop}{\mathop{\unicode{x222F}}\limits}}
84 \CustomizeMathJax{\newcommand{\oiiintupop}{\mathop{\unicode{x2230}}\limits}}
85
86 \CustomizeMathJax{\newcommand{\smalliint}{\mathop{\unicode{x222C}}\limits}}
87 \CustomizeMathJax{\newcommand{\smalliiint}{\mathop{\unicode{x222D}}\limits}}
88 \CustomizeMathJax{\newcommand{\smalliiint}{\mathop{\unicode{x2A0C}}\limits}}
89 \CustomizeMathJax{\newcommand{\smallloint}{\mathop{\unicode{x222E}}\limits}}
90 \CustomizeMathJax{\newcommand{\smallloint}{\mathop{\unicode{x222F}}\limits}}
91
92 \CustomizeMathJax{\let\intop\int}
93 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
94 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
95 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x2A0C}}\limits}}
96 \CustomizeMathJax{\let\ointop\oint}
97 \CustomizeMathJax{\newcommand{\oiintop}{\mathop{\unicode{x222F}}\limits}}
98 \CustomizeMathJax{\newcommand{\oiiintop}{\mathop{\unicode{x2230}}\limits}}
99
100 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
101
102 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
103 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
104 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}}}
105 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}}}
106 \CustomizeMathJax{\let\prodop\prod}
107 \CustomizeMathJax{\let\coprodop\coprod}
108 \CustomizeMathJax{\let\sumop\sum}
109 \CustomizeMathJax{\let\bigwedgeop\bigwedge}
110 \CustomizeMathJax{\let\bigveeop\bigvee}
111 \CustomizeMathJax{\let\bigcapop\bigcap}
112 \CustomizeMathJax{\let\bigcupop\bigcup}
113 \CustomizeMathJax{\let\xsolop\xsol}
114 \CustomizeMathJax{\let\xbsolop\xbsol}
115 \CustomizeMathJax{\let\bigodotop\bigodot}
116 \CustomizeMathJax{\let\bigoplusop\bigoplus}
117 \CustomizeMathJax{\let\bigotimesop\bigotimes}
118 \CustomizeMathJax{\let\bigcupdotop\bigcupdot}
119 \CustomizeMathJax{\let\biguplusop\biguplus}
120 \CustomizeMathJax{\let\bigsqcapop\bigsqcap}
121 \CustomizeMathJax{\let\bigsqcupop\bigsqcup}
122
123 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{#1\unicode{x00309}}}}
124 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{#1\unicode{x00310}}}}
125 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{#1\unicode{x00312}}}}
126 \CustomizeMathJax{\newcommand{\ocommatoprigh}[1]{\mathord{#1\unicode{x00315}}}}
127 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{#1\unicode{x0031A}}}}
128 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{#1\unicode{x020D0}}}}
129 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{#1\unicode{x020D1}}}}
130 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{#1\unicode{x020D0}}}}
131 \CustomizeMathJax{\let\rightharpoonaccent\vec}
132
133 \CustomizeMathJax{\newcommand{\leftrightharpoonaccent}[1]{\mathord{#1\unicode{x020E1}}}}

```

```

134 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{#1\unicode{x020E7}}}}
135 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{#1\unicode{x020E9}}}}
136 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{#1\unicode{x020F0}}}}
137
138 % neutralized:
139 \CustomizeMathJax{\newcommand{\braceld}{}}
140 \CustomizeMathJax{\newcommand{\bracerd}{}}
141 \CustomizeMathJax{\newcommand{\bracelu}{}}
142 \CustomizeMathJax{\newcommand{\braceru}{}}
143 \CustomizeMathJax{\newcommand{\braceex}{}}
144 \CustomizeMathJax{\newcommand{\bracemu}{}}
145 \CustomizeMathJax{\newcommand{\bracemd}{}}
146 \CustomizeMathJax{\newcommand{\parenld}{}}
147 \CustomizeMathJax{\newcommand{\parenrd}{}}
148 \CustomizeMathJax{\newcommand{\parenlu}{}}
149 \CustomizeMathJax{\newcommand{\parenru}{}}
150 \CustomizeMathJax{\newcommand{\bracketld}{}}
151 \CustomizeMathJax{\newcommand{\bracketrd}{}}
152 \CustomizeMathJax{\newcommand{\bracketlu}{}}
153 \CustomizeMathJax{\newcommand{\bracketru}{}}
154 \CustomizeMathJax{\newcommand{\bracketex}{}}
155 \CustomizeMathJax{\newcommand{\parenex}{}}
156
157 \CustomizeMathJax{\newcommand{\lhook}{~}}
158 \CustomizeMathJax{\newcommand{\rhook}{~}}
159 \CustomizeMathJax{\newcommand{\reLbar}{-}}
160 \CustomizeMathJax{\newcommand{\ReLbar}{=}}
161
162 \CustomizeMathJax{\newcommand{\mapstochar}{\mathrel{\unicode{x21A6}}}}
163
164 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x0001B5}}}}
165 \CustomizeMathJax{\newcommand{\notchar}{\mathrel{\unicode{x000AC}}}}
166 \CustomizeMathJax{\newcommand{\upbackepsilon}{\mathord{\unicode{x03F6}}}}
167 \CustomizeMathJax{\newcommand{\smbkcircle}{\mathbin{\unicode{x02022}}}}
168 \CustomizeMathJax{\newcommand{\enleadertwodots}{\mathord{\unicode{x02025}}}}
169 \CustomizeMathJax{\newcommand{\unicodeellipsis}{\mathord{\unicode{x02026}}}}
170 \CustomizeMathJax{\newcommand{\mathellipsis}{\mathinner{\unicode{x02026}}}}
171 \CustomizeMathJax{\newcommand{\dprime}{\mathord{\unicode{x02033}}}}
172 \CustomizeMathJax{\newcommand{\tprime}{\mathord{\unicode{x02034}}}}
173 \CustomizeMathJax{\newcommand{\backdprime}{\mathord{\unicode{x02036}}}}
174 \CustomizeMathJax{\newcommand{\backtrprime}{\mathord{\unicode{x02037}}}}
175 \CustomizeMathJax{\newcommand{\caretinsert}{\mathord{\unicode{x02038}}}}
176 \CustomizeMathJax{\newcommand{\Exclam}{\mathord{\unicode{x0203C}}}}
177
178 \CustomizeMathJax{\newcommand{\hyphenbulLet}{\mathord{\unicode{x02043}}}}
179 \CustomizeMathJax{\newcommand{\fracslash}{\mathbin{\unicode{x02044}}}}
180 \CustomizeMathJax{\newcommand{\Question}{\mathord{\unicode{x02047}}}}
181 \CustomizeMathJax{\newcommand{\closure}{\mathrel{\unicode{x02050}}}}
182 \CustomizeMathJax{\newcommand{\qprime}{\mathord{\unicode{x02057}}}}
183 \CustomizeMathJax{\newcommand{\vertoverlay}{\mathrel{\unicode{x020D2}}}}
184 \CustomizeMathJax{\newcommand{\enclosecircle}{\mathord{\unicode{x020DD}}}}
185 \CustomizeMathJax{\newcommand{\enclosesquare}{\mathord{\unicode{x020DE}}}}
186 \CustomizeMathJax{\newcommand{\enclosetriangle}{\mathord{\unicode{x020E4}}}}
187 \CustomizeMathJax{\newcommand{\Eulerconst}{\mathord{\unicode{x02107}}}}
188 \CustomizeMathJax{\newcommand{\turnediota}{\mathord{\unicode{x02129}}}}

```

```

189 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x0212B}}}}
190
191 \CustomizeMathJax{\newcommand{\sansLturned}{\mathord{\unicode{x02142}}}}
192 \CustomizeMathJax{\newcommand{\sansLmirrored}{\mathord{\unicode{x02143}}}}
193 \CustomizeMathJax{\newcommand{\Yup}{\mathord{\unicode{x02144}}}}
194 \CustomizeMathJax{\newcommand{\upand}{\mathbin{\unicode{x0214B}}}}
195 \CustomizeMathJax{\newcommand{\increment}{\mathord{\unicode{x02206}}}}
196 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x0220A}}}}
197 \CustomizeMathJax{\newcommand{\nni}{\mathrel{\unicode{x0220C}}}}
198
199 \CustomizeMathJax{\newcommand{\smallni}{\mathrel{\unicode{x0220D}}}}
200 \CustomizeMathJax{\newcommand{\QED}{\mathord{\unicode{x0220E}}}}
201 \CustomizeMathJax{\newcommand{\vysmwhtcircle}{\mathbin{\unicode{x02218}}}}
202 \CustomizeMathJax{\newcommand{\vysmlkcircle}{\mathbin{\unicode{x02219}}}}
203 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x0221F}}}}
204
205 \CustomizeMathJax{\newcommand{\Colon}{\mathrel{\unicode{x02237}}}}
206 \CustomizeMathJax{\newcommand{\dotminus}{\mathbin{\unicode{x02238}}}}
207 \CustomizeMathJax{\newcommand{\dashcolon}{\mathrel{\unicode{x02239}}}}
208 \CustomizeMathJax{\newcommand{\dotminusdots}{\mathrel{\unicode{x0223A}}}}
209 \CustomizeMathJax{\newcommand{\kernelcontraction}{\mathrel{\unicode{x0223B}}}}
210 \CustomizeMathJax{\newcommand{\invlazys}{\mathbin{\unicode{x0223E}}}}
211
212 \CustomizeMathJax{\newcommand{\sinewave}{\mathord{\unicode{x0223F}}}}
213 \CustomizeMathJax{\newcommand{\nsime}{\mathrel{\unicode{x02244}}}}
214 \CustomizeMathJax{\newcommand{\simneqq}{\mathrel{\unicode{x02246}}}}
215 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x02249}}}}
216 \CustomizeMathJax{\newcommand{\approxident}{\mathrel{\unicode{x0224B}}}}
217 \CustomizeMathJax{\newcommand{\backcong}{\mathrel{\unicode{x0224C}}}}
218
219 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x0226D}}}}
220 \CustomizeMathJax{\newcommand{\nlessim}{\mathrel{\unicode{x02274}}}}
221 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
222 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x02278}}}}
223 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
224
225 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
226 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
227
228 \CustomizeMathJax{\newcommand{\cupleftarrow}{\mathbin{\unicode{x0228C}}}}
229 \CustomizeMathJax{\newcommand{\cupdot}{\mathbin{\unicode{x0228D}}}}
230 \CustomizeMathJax{\newcommand{\circlequal}{\mathbin{\unicode{x0229C}}}}
231
232 \CustomizeMathJax{\newcommand{\assert}{\mathrel{\unicode{x022A6}}}}
233 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x022AB}}}}
234 \CustomizeMathJax{\newcommand{\prurel}{\mathrel{\unicode{x022B0}}}}
235
236 \CustomizeMathJax{\newcommand{\origof}{\mathrel{\unicode{x022B6}}}}
237 \CustomizeMathJax{\newcommand{\smallprod}{\mathop{\unicode{x0220F}}}}% not small
238 \CustomizeMathJax{\newcommand{\smallcoprod}{\mathop{\unicode{x02210}}}}% not small
239 \CustomizeMathJax{\newcommand{\smallsum}{\mathop{\unicode{x02211}}}}% not small
240 \CustomizeMathJax{\newcommand{\Hfraktur}{\mathord{\unicode{x1D525}}}}
241 \CustomizeMathJax{\newcommand{\dsol}{\mathbin{\unicode{x029F6}}}}
242 \CustomizeMathJax{\newcommand{\rsolbar}{\mathbin{\unicode{x029F7}}}}
243

```



```

244 \CustomizeMathJax{\newcommand{\eqless}{\mathrel{\unicode{x022DC}}}}
245 \CustomizeMathJax{\newcommand{\eqgtr}{\mathrel{\unicode{x022DD}}}}
246 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\unicode{x022E0}}}}
247 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\unicode{x022E1}}}}
248 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\unicode{x022E2}}}}
249 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\unicode{x022E3}}}}
250 \CustomizeMathJax{\newcommand{\sqsubseteq}{\mathrel{\unicode{x022E4}}}}
251 \CustomizeMathJax{\newcommand{\sqsupseteq}{\mathrel{\unicode{x022E5}}}}
252 \CustomizeMathJax{\newcommand{\nvartriangleleft}{\mathrel{\unicode{x022EA}}}}
253 \CustomizeMathJax{\newcommand{\nvartriangleright}{\mathrel{\unicode{x022EB}}}}
254
255 \CustomizeMathJax{\newcommand{\vdotsmath}{\mathrel{\unicode{x022EE}}}}
256 \CustomizeMathJax{\newcommand{\unicodecdots}{\mathord{\unicode{x022EF}}}}
257 \CustomizeMathJax{\newcommand{\adots}{\mathrel{\unicode{x022F0}}}}
258 \CustomizeMathJax{\newcommand{\succneq}{\mathrel{\unicode{x02AB2}}}}
259 \CustomizeMathJax{\newcommand{\preceq}{\mathrel{\unicode{x02AB3}}}}
260 \CustomizeMathJax{\newcommand{\succeq}{\mathrel{\unicode{x02AB4}}}}
261 \CustomizeMathJax{\newcommand{\precneq}{\mathrel{\unicode{x02AB1}}}}
262
263 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
264
265 \CustomizeMathJax{\newcommand{\longmapsfrom}{\mathrel{\unicode{x027FB}}}}
266
267 \CustomizeMathJax{\newcommand{\diameter}{\mathord{\unicode{x02300}}}}
268 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
269 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
270 \CustomizeMathJax{\newcommand{\arceq}{\mathrel{\unicode{x02258}}}}
271 \CustomizeMathJax{\newcommand{\wedg}{\mathrel{\unicode{x02259}}}}
272 \CustomizeMathJax{\newcommand{\veeeq}{\mathrel{\unicode{x0225A}}}}
273
274 \CustomizeMathJax{\newcommand{\stareq}{\mathrel{\unicode{x0225B}}}}
275 \CustomizeMathJax{\newcommand{\eqdef}{\mathrel{\unicode{x0225D}}}}
276 \CustomizeMathJax{\newcommand{\measeq}{\mathrel{\unicode{x0225E}}}}
277 \CustomizeMathJax{\newcommand{\questeq}{\mathrel{\unicode{x0225F}}}}
278 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x02262}}}}
279 \CustomizeMathJax{\newcommand{\Equiv}{\mathrel{\unicode{x02263}}}}
280
281 \CustomizeMathJax{\newcommand{\house}{\mathord{\unicode{x02302}}}}
282
283 \CustomizeMathJax{\newcommand{\musicalnote}{\mathord{\unicode{x0266A}}}}
284 \CustomizeMathJax{\newcommand{\degree}{\mathord{\unicode{x000B0}}}}
285 \CustomizeMathJax{\newcommand{\mathsection}{\mathord{\unicode{x000A7}}}}
286 \CustomizeMathJax{\newcommand{\mathparagraph}{\mathord{\unicode{x000B6}}}}
287 \CustomizeMathJax{\newcommand{\checkmarkmath}{\mathord{\unicode{x02713}}}}
288 \CustomizeMathJax{\newcommand{\invnot}{\mathord{\unicode{x02310}}}}
289
290 \CustomizeMathJax{\newcommand{\mathvisiblespace}{\mathord{\unicode{x02423}}}}
291 \CustomizeMathJax{\newcommand{\mdlgbksquare}{\mathord{\unicode{x025A0}}}}
292 \CustomizeMathJax{\newcommand{\mdlghwtsquare}{\mathord{\unicode{x025A1}}}}
293
294 \CustomizeMathJax{\newcommand{\bigblacktriangleup}{\mathord{\unicode{x025B2}}}}
295 \CustomizeMathJax{\newcommand{\varbigtriangleup}{\mathord{\unicode{x025B3}}}}
296
297 \CustomizeMathJax{\newcommand{\bigblacktriangledown}{\mathord{\unicode{x025BC}}}}
298 \CustomizeMathJax{\newcommand{\varbigtriangledown}{\mathord{\unicode{x025BD}}}}

```

```

299 \CustomizeMathJax{\newcommand{\Longmapsfrom}{\mathrel{\unicode{x027FD}}}}
300
301 % bug in print font:
302 \CustomizeMathJax{\newcommand{\mdlgblkdiamond}{\mathord{\unicode{x025C6}}}}
303
304 \CustomizeMathJax{\newcommand{\mdlgwhtdiamond}{\mathord{\unicode{x025C7}}}}
305 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
306 \CustomizeMathJax{\newcommand{\fisheye}{\mathord{\unicode{x025C9}}}}
307 \CustomizeMathJax{\newcommand{\mdlgwhtlozenge}{\mathord{\unicode{x025CA}}}}
308 \CustomizeMathJax{\newcommand{\mdlgwhtcircle}{\mathbin{\unicode{x025CB}}}}
309 \CustomizeMathJax{\newcommand{\bullseye}{\mathord{\unicode{x025CE}}}}
310 \CustomizeMathJax{\newcommand{\mdlgblkcircle}{\mathord{\unicode{x025CF}}}}
311
312 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
315 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
316
317 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathord{\unicode{x02906}}}}
318 \CustomizeMathJax{\newcommand{\smwhtcircle}{\mathord{\unicode{x025E6}}}}
319 \CustomizeMathJax{\newcommand{\smwhtdiamond}{\mathbin{\unicode{x022C4}}}}
320 \CustomizeMathJax{\newcommand{\Mapsto}{\mathord{\unicode{x02907}}}}
321
322 \CustomizeMathJax{\let\ngets\nleftarrow}
323 \CustomizeMathJax{\let\nsimeq\nsime}
324 \CustomizeMathJax{\let\nle\nleq}
325 \CustomizeMathJax{\let\nge\ngeq}
326
327 \end{warpMathJax}

```

---

File 249 **lwarp-lineno.sty**

§ 358 Package **lineno**

(Emulates or patches code by STEPHAN I. BÖTTCHER.)

Pkg Lineno **lineno** is partly emulated, but mostly ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{lineno}[2005/11/02]
2 \newcommand*\resetlinenumber[1][\@ne]{
3
4 \def\linenumbers{%
5 \@ifnextchar[{\resetlinenumber}%
6 {\@ifstar{\resetlinenumber}}}%
7 }
8
9 \newcommand*\nolinenumbers{}
10
11 \@namedef{linenumbers*}{\par\linenumbers*}
12 \@namedef{runninglinenumbers*}{\par\runninglinenumbers*}
13
14 \def\endlinenumbers{\par}

```

```
15 \let\endrunninglinenumbers\endlinenumbers
16 \let\endpagewiselinenumbers\endlinenumbers
17 \expandafter\let\csname endlinenumbers*\endcsname\endlinenumbers
18 \expandafter\let\csname endrunninglinenumbers*\endcsname\endlinenumbers
19 \let\endnolinenumbers\endlinenumbers
20
21 \def\pagewiselinenumbers{\linenumbers\setpagewiselinenumbers}
22
23 \def\runninglinenumbers{\setrunninglinenumbers\linenumbers}
24
25 \def\setpagewiselinenumbers{}
26
27 \def\setrunninglinenumbers{}
28
29 \def\linenomath{}%
30 \@namedef{linenomath*}{}%
31 \def\endlinenomath{}
32 \expandafter\let\csname endlinenomath*\endcsname\endlinenomath
33
34 \let\line\label\label
35
36 \def\switchlinenumbers{\@ifstar{}{}}
37 \def\setmakelinenumbers#1{\@ifstar{}{}}
38
39 \def\leftlinenumbers{\@ifstar{}{}}
40 \def\rightlinenumbers{\@ifstar{}{}}
41
42 \newcounter{linenumber}
43 \newcount\c@pagewiselinenumber
44 \let\c@runninglinenumber\c@linenumber
45
46 \def\runningpagewiselinenumbers{}
47 \def\realpagewiselinenumbers{}
48
49
50 \NewDocumentCommand\modulolinenumbers{s o}{}
51
52 \chardef\c@linenumbermodulo=5
53 \modulolinenumbers[1]
54
55 \newcommand*\firstlinenumber[1]{}
56
57 \newcommand\internallinenumbers{}
58 \let\endinternallinenumbers\endlinenumbers
59 \@namedef{internallinenumbers*}{\internallinenumbers}
60 \expandafter\let\csname endinternallinenumbers*\endcsname\endlinenumbers
61
62 \newcommand*\linenoplaceholder}[1]{% redefine per language
63 (line number reference for \detokenize\expandafter{#1})
64 }
65
66 \newcommand*\lineref}[2][\linenoplaceholder{#2}]
67 \newcommand*\linerefp}[2][\linenoplaceholder{#2}]
68 \newcommand*\linerefr}[2][\linenoplaceholder{#2}]
69
```

```

70 \newcommand\quotelinenumbers
71 {\@ifstar\linenumbers{\@ifnextchar[\linenumbers{\linenumbers*}}}
72
73 \newdimen\linenumbersep
74 \newdimen\linenumberwidth
75 \newdimen\quotelinenumbersep
76
77 \quotelinenumbersep=\linenumbersep
78 \let\quotelinenumberfont\linenumberfont
79
80 \def\linenumberfont{\normalfont\tiny\sffamily}
81
82
83 \linenumberwidth=10pt
84 \linenumbersep=10pt
85
86 \def\thelinenumbers{}
87
88 \def\LineNumber{}
89 \def\makeLineNumber{}
90 \def\makeLineNumberLeft{}
91 \def\makeLineNumberRight{}
92 \def\makeLineNumberOdd{}
93 \def\makeLineNumberEven{}
94 \def\makeLineNumberRunning{}
95
96
97 \newenvironment{numquote} {\quote}{\endquote}
98 \newenvironment{numquotation} {\quotation}{\endquotation}
99 \newenvironment{numquote*} {\quote}{\endquote}
100 \newenvironment{numquotation*} {\quotation}{\endquotation}
101
102 \newdimen\bframerule
103 \bframerule=\fboxrule
104
105 \newdimen\bframesep
106 \bframesep=\fboxsep
107
108 \newenvironment{bframe}
109 {%
110 \LWR@forceminwidth{\bframerule}%
111 \BlockClass[
112 border:\LWR@printlength{\LWR@atleastonept} solid black ; %
113 padding:\LWR@printlength{\bframesep}%
114]{bframe}
115 }
116 {\endBlockClass}

```

---

File 250 **lwarp-lips.sty**

§ 359 Package **lips**

*(Emulates or patches code by MATT SWIFT.)*

Pkg lips lips is emulated.

```

1 % \LWR@ProvidesPackageDrop{lips}
2 \PackageInfo{lwarp}{Using the lwarp version of package 'lips'.}%
3 \ProvidesPackage{lwarp-lips}[2001/08/31]
4
5 \NewDocumentCommand{\Lips}{}{\textellipsis}
6
7 \NewDocumentCommand{\BracketedLips}{}{[\textellipsis]}
8
9 \let\lips\Lips
10 \let\olips\lips
11
12 \DeclareOption*{}
13 \DeclareOption{mla}{
14 \let\lips\BracketedLips
15 }
16 \ProcessOptions\relax
17
18 \newcommand \LPNobreakList {}

```

---

File 251 **lwarp-lipsum.sty**

§ 360 Package **lipsum**

*(Emulates or patches code by PATRICK HAPPEL.)*

Pkg lipsum lipsum is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{lipsum}[2021-03-03]
2 \SetLipsumParListItemEnd{\LWR@closeparagraph}

```

---

File 252 **lwarp-listings.sty**

§ 361 Package **listings**

*(Emulates or patches code by CARSTEN HEINZ, BROOKS MOSES, JOBST HOFFMANN.)*

Pkg listings listings is supported with some limitations. Text formatting and escape characters are not yet supported.

```

1 \LWR@ProvidesPackagePass{listings}[2018/09/02]

```

Force flexible columns. Fixed columns inserts spaces in the PDF output.

```

2 \lst@column@flexible

```

Patches to embed listings inside pre tags:

```

3 \let\LWR@origlst@Init\lst@Init
4 \let\LWR@origlst@DeInit\lst@DeInit
5
6 \let\LWR@origlsthkEveryPar\lsthk@EveryPar
7
8 \renewcommand{\l@lstlisting}[2]{\hypertocfloat{1}{\lstlisting}{lol}{#1}{#2}}

```

`\lstset`     $\langle options \rangle$

Use the listings `literate` option to replace HTML entities:

```

9 \def\lstset@#1{\endgroup%
10 % \ifx\@empty#1%
11 % \@empty%
12 % \else%
13 \setkeys{lst}{%
14 #1%
15 ,literate=%
16 <{\HTMLentity{lt}}{4}%
17 >{\HTMLentity{gt}}{4}%
18 '{\HTMLentity{apos}}{6}%
19 '{\HTMLentity{grave}}{7}%

```

The ampersand is not treated here, as the result is inconsistent spacing. It is nevertheless converted to `&amp;`; elsewhere. Sanitizing the double quote interferes with listings' conversion of visible spaces inside strings.

```

20 }%
21 % \fi%
22 }

```

`\lst@Init`     $\langle backslash-processing \rangle$     Done at the start of a listing.

```
23 \renewcommand{\lst@Init}[1]{%
```

Perform the listings initialization:

```
24 \LWR@traceinfo{\lst@Init}%
```

`\LWR@forcenewpage` is moved to the start to avoid a spurious bug with paragraph handling and conditionals.

```

25 \lst@ifdisplaystyle% lwarp
26 \LWR@forcenewpage% lwarp
27 \fi% lwarp

```

Escapes do not work yet, and are disabled:

```

28 \let\lst@ifmathescape\iffalse% lwarp
29 \let\lst@DefEsc\relax% lwarp
30 \def\lst@escapebegin{}% lwarp
31 \def\lst@escapeend{}% lwarp

32 \renewcommand*{\@capttype}{lstlisting}% lwarp
33 \let\lst@aboveskip\z@\let\lst@belowskip\z@% lwarp
34 \gdef\lst@boxpos{t}% lwarp

```

```

35 \let\lst@frame\@empty% lwarp
36 \let\lst@frametshape\@empty% lwarp
37 \let\lst@framershape\@empty% lwarp
38 \let\lst@framebshape\@empty% lwarp
39 \let\lst@framefshape\@empty% lwarp
40 \lstframe@\lst@frameround ffff\relax% lwarp
41 \lst@multicols\@empty% lwarp
42 \begingroup%

```

Inside the listing, temporarily prevent underfull \hbox warnings.

```

43 \hbadness=10000\relax%
44 \ifx\lst@float\relax\else%
45 \edef\@tempa{\noexpand\lst@beginfloat{\lstlisting}[\lst@float]}%
46 \expandafter\@tempa%
47 \fi%
48 \ifx\lst@multicols\@empty\else%
49 \edef\lst@next{\noexpand\multicols{\lst@multicols}}%
50 \expandafter\lst@next%
51 \fi%
52 \ifhmode\ifinner \lst@boxtrue \fi\fi%
53 \lst@ifbox%
54 \lsthk@BoxUnsafe%
55 \hbox to\z@\bgroup%
56 $ \if t\lst@boxpos \vtop%
57 \else \if b\lst@boxpos \vbox%
58 \else \vcenter \fi\fi%
59 \bgroup \par\noindent%
60 \else%
61 \lst@ifdisplaystyle%
62 \lst@EveryDisplay%
63 \par\penalty-50\relax%
64 \vspace\lst@aboveskip%
65 \fi%
66 \fi%
67 \normalbaselines%
68 \abovecaptionskip\lst@abovecaption\relax%
69 \belowcaptionskip\lst@belowcaption\relax%
70 \lst@MakeCaption t%

```

Use the overall listing label instead of the line number label:

```

71 \LWR@traceinfo{\lst@Init: defining current label !\@currentlabel!}%
72 \let\LWR@listings@currentlabel\@currentlabel% lwarp
73 \LWR@traceinfo{\lst@Init: defining current label !\cref@currentlabel!}%
74 \let\LWR@listings@cref@currentlabel\cref@currentlabel% lwarp

75 \LWR@traceinfo{\lst@Init: preinit and init}%
76 \lsthk@PreInit \lsthk@Init%

77 \let\@currentlabel\LWR@listings@currentlabel% lwarp
78 \let\cref@currentlabel\LWR@listings@cref@currentlabel% lwarp

79 \LWR@traceinfo{\lst@Init: M}%
80 \lst@ifdisplaystyle
81 \global\let\lst@ltxlabel\@empty
82 \if@inlabel

```

```

83 \lst@ifresetmargins
84 \leavevmode
85 \else
86 \xdef\lst@ltxlabel{\the\everypar}%
87 \lst@AddTo\lst@ltxlabel{%
88 \global\let\lst@ltxlabel\@empty
89 \everypar{\lsthk@EveryLine\lsthk@EveryPar}}%
90 \fi
91 \fi
92 \everypar\expandafter{\lst@ltxlabel
93 \lsthk@EveryLine\lsthk@EveryPar}%
94 \else
95 \everypar{}
96 \let\lst@NewLine\@empty
97 \fi
98 \LWR@traceinfo{lst@Init: P}%
99 \lsthk@InitVars \lsthk@InitVarsBOL
100 \lst@Let{13}\lst@MProcessListing
101 \let\lst@Backslash#1%
102 \lst@EnterMode{\lst@Pmode}{\lst@SelectCharTable}%
103 \lst@InitFinalize%
104 \LWR@traceinfo{lst@Init: S}%

```

Avoids extra horizontal space:

```

105 \def\lst@frame{r}% lwarp
106 \LWR@traceinfo{lst@Init: finished origlst@Init}%
107 \lst@ifdisplaystyle% lwarp

```

Creating a display.

Disable line numbers, produce the <pre>, then reenable line numbers.

```

108 \LWR@traceinfo{lst@Init: About to create verbatim.}% lwarp
109 \let\lsthk@EveryPar\relax% lwarp
110 \LWR@atbeginverbatim{programlisting}% lwarp
111
112 \let\lsthk@EveryPar\LWR@origlsthkEveryPar% lwarp
113 \else% lwarp

```

Inline, so open a <span>:

```

114 \ifbool{LWR@verbtags}{\LWR@htmltag% lwarp
115 span class=\textquotedbl{}inlineprogramlisting\textquotedbl% lwarp
116 }}{}% lwarp
117 \fi% lwarp
118 \LWR@traceinfo{lst@Init: done}%
119 }

```

\lst@DeInit Done at the end of a listing.

```

120 \renewcommand*{\lst@DeInit}{%
121 \LWR@traceinfo{lst@DeInit}%
122 \lst@ifdisplaystyle%

```

Creating a display.



Disable line numbers, produce the `</pre>`, then reenable line numbers:

```
123 \let\lsthk@EveryPar\relax%
124 \LWR@afterendverbatim%
125 \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
126 \else%
```

Inline, so create the closing `</span>`:

```
127 \ifbool{LWR@verbtags}{\noindent\LWR@htmltag{}}{}%
128 \fi%
```

Final listings deinit:

```
129 \lst@XPrintToken \lst@EOLUpdate
130 \global\advance\lst@newlines\m@ne
131 \lst@ifshowlines
132 \lst@DoNewLines
133 \else
134 \setbox\@tempboxa\vbox{\lst@DoNewLines}%
135 \fi
136 \lst@ifdisplaystyle \par\removelastskip \fi
137 \lsthk@ExitVars\everypar{}\lsthk@DeInit\normalbaselines\normalcolor
138 \lst@MakeCaption b%
139 \lst@ifbox
140 \egroup $\hss \egroup
141 \vrule\@width\lst@maxwidth\@height\z@\@depth\z@
142 \else
143 \lst@ifdisplaystyle
144 \par\penalty-50\vspace\lst@belowskip
145 \fi
146 \fi
147 \ifx\lst@multicols\@empty\else
148 \def\lst@next{\global\let\@checkend\@gobble
149 \endmulticols
150 \global\let\@checkend\lst@checkend}
151 \expandafter\lst@next
152 \fi
153 \ifx\lst@float\relax\else
154 \expandafter\lst@endfloat
155 \fi
156 \endgroup
157 \LWR@traceinfo{lst@DeInit done}%
158 }
```

```
\lst@MakeCaption {}
```

This is called BOTH at the top and at the bottom of each listing.

Patched for lwarp.

```
159 \def\lst@MakeCaption#1{%
160 \LWR@traceinfo{lst@MakeCaption at #1}%
161 \lst@ifdisplaystyle
162 \LWR@traceinfo{lst@MakeCaption: making a listings display caption}%
163 \ifx #1t%
164 \ifx\lst@caption\@empty\expandafter\lst@HRefStepCounter \else
165 \expandafter\refstepcounter
166 \fi {lstlisting}%
```

```

167 % \LWR@traceinfo{About to assign label: !\lst@label!}%
168 % \ifx\lst@label\@empty\else
169 % \label{\lst@label}\fi
170 % \LWR@traceinfo{Finished assigning the label.}%
171 \let\lst@arg\lst@iname \lst@ReplaceIn\lst@arg\lst@filenamerrpl
172 \global\let\lst@name\lst@arg \global\let\lstname\lst@name
173 \lst@ifno\@else
174 \ifx\lst@caption\@empty
175 \ifx\lst@caption\@empty
176 \ifx\lst@iname\@empty
177 \else
178 \def\lst@temp{ }%
179 \ifx\lst@iname\lst@temp \else

```

This code places a contents entry for a non-float. This would have to be modified for **lwarp**:

```

180 \LWR@traceinfo{\lst@MakeCaption: addcontents lst@name: -\lst@name-}%
181 % \addcontentsline{lol}{lstlisting}{\lst@name}
182 \fi
183 \fi
184 \fi
185 \else

```

This would have to be modified for **lwarp**:

```

186 \LWR@traceinfo{\lst@MakeCaption: addcontents lst@caption: -\lst@caption-}%
187 \addcontentsline{lol}{lstlisting}%
188 {\protect\numberline{\thelstlisting}%
189 {\protect\ignorespaces \LWR@isolate{\lst@caption} \protect\relax}}%
190 \fi
191 \fi
192 \fi
193 \ifx\lst@caption\@empty\else
194 \LWR@traceinfo{\lst@MakeCaption: lst@caption not empty-}%
195 \lst@ifsubstring #1\lst@captionpos
196 {\begingroup
197 \LWR@traceinfo{\lst@MakeCaption: at the selected position}%

```

These space and box commands are not needed for HTML output:

```

198 % \let\@vskip\vskip
199 % \def\vskip{\afterassignment\lst@vskip \@tempskipa}%
200 % \def\lst@vskip{\nobreak\@vskip\@tempskipa\nobreak}%
201 % \par\@parboxrestore\normalsize\normalfont % \noindent (AS)
202 % \ifx #1t\allowbreak \fi
203 \ifx\lst@title\@empty

```

New **lwarp** code to create a caption:

```

204 \LWR@stoppar% lwarp
205 \lst@makecaption\fnam\lstlisting{\ignorespaces \lst@caption}
206 \else

```

New **lwarp** code to create a title:

```

207 % \lst@maketitle\lst@title % (AS)
208 \LWR@traceinfo{\lst@MakeCaption: Making title: \lst@title}%
209 \begin{BlockClass}{lstlistingtitle}% lwarp
210 \lst@maketitle\lst@title% lwarp

```

```

211 \end{BlockClass}% lwarp
212 \fi%
213 \LWR@traceinfo{lst@MakeCaption: About to assign label: !\lst@label!}%
214 \ifx\lst@label\@empty\else%
215 \leavevmode% gets rid of bad space factor error
216 \GetTitleStringExpand{\lst@caption}%
217 \edef\LWR@lntemp{\GetTitleStringResult}%
218 \edef\@currentlabelname{\detokenize\expandafter{\LWR@lntemp}}%
219 \label{\lst@label}\fi%
220 \LWR@traceinfo{lst@MakeCaption: Finished assigning the label.}%

```

Not needed for lwarp:

```

221 % \ifx #1b\allowbreak \fi
222 \endgroup}{}%
223 \fi
224 \LWR@traceinfo{lst@MakeCaption: end of making a listings display caption}%
225 \else
226 \LWR@traceinfo{lst@MakeCaption: INLINE}%
227 \fi
228 \LWR@traceinfo{lst@MakeCaption: done at #1}%
229 }
230
231 \renewcommand{\lst@maketitle}[1]{%
232 \LWR@isolate{#1}%
233 }%
234

```

**line numbers** Patched to keep left line numbers outside of the left margin, and place right line numbers in a field `\VerbatimHTMLWidth` wide.

```

235 \lst@Key{numbers}{none}{%
236 \let\lst@PlaceNumber\@empty
237 \lstKV@SwitchCases{#1}%
238 {none:\\%
239 left:\def\lst@PlaceNumber{%

```

For now, `lwarp` places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```

240 % \LWR@origllap{
241 \LWR@originormalfont%
242 \lst@numberstyle{\thelstnumber}\kern\lst@numbersep%
243 % }
244 }\\%
245 right:\def\lst@PlaceNumber{\LWR@origrlap{\LWR@originormalfont
246 \kern 6in \kern\lst@numbersep
247 \lst@numberstyle{\thelstnumber}}}%
248 }{\PackageError{lwarp-listings}{Numbers #1 unknown}\@ehc}}

```

---

File 253 **lwarp-listliketab.sty**

§ 362 Package **listliketab**

Pkg listliketab listliketab is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{listliketab}[2005/01/09]

2 \newcommand*{\storestyleof}[1]{}
3 \newcommand*{\storeliststyle}{}
4 \newenvironment{listliketab}{}{}

```

---

File 254 **lwarp-lltjext.sty**

§ 363 Package **lltjext**

*(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X-JA PROJECT TEAM.)*

Pkg lltjext lltjext is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{lltjext}[2018/10/07]

2 \protected\def\yoko{%
3 \directlua{luatexja.direction.set_list_direction(4, 'yoko')}%
4 }
5 \protected\def\tate{\yoko}
6 \protected\def\dtou{\yoko}
7 \protected\def\utod{\yoko}
8
9 \define@key[ltj]{japaram}{direction}{}
10
11 \yoko
12
13 \DeclareExpandableDocumentCommand{\rensujj}{s o m}{#3}
14
15 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
16
17 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
18
19 \LetLtxMacro\pcaption\caption
20
21 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
22
23 \let\captiondir\relax
24 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{} O{t} m}
25 {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
26 {\endLWR@HTML@sub@minipage}
27

```

```

28 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> O{t} O{ } O{t} m +m}
29 {
30 \LWR@traceinfo{parbox of width #4}%
31 \begin{minipage}[#2][#3][#4]{#5}%
32 #6
33 \end{minipage}%
34 }
35
36 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
37 \global\booltrue{LWR@minipagefullwidth}%
38 \parbox{#2}{#4}%
39 }

```

---

File 255 **lwarp-lltjp-tascmac.sty**

§ 364 Package **lltjp-tascmac**

Pkg lltjp-tascmac lltjp-tascmac is a patch for tascmac, and is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lltjp-tascmac}[2020/12/24]

---

File 256 **lwarp-longtable.sty**

§ 365 Package **longtable**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg longtable longtable is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{longtable}[2014/10/28]

Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```

\begin{longtable}{ [column specifiers] }
[. . .] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[. . .] \endhead % or \endfirsthead
[. . .] \endfoot
[<lastfoot macros>] \endlastfoot
}
. . . table contents . . .
\warppHTMLonly{
[<lastfoot macros>] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}

```

⚠ **Misplaced `\noalign`** Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ **`\kill`** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **lateximage** `longtable` is not supported inside a `lateximage`.

See:

<http://tex.stackexchange.com/questions/43006/why-is-input-not-expandable>

Used to detect more than one of `\endhead` and `\endfirsthead` in use for HTML at the same time.

```
2 \newbool{LWR@longtable@havehead}
3 \boolfalse{LWR@longtable@havehead}
```

Env `longtable` \* [*horizontalment*] {*colspec*} Emulates the `longtable` environment.

Per the `caption` package, the starred version steps the counter per caption. The unstarred version steps the counter once at the beginning, but not at each caption.

Options [c], [l], and [r] are ignored.

```
4 \newenvironment{longtable*}[2][]{%
5 \LWR@floatbegin{table}%
6 \ifdef{\setcaptiontype}{% caption package:
7 \setcaptiontype{LTcaption}%
8 \caption@setoptions{longtable}%
9 \caption@setoptions{@longtable}%
10 \caption@LT@setup%
11 }{% w/o caption package:
12 \renewcommand*{\@capttype}{\LTcaption}%
13 }%
14 \booltrue{LWR@starredlongtable}%
15 \boolfalse{LWR@longtable@havehead}%
16 \let\captionlistentry\LWR@LTcaptionlistentry%
17 \tabular{#2}%
18 }
19 {\endtabular\LWR@floatend}
20
21 \newenvironment{longtable}[2][]{%
22 \LWR@floatbegin{table}%
23 \ifdef{\setcaptiontype}{% caption package:
24 \setcaptiontype{LTcaption}%
25 \caption@setoptions{longtable}%
26 \caption@setoptions{@longtable}%
27 \caption@LT@setup%
28 }{% w/o caption package:
29 \renewcommand*{\@capttype}{\LTcaption}%
30 }%
```

```

31 \refstepcounter{\LTcaption}%
32 \boolfalse{LWR@longtable@havehead}%
33 \let\captionlistentry\LWR@LTcaptionlistentry%
34 \tabular{#2}%
35 }
36 {\endtabular\LWR@floatend}

```

Provided for compatibility, but ignored:

```
37 \newcounter{LTchunksize}
```

Error for heads which should have been in \warpprintonly:

```

38 \newcommand*{\LWR@longtable@headerror}{%
39 \PackageError{lwarp-longtable}
40 {For longtable:\MessageBreak
41 1: Keep either one of an \protect\endhead\space or\MessageBreak
42 \space\protect\endfirsthead\space phrase as-is,\MessageBreak
43 \space to be used by both print and HTML.\MessageBreak
44 2: Place any other \protect\end... phrases inside a\MessageBreak
45 \space\protect\warpprintonly\space macro,
46 to be ignored by HTML.\MessageBreak
47 3: At the end of the table,\MessageBreak
48 \space add a final footer for HTML\MessageBreak
49 \space inside a \protect\warpHTMLonly\space macro.
50 This can be\MessageBreak
51 \space a copy of an \protect\endfoot\space or
52 \protect\endfirstfoot\MessageBreak
53 \space phrase, but without the actual \protect\endfoot\MessageBreak
54 \space or \protect\endfirstfoot\space macros.\MessageBreak
55 \space If using threeparttablex, add\MessageBreak
56 \space \protect\insertTableNotes\space here,
57 optionally with\MessageBreak
58 \space \protect\UseMinipageWidths\space in front.\MessageBreak
59 See the Lwarp documentation regarding\MessageBreak
60 longtables and threeparttablex}
61 {See the Lwarp documentation regarding longtables and threeparttablex.}
62 }

```

Error if more than one of \endhead or \endfirsthead is outside of warpprintonly.

```

63 \newcommand*{\LWR@longtable@maybeheaderror}{%
64 \ifbool{LWR@longtable@havehead}%
65 {\LWR@longtable@headerror}%
66 {%
67 \booltrue{LWR@longtable@havehead}
68 \LWR@tabularendofline% throws away options //[dim] and /*
69 }%
70 }

```

Error if more than one of these is outside of warpprint.

```

71 \def\endhead{\LWR@longtable@maybeheaderror}
72 \def\endfirsthead{\LWR@longtable@maybeheaderror}

```

Error if ANY of these is outside of warpprint.

```

73 \def\endfoot{\LWR@longtable@headerror}
74 \def\endlastfoot{\LWR@longtable@headerror}

75 \let\tabularnewline\
76 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
77 \LWR@formatted{tabularnewline}

78 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
79 \newlength{\LTleft}
80 \newlength{\LTright}
81 \newlength{\LTpre}
82 \newlength{\LTpost}
83 \newlength{\LTcapwidth}

84 \LetLtxMacro\LWR@origkill\kill
85 \renewcommand*\kill{\LWR@tabularendofline}
86 \appto\LWR@restoreorigformatting{%
87 \LetLtxMacro\kill\LWR@origkill%
88 }

```

File 257 **lwarp-lpic.sty**

§ 366 Package **lpic**

*(Emulates or patches code by R. MATVEYEV.)*

Pkg lpic **lpic** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{lpic}[2010/12/23]

2 \BeforeBeginEnvironment{lpic}{%
3 \begin{lateximage}[-lpic-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{lpic}{\end{lateximage}}

```

File 258 **lwarp-lscape.sty**

§ 367 Package **lscape**

*(Emulates or patches code by D. P. CARLISLE.)*

Pkg lscape **lscape** is ignored.

**for HTML output:** Discard all options for **lwarp-lscape**.

```

1 \LWR@ProvidesPackageDrop{lscape}[2000/10/22]

```



---

```
2 \newenvironment*{landscape}{}{}
```

---

File 259 **lwarp-ltablex.sty**

§ 368 Package **ltablex**

*(Emulates or patches code by ANIL K. GOEL.)*

Pkg ltablex **ltablex** is emulated by **lwarp**.

**for HTML output:** Relies on **tabularx**.

```
1 \RequirePackage{longtable}
2 \RequirePackage{tabularx}
3
4 \LWR@ProvidesPackageDrop{ltablex}[2014/08/13]
5
6 \DeclareDocumentEnvironment{tabularx}{m o m}
7 {\longtable{#3}}
8 {\endlongtable}
9
10 \DeclareDocumentEnvironment{tabularx*}{m o m}
11 {\longtable{#3}}
12 {\endlongtable}
13
14 \newcommand*{\keepXColumns}{}
15 \newcommand*{\convertXColumns}{}

```

---

File 260 **lwarp-ltcaption.sty**

§ 369 Package **ltcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg ltcaption **ltcaption** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ltcaption}[2018/08/26]

\LTcaptype is already defined by **lwarp**.

longtable\* is already defined by **lwarp-longtable**.

```
2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*{\LTcapmarginfalse}{}

```

File 261 **lwarp-ltxgrid.sty**

§ 370 Package **ltxgrid**

Pkg ltxgrid ltxgrid is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ltxgrid}[2010/07/25]


```
2 \newcommand*\onecolumngrid{}
3 \newcommand*\twocolumngrid{}
4 \newcommand*\removestuff{}
5 \newcommand*\addstuff[2]{}
6 \newcommand*\replacestuff[2]{}

```

File 262 **lwarp-ltxtable.sty**

§ 371 Package **ltxtable**

Pkg ltxtable ltxtable is emulated.

 **table numbering** The print version does not seem to honor longtable\* from the caption package, while lwarp does.

**for HTML output:** 1 \RequirePackage{tabularx, longtable}  
2 \LWR@ProvidesPackageDrop{ltxtable}[1995/12/11]

```
\LTXtable {<width>}{<file>}
3 \newcommand*\LTXtable[2]{%
4 \input{#2}%
5 }

```

File 263 **lwarp-lua-check-hyphen.sty**

§ 372 Package **lua-check-hyphen**

Pkg lua-check-hyphen lua-check-hyphen is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lua-check-hyphen}[2018/04/19]

```
2 \newcommand*\LuaCheckHyphen[1]{}

```

---

File 264 **lwarp-lua-visual-debug.sty**

§ 373 Package **lua-visual-debug**

Pkg lua-visual-debug lua-visual-debug is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lua-visual-debug}[2016/05/30]

---

File 265 **lwarp-luacolor.sty**

§ 374 Package **luacolor**

Pkg luacolor luacolor is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{luacolor}[2016/05/16]

2 \newcommand{\luacolorProcessBox}[1]{}  


---

File 266 **lwarp-luamplib.sty**

§ 375 Package **luamplib**

*(Emulates or patches code by HANS HAGEN, TACO HOEKWATER, ELIE ROUX, PHILIPP GESANG, KIM DOHYUN.)*

Pkg luamplib luamplib is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luamplib}[2020/02/24]

2 \BeforeBeginEnvironment{mplibcode}{%  
 3 \begin{lateximage}[-mplibcode~\PackageDiagramAltText]%  
 4 }  
 5 \AfterEndEnvironment{mplibcode}{\end{lateximage}}  


---

File 267 **lwarp-luatexko.sty**

§ 376 Package **luatexko**

*(Emulates or patches code by DOHYUN KIM, SOOJIN NAM.)*

Pkg luatexko luatexko is patched for use by lwarp.

Modern HTML is used for \dotemph, \ruby, and offset and thickness control for \uline, etc.

for HTML output:

```

1 \LWR@ProvidesPackagePass{luatexko}[2020/03/20]

2 \newcommand{\LWR@HTML@dotemph}[1]{%
3 % \uline{#1}%
4 \InlineClass[text-emphasis-style: dot]{dotemph}{#1}%
5 }
6 \LWR@formatted{dotemph}
7
8 \newcommand{\LWR@HTML@ruby}[2]{%
9 \LWR@htmltagc{ruby}%
10 \LWR@htmltagc{rb}#1\LWR@htmltagc{/rb}%
11 \LWR@htmltagc{rp}(\LWR@htmltagc{/rp})%
12 \LWR@htmltagc{rt}#2\LWR@htmltagc{/rt}%
13 \LWR@htmltagc{rp})\LWR@htmltagc{/rp}%
14 \LWR@htmltagc{/ruby}%
15 }
16 \LWR@formatted{ruby}

```

The following is modified from lwarp-ulem:

```

17 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
18 \InlineClass%
19 (text-decoration:underline; text-decoration-skip: auto)%
20 [%
21 text-underline-offset: \ulinedown ;
22 text-decoration-thickness: \ulinewidth%
23]%
24 {uline}{\LWR@isolate{#1}}%
25 }
26 \LWR@formatted{uline}
27
28 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
29 \InlineClass%
30 (%
31 text-decoration:underline; text-decoration-skip: auto;%
32 text-decoration-style:double%
33)%
34 [%
35 text-underline-offset: \ulinedown ;
36 text-decoration-thickness: \ulinewidth%
37]%
38 {uuline}{\LWR@isolate{#1}}%
39 }
40 \LWR@formatted{uuline}
41
42 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
43 \InlineClass%
44 (%
45 text-decoration:underline; text-decoration-skip: auto;%
46 text-decoration-style:wavy%
47)%
48 [%
49 text-underline-offset: \ulinedown ;
50 text-decoration-thickness: \ulinewidth%
51]%

```

```
52 {uwave}{\LWR@isolate{#1}}%
53 }
54 \LWR@formatted{uwave}
55
56 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
57 \InlineClass%
58 (text-decoration:line-through)%
59 [text-decoration-thickness: \linewidth]%
60 {sout}{\LWR@isolate{#1}}%
61 }
62 \LWR@formatted{sout}
63
64 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
65 \InlineClass%
66 (text-decoration:line-through)%
67 [text-decoration-thickness: \linewidth]%
68 {xout}{\LWR@isolate{#1}}%
69 }
70 \LWR@formatted{xout}
71
72 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
73 \InlineClass%
74 (%
75 text-decoration:underline;%
76 text-decoration-skip: auto;%
77 text-decoration-style:dashed%
78)%
79 [%
80 text-underline-offset: \linedown ;
81 text-decoration-thickness: \linewidth%
82]%
83 {dashuline}{\LWR@isolate{#1}}%
84 }
85 \LWR@formatted{dashuline}
86
87 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
88 \InlineClass%
89 (%
90 text-decoration:underline;%
91 text-decoration-skip: auto;%
92 text-decoration-style: dotted%
93)%
94 [%
95 text-underline-offset: \linedown ;
96 text-decoration-thickness: \linewidth%
97]%
98 {dotuline}{\LWR@isolate{#1}}%
99 }
100 \LWR@formatted{dotuline}
```

File 268 **lwarp-luatodonotes.sty**

§ 377 Package **luatodonotes**

(Emulates or patches code by FABIAN LIPP.)

Pkg luatodonotes **luatodonotes** is emulated.

The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luatodonotes}[2017/09/30]

Nullify options:

```

2 \@todonotes@additionalMarginEnabledfalse

3 \if@todonotes@disabled
4 \else
5
6 \newcommand{\ext@todo}{tdo}
7
8 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{todo}{ldo}{#1}{#2}}

9 \let\LWRTODONOTES@orig@todotoc\todotoc
10
11 \renewcommand*{\todotoc}{%
12 \LWR@phantomsection%
13 \LWRTODONOTES@orig@todotoc%
14 }
15
16
17 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
18 \fcolorbox
19 {\@todonotes@currentbordercolor}
20 {\@todonotes@currentbackgroundcolor}
21 {\arabic{\@todonotes@numberoftodonotes}}
22 \marginpar{\@todonotes@drawMarginNote}
23 }
24
25 \renewcommand{\@todonotes@drawInlineNote}{%
26 \fcolorboxBlock%
27 {\@todonotes@currentbordercolor}%
28 {\@todonotes@currentbackgroundcolor}%
29 {%
30 \if@todonotes@authorgiven%
31 {\@todonotes@author:\,}%
32 \fi%
33 \@todonotes@text%

```

```

34 }%
35 }
36
37 \newcommand{\@todonotes@drawMarginNote}{%
38 \if@todonotes@authorgiven%
39 \@todonotes@author\par%
40 \fi%
41 \arabic{\@todonotes@numberoftodonotes}: %
42 \fcolorbox%
43 {\@todonotes@currentbordercolor}%
44 {\@todonotes@currentbackgroundcolor}%
45 {%
46 \@todonotes@sizecommand%
47 \@todonotes@text %
48 }%
49]%
50
51 \renewcommand{\missingfigure}[2][]{%
52 \setkeys{todonotes}{#1}%
53 \addcontentsline{tdo}{\todo}{\@todonotes@MissingFigureText: #2}%
54 \fcolorboxBlock%
55 {\@todonotes@currentbordercolor}%
56 {\@todonotes@currentfigcolor}%
57 {%
58 \setlength{\fboxrule}{4pt}%
59 \fcolorbox{red}{white}{Missing figure} \quad #2%
60 }
61 }
62
63 \LetLtxMacro\LWRTODONOTES@orig@todocommon\@todocommon
64
65 \RenewDocumentCommand{\@todocommon}{m m}{%
66 \begingroup%
67 \renewcommand*\phantomsection{}%
68 \LWRTODONOTES@orig@todocommon{#1}{#2}%
69 \endgroup%
70 }
71
72 \renewcommand{\@todoarea}[3][]{%
73 \@todonotes@areaselectedtrue%
74 \@todocommon{#1}{#2}%
75 \todonotes@textmark@highlight{#3}%
76 \zref@label{\@todonotes@arabic{\@todonotes@numberoftodonotes}@end}%
77]%
78
79
80 \DeclareDocumentCommand{\todonotes@textmark@highlight}{m}{%
81 \InlineClass[background:\LWR@origpound{}B3FFB3]{highlight}{#1}%
82 }
83
84 \fi% \if@todonotes@disabled

```

---

File 269 **lwarp-luavlna.sty**

§ 378 Package **luavlna**

(Emulates or patches code by MICHAL HOFTICH, MIRO HRONČOK.)

Pkg luavlna **luavlna** is patched for use by **lwarp**.

The package is disabled for HTML output, due to incompatibilities with **lwarp**'s handling of math SVG images.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{luavlna}[2019/10/30]
2 \preventsingleoff
3 \LetLtxMacro\preventsingleon\preventsingleoff
```

---

File 270 **lwarp-lyluatex.sty**


§ 379 Package **lyluatex**

(Emulates or patches code by FR. JACQUES PERON, URS LISKA, BR. SAMUEL SPRINGUEL.)


Pkg lyluatex **lyluatex** is patched for use by **lwarp**.


For the first compile, to set *lwarpmk*'s configuration, use:

```
lualatex --shell-escape <filename>
```


 **images** After compiling the document with **lwarpmk html**, use **lwarpmk limages** to convert the Lilypond images for HTML.

The option `insert=systems` results in an image per system. Each music image “system” is placed inside a `<span>` of class `lyluatex`, which defaults to `display: inline-block`.

 **insert=fullpage** The option `insert=fullpage` results in a single image per page of printed output. Each music “fullpage” image is placed inside a `<div>` of class `lyluatex`. To match the number of measures per line with the printed version, use the `geometry` package to select the page geometry, or use the `lyluatex` options for page and staff sizes.

 **options** To use `\linewidth` or `\textwidth` inside the package options for `lyluatex`, use the `kvoptions-patch` package first:

```
\usepackage{kvoptions-patch}
\usepackage[... ,line-width=0.8\linewidth,...]{lyluatex}
```

 **raw-pdf** If using `raw-pdf`, the resulting PDF images must be converted to SVG:



Enter ⇒ **lwarpmk pdftosvg tmp-ly/\*.pdf**

for HTML output:

```
1 \LWR@origRequirePackage{luacode}
2
3 \LWR@ProvidesPackagePass{lyluatex}[2019/05/27]
```

User-redefinable ALT tag:

```
4 \newcommand*{\LyluatexImageAltText}{-lilypond-~\PackageDiagramAltText}
```

\ly@compilescore

{*(Lilypond object)*}

```
5 \LetLtxMacro\LWR@orig@ly@compilescore\ly@compilescore
6
7 \renewcommand*{\ly@compilescore}[1]{%
```

A local group holds a number of changes:

```
8 \begingroup%
```

The user's original geometry and font size are restored to match the print version. This allows for correct spacing in the musical score.

```
9 \LWR@maybe@orignewpage%
10 \LWR@origloadgeometry{LWR@usergeometry}%
11 \LWR@print@normalsize%
```

A local group holds a redefined `\includegraphics` which is used by *lyluatex.lua* to insert the *Lilypond* score if `insert=systems` is used. This is now placed inside a `lateximage`, which itself is placed inside a `<span>` of class `lyluatex`.

`\LWR@addbaselinemarker` preserves the left margins.

```
12 \renewcommand{\includegraphics}[2][]{%
13 \InlineClass{lyluatex}{%
14 \begin{lateximage}[\LyluatexImageAltText]%
15 \LWR@addbaselinemarker%
16 \LWR@originincludegraphics{##2}%
17 \end{lateximage}%
18 }%
19 }%
```

From the original:

```
20 \ly@setunits%
21 \directlua{
22 ly_opts:set_option('currfiledir', [[\currfiledir]])
23 ly_opts:set_option('twoside', '\ly@istwosided')
24 #1
25 }%
26 \ly@resetunits%
27 \ly@currentfonts%
```

The fullpage version is set inside an HTML `<div>`:

```
28 \directlua{
29 if (ly.score.insert == 'fullpage') then
30 tex.print{[[\string\begin{BlockClass}{lyluatex}]]}
31 end
32 }%
```

Generate the score:

```
33 \directlua{ly.score:process()}%
```

Close the <div>:

```
34 \directlua{
35 if (ly.score.insert == 'fullpage') then
36 tex.print{[[\string\end{BlockClass}]]}
37 end
38 }%
```

Move to a new page and renew the regular page geometry:

```
39 \LWR@maybe@orignewpage%
40 \LWR@origrestoregeometry%
```

End of the local group.

```
41 \endgroup%
42 }
```

In HTML the following generates an error, so is removed:

```
43 \xpatchcmd{\endly@bufferenv}
44 {\hspace{0pt}\}
45 {}
46 {}
47 {\LWR@patcherror{lyluatex}{endly@bufferenv}}
```

File 271 **lwarp-magaz.sty**

§ 380 Package **magaz**

Pkg magaz magaz is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{magaz}[2011/11/24]

```
2 \newcommand\FirstLine[1]{%
3 \begingroup%
4 \FirstLineFont{%
5 \LWR@textcurrentcolor{%
6 \LWR@textcurrentfont{%
7 #1%
8 }%
9 }%
10 }%
11 \endgroup%
12 }
13
14 \providecommand\FirstLineFont{\scshape}
```

---

File 272 **lwarp-makeidx.sty**

§ 381 Package **makeidx**

*(Emulates or patches code by L<sup>A</sup>T<sub>E</sub>X PROJECT TEAM.)*

Pkg makeidx makeidx is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]

\@wrindex is redefined \AtBeginDocument by the lwarp core.

\printindex

```
2 \preto\printindex{%
3 \LWR@maybe@orignewpage%
4 \LWR@startpars%
5 }
```

---

File 273 **lwarp-manyfoot.sty**

§ 382 Package **manyfoot**

Pkg manyfoot manyfoot is emulated.

**bigfoot, manyfoot** Verbatim footnotes are not yet supported.

 **verbatim**

If using the **bigfoot** package, and possibly also **manyfoot**, problems may occur with counter allocation because **lwarp** uses many counters, and there is a difference in how counters numbered 256 and up are handled in pdfL<sup>A</sup>T<sub>E</sub>X. With **bigfoot** this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining **bigfoot** or **manyfoot** footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X<sub>Ǝ</sub>L<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X instead of pdfL<sup>A</sup>T<sub>E</sub>X.

**lwarp**'s emulation of **bigfoot** uses **manyfoot**, so some of the **bigfoot** enhancements are included here.

The **bigfoot** “default” footnote is ignored, using the **lwarp** version instead.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{manyfoot}[2005/09/11]

```
2 \RequirePackage{nccfoots}
```

```

3
4 \newcommand{\extrafootnoterule}{}
5
6 \let\defaultfootnoterule\footnoterule
7
8 \newcommand*{\SelectFootnoteRule}[2][0]{}
9
10 \newcommand{\footnoterulepriority}{1}
11
12 \newcommand{\SetFootnoteHook}[1]{}
13 \@onlypreamble\SetFootnoteHook
14
15 \newcommand{\SplitNote}{}
16
17 \newcommand*{\ExtraParaSkip}[1]{}
18
19 \newcommand*{\newfootnote}[2][plain]{%
20 \ifstrequal{#2}{default}{}{% not "default"
21 \expandafter\newbox\csname LWR@footnote#2box\endcsname%
22 \appto{\LWR@printpendingfootnotes}{%
23 \LWR@@printpendingfootnotes{footnote#2}%
24 }
25 \long\csdef{Footnotetext#2}##1##2{%
26 \NCC@makefnmark{##1}%
27 \LWR@@footnotetext{##2}{LWR@footnote#2box}%
28 }%
29 \long\csdef{Footnotetext#2+}##1##2{%
30 \NCC@makefnmark{##1}%
31 \LWR@@footnotetext{##2}{LWR@footnote#2box}%
32 }%
33 }% not "default"
34 }
35 \@onlypreamble\newfootnote
36
37 \newcommand*{\DeclareNewFootnote}[2][plain]{%
38 \ifnextchar[%
39 {\LWR@manyfoot@declare{#1}{#2}}%
40 {\LWR@manyfoot@declare{#1}{#2}[arabic]}%
41 }
42
43 \def\LWR@manyfoot@declare#1#2[#3]{%
44 \ifstrequal{#2}{default}{}{% not "default"
45 \newfootnote[#1]{#2}%
46 \newcounter{footnote#2}%
47 \newcounter{footnote#2Reset}%
48 \setcounter{footnote#2Reset}{0}%
49 \csdef{thefootnote#2}{%
50 \expandafter\noexpand\csname @#3\endcsname%
51 \expandafter\noexpand\csname c@footnote#2\endcsname%
52 }%

```

For **bigfoot**, the footnote commands may be appended with one or two plusses or one or two minuses, which are ignored in HTML.

```

53 \expandafter\NewDocumentCommand\csname footnote#2\endcsname{t{+}t{+}t{-}t{-}}{%

```

```

54 \stepcounter{footnote#2}%
55 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
56 \@footnotemark%
57 \csuse{Footnotetext#2}\@thefnmark}% absorbs the footnote contents
58 }%
59 \csdef{footnotemark#2}{%
60 \stepcounter{footnote#2}%
61 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
62 \@footnotemark%
63 }%
64 \expandafter\NewDocumentCommand\csname footnote#2\endcsname{t{+}t{+}t{-}t{-}}{%
65 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
66 \csuse{Footnotetext#2}\@thefnmark}% absorbs the footnote contents
67 }%
68 \csdef{Footnotemark#2}{%
69 \Footnotemark%
70 }%
71 \csdef{Footnote#2}##1{%
72 \Footnotemark{##1}%
73 \csuse{Footnotetext#2}{##1}%
74 }%
75 }% not "default"
76 }
77 \@onlypreamble\DeclareNewFootnote

```

---

File 274 **lwarp-marginal.sty**

§ 383 Package **marginal**

Pkg marginal marginal is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*\showlostmarginals{}
3 \newcommand*\enlargefreelist{}
4 \newcommand*\onesidemarginals{}

```

---

File 275 **lwarp-marginfit.sty**

§ 384 Package **marginfit**

Pkg marginfit marginfit is ignored.

**for HTML output:** Discard all options for lwarp-marginfit:

```

1 \LWR@ProvidesPackageDrop{marginfit}[2018/06/08]

```

File 276 **lwarp-marginfix.sty**

§ 385 Package **marginfix**

*(Emulates or patches code by STEPHEN HICKS.)*

Pkg marginfix marginfix is ignored.

**for HTML output:** Discard all options for lwarp-marginfix:

```

1 \LWR@ProvidesPackageDrop{marginfix}[2013/09/08]

2 \newcommand*{\margin skip}[1]{}
3 \newcommand*{\clearmargin}{}
4 \newcommand*{\softclearmargin}{}
5 \newcommand*{\extendmargin}[1]{}
6 \newcommand*{\mparshift}[1]{}
7 \newdimen\marginheightadjustment
8 \newdimen\marginposadjustment
9 \newcommand*{\blockmargin}[1][1]{}
10 \newcommand*{\unblockmargin}[1][1]{}
11 \newcommand*{\marginphantom}[2][1]{}

```

File 277 **lwarp-marginnote.sty**

§ 386 Package **marginnote**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg marginnote marginnote is emulated.

**for HTML output:** Discard all options for lwarp-marginnote:

```

1 \LWR@ProvidesPackageDrop{marginnote}[2018/08/09]

2 \NewDocumentCommand{\marginnote}{+o +m o}{\marginpar{#2}}

3 \newcommand*{\marginnoteleftadjust}{}
4 \newcommand*{\marginnoterightadjust}{}
5 \newcommand*{\marginnotetextwidth}{}
6 \let\marginnotetextwidth\textwidth
7 \newcommand*{\marginnotevadjust}{}
8 \newcommand*{\marginfont}{}
9 \newcommand*{\raggedleftmarginnote}{}
10 \newcommand*{\raggedrightmarginnote}{}

11 \appto\LWR@restoreorigformatting{%

```

```

12 \RenewDocumentCommand{\marginnote}{+o +m o}{ }
13 }

```

For MATHJAX:

```

14 \begin{warpMathJax}
15 \CustomizeMathJax{\newcommand{\LWRmarginnote}[1][]{ }}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][]{\quad{\small\textrm{#2}}\LWRmarginnote}}
17 \end{warpMathJax}

```

File 278 **lwarp-marvosym.sty**

§ 387 Package **marvosym**

*(Emulates or patches code by THOMAS HENLICH, MOJCA MIKLAVEC.)*

Pkg marvosym marvosym is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{marvosym}[2011/07/20]
2 \renewcommand{\mvchr}[1]{%
3 \begin{lateximage}*[symbol #1][marvosym #1]%
4 \mvs\char#1%
5 \end{lateximage}%
6 }
7
8 \renewcommand{\textmvs}[1]{%
9 \begin{lateximage}%
10 \mvs #1%
11 \end{lateximage}%
12 }


```

File 279 **lwarp-mathalpha.sty**

§ 388 Package **mathalpha**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg mathalpha mathalpha is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, and some bold fonts may not be supported by MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathalpha}[2019/10/05]
2
3 \begin{warpMathJax}
4 \CustomizeMathJax{\newcommand{\mathbbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
5 \CustomizeMathJax{\newcommand{\mathbcal}[1]{\boldsymbol{\mathcal{#1}}}}

```

```

6 \CustomizeMathJax{\newcommand{\mathbfrac}[1]{\boldsymbol{\mathfrac{#1}}}}
7 \CustomizeMathJax{\newcommand{\mathbscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
8 \end{warpMathJax}

```

---

File 280 **lwarp-mathastext.sty**

§ 389 Package **mathastext**

*(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)*

Pkg mathastext **mathastext** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathastext}[2019/11/16]

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \ifmst@itgreek
6 % \LWR@mathjax@addgreek@l@it{}{}
7 \else
8 \ifmst@upgreek
9 \LWR@mathjax@addgreek@l@up{}{}
10 \else
11 \ifmst@frenchmath
12 \LWR@mathjax@addgreek@l@up{}{}
13 \else
14 \ifmst@italic
15 % \LWR@mathjax@addgreek@l@it{}{}
16 \else
17 \LWR@mathjax@addgreek@l@up{}{}
18 \fi
19 \fi
20 \fi
21 \fi
22
23 \ifcase\mst@greek@select
24 \or{\LWR@mathjax@addgreek@u@it*{}{}}
25 % \or{\LWR@mathjax@addgreek@u@up*{}{}}
26 \fi
27
28 \CustomizeMathJax{\newcommand{\mathnormalbold}[1]{\boldsymbol{#1}}}
29 \CustomizeMathJax{\newcommand{\MathEulerBold}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\newcommand{\MathEuler}[1]{#1}}
31 \CustomizeMathJax{\newcommand{\MathPSymbol}[1]{#1}}
32 \CustomizeMathJax{\let\fouriervec\vec}
33 \CustomizeMathJax{\let\pmvec\vec}
34 \CustomizeMathJax{\let\inodot\imath}
35 \CustomizeMathJax{\let\jnodot\jmath}
36 \CustomizeMathJax{\let\shortiff\iff}
37 \CustomizeMathJax{\let\longto\longrightarrow}
38 \CustomizeMathJax{\newcommand{\inftypsy}{\mathord{\unicode{x221E}}}}
39 \CustomizeMathJax{\newcommand{\proptopsy}{\mathrel{\unicode{x221D}}}}
40 \CustomizeMathJax{\let\prodpsy\prod}

```



```

41 \CustomizeMathJax{\let\sumpsy\sum}
42 \CustomizeMathJax{\let\MToriginalprod\prod}
43 \CustomizeMathJax{\let\MToriginalsum\sum}
44 \CustomizeMathJax{\newcommand{\DotTriangle}{\mathord{\unicode{x2234}}}}
45 \end{warpMathJax}

```

---

File 281 **lwarp-mathcomp.sty**

§ 390 Package **mathcomp**

(Emulates or patches code by TILMANN BÖB.)

Pkg mathcomp mathcomp is supported as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathcomp}[2001/01/07]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\tcohm}{\mathrm{\Omega}}}
4 \CustomizeMathJax{\newcommand{\tccelsius}{\unicode{x2103}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\unicode{x00B5}}}}
6 \CustomizeMathJax{\newcommand{\tcpertousand}{\unicode{x2030}}}
7 \CustomizeMathJax{\newcommand{\tcpertenthousand}{\unicode{x2031}}}
8 \CustomizeMathJax{\newcommand{\tcddegree}{\mathrm{^\circ}}}
9 \CustomizeMathJax{\newcommand{\tcdigitoldstyle}[1]{\oldstyle{#1}}}
10 \end{warpMathJax}

```


---

File 282 **lwarp-mathdesign.sty**

§ 391 Package **mathdesign**

(Emulates or patches code by PAUL PICHAUREAU.)

Pkg mathdesign mathdesign is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options except greekuppercase and greeklowercase. The dedicated macros for upright and italic greek letters work correctly, although the user may wish to swap the definitions for epsilon and phi.

svg math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdesign}[2013/08/29]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
5
6 \begin{warpMathJax}
7 \LWR@infoprocessingmathjax{mathdesign}

```

Default greek upright or italicized:

```

8 \if@MD@grupright
9 \LWR@mathjax@addgreek@l@up{}{}
10 \fi
11
12 \if@MD@GRupright
13 \else
14 \LWR@mathjax@addgreek@u@it*{}{}
15 \fi

```

Upright:

```

16 \LWR@mathjax@addgreek@l@up{}{up}
17 \LWR@mathjax@addgreek@u@up*{}{up}

```

Italicized:

```

18 \LWR@mathjax@addgreek@l@it{}{it}
19 \LWR@mathjax@addgreek@u@it*{}{it}

```

Adapt to mathdesign inconsistency:

```

20 \CustomizeMathJax{\let\digammaup\Digammaup}
21 \CustomizeMathJax{\renewcommand{\digammait}{\mathit{\digammaup}}}

```

Extra symbols:

```

22 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x220A}}}}
23 \CustomizeMathJax{\newcommand{\smallowns}{\mathrel{\unicode{x220D}}}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x220A}}}}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x220D}}}}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x221F}}}}

```

Integrals:

```

27 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
28 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
29 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
30 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
31 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}

```

Math and text mode:

```

32 \CustomizeMathJax{\newcommand{\ddag}{\unicode{x2021}}}
33 \CustomizeMathJax{\newcommand{\P}{\unicode{x00B6}}}
34 \CustomizeMathJax{\newcommand{\copyright}{\unicode{x00A9}}}
35 \CustomizeMathJax{\newcommand{\dag}{\unicode{x2020}}}
36 \CustomizeMathJax{\newcommand{\pounds}{\unicode{x00A3}}}

```

Extra symbols:

```

37 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}

```

```

38 \CustomizeMathJax{\newcommand{\utimes}{\mathbin{\overline{\times}}}}
39 \CustomizeMathJax{\newcommand{\dtimes}{\mathbin{\underline{\times}}}}
40 \CustomizeMathJax{\newcommand{\udtimes}{\mathbin{\overline{\underline{\times}}}}}
41 \CustomizeMathJax{\newcommand{\leftwave}{\left\{}}
42 \CustomizeMathJax{\newcommand{\rightwave}{\right\}}}
43
44 \end{warpMathJax}

```

---

File 283 **lwarp-mathdots.sty**

§ 392 Package **mathdots**

*(Emulates or patches code by DAN LUECKING.)*

Pkg mathdots mathdots is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdots}[2014/06/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
4 \CustomizeMathJax{\let\fixedddots\ddots}
5 \CustomizeMathJax{\let\fixedvdots\vdots}
6 \CustomizeMathJax{\let\fixediddots\iddots}
7 \CustomizeMathJax{\let\originalddots\ddots}
8 \CustomizeMathJax{\let\originalvdots\vdots}
9 \CustomizeMathJax{\let\originaliddots\iddots}
10 \CustomizeMathJax{\let\originaldddot\dddot}
11 \CustomizeMathJax{\let\originalddddot\ddddot}
12 \end{warpMathJax}

```

---

File 284 **lwarp-mathfixs.sty**

§ 393 Package **mathfixs**

*(Emulates or patches code by NIKLAS BEISERT.)*

Pkg mathfixs mathfixs is used as-is for SVG math, and is emulated for MATHJAX.



Greek letters are unchanged.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathfixs}[2018/12/30]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\rfrac}[2]{\tfrac{#1}{#2}}}
4 \CustomizeMathJax{\newcommand{\vfrac}[2]{\mathinner{{}^{\#1}\!/_{\#2}}}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]}
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
7 \CustomizeMathJax{\newcommand{\.}{\,}}
8 \end{warpMathJax}

```


---

File 285 **lwarp-mathpazo.sty**

§ 394 Package **mathpazo**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg mathpazo **mathpazo** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

svg math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathpazo}[2020/03/25]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathpazo}
6
7 \ifpazo@slGreek
8 \LWR@mathjax@addgreek@u@it*{}{}
9 \fi
10
11 \LWR@mathjax@addgreek@u@up*{}{}
12
13 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
14 \end{warpMathJax}

```


---

File 286 **lwarp-mathptmx.sty**

§ 395 Package **mathptmx**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg mathptmx **mathptmx** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

svg math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathptmx}[2020/03/25]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathptmx}
6
7 \@ifpackagewith{mathptmx}{slantedGreek}
8 {\LWR@mathjax@addgreek@u@it*{}}{}
9 {}
10
11 \LWR@mathjax@addgreek@u@up*{up}{}
12 \end{warpMathJax}

```


---

File 287 **lwarp-mathspec.sty**

§ 396 Package **mathspec**

(Emulates or patches code by ANDREW GILBERT MOSCHOU.)

Pkg mathspec **mathspec** is used as-is with SVG math, and is emulated for MATHJAX.

 **quotes** Double quotes (`\`" and the `"` character) are removed during MATHJAX emulation, but this also includes inside `\text`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathspec}[2016/12/22]

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}

```

Neutralize double quotes ("`"` and `\`"`"`):

```

5 \booltrue{LWR@MathJax@silentquotes}

```

Sort options for out Greek emulation:

```

6 \AtBeginDocument{
7 \ifcase\eu@GreekUppercase@@value %% If Greek Uppercase Regular
8 \LWR@mathjax@addgreek@u@up*{}}{}
9 \or %% If Greek Uppercase Italic
10 \LWR@mathjax@addgreek@u@it*{}}{}
11 \or %% If Greek Uppercase Plain
12 \LWR@mathjax@addgreek@u@up*{}}{}
13 \fi
14 \ifcase\eu@GreekLowercase@@value %% If Greek Lowercase Regular
15 \LWR@mathjax@addgreek@l@up*{}}{}
16 \or %% If Greek Lowercase Italic
17 \LWR@mathjax@addgreek@l@it*{}}{}
18 \or %% If Greek Lowercase Plain
19 \LWR@mathjax@addgreek@l@it*{}}{}
20 \fi
21 }

```

Swap definitions according the mathspec conditionals:

```

22 \newcommand*{\LWR@mathspec@varforms}{%
23 \eu@ifbooltrue{GreekLowercase}{
24 \eu@ifbooltrue{exchangebetaforms}{
25 \CustomizeMathJax{\let\LWRorigbeta\beta}
26 \CustomizeMathJax{\let\beta\varbeta}
27 \CustomizeMathJax{\let\varbeta\LWRorigbeta}
28 }
29 \eu@ifbooltrue{exchangeepsilonforms}{
30 \CustomizeMathJax{\let\LWRorigepsilon\epsilon}
31 \CustomizeMathJax{\let\epsilon\varepsilon}
32 \CustomizeMathJax{\let\varepsilon\LWRorigepsilon}
33 }
34 \eu@ifbooltrue{exchangethetaforms}{
35 \CustomizeMathJax{\let\LWRorigtheta\theta}
36 \CustomizeMathJax{\let\theta\vartheta}
37 \CustomizeMathJax{\let\vartheta\LWRorigtheta}
38 }
39 \eu@ifbooltrue{exchangekappaforms}{
40 \CustomizeMathJax{\let\LWRorigkappa\kappa}
41 \CustomizeMathJax{\let\kappa\varkappa}
42 \CustomizeMathJax{\let\varkappa\LWRorigkappa}
43 }
44 \eu@ifbooltrue{exchangepiforms}{
45 \CustomizeMathJax{\let\LWRorigpi\pi}
46 \CustomizeMathJax{\let\pi\varpi}
47 \CustomizeMathJax{\let\varpi\LWRorigpi}
48 }
49 \eu@ifbooltrue{exchangerhoforms}{
50 \CustomizeMathJax{\let\LWRorigrho\rho}
51 \CustomizeMathJax{\let\rho\varrho}
52 \CustomizeMathJax{\let\varrho\LWRorigrho}
53 }
54 \eu@ifbooltrue{exchangephiforms}{
55 \CustomizeMathJax{\let\LWRorigphi\phi}
56 \CustomizeMathJax{\let\phi\varphi}
57 \CustomizeMathJax{\let\varphi\LWRorigphi}
58 }
59 }
60 \eu@ifbooltrue{GreekUppercase}{
61 \eu@ifbooltrue{exhangeThetaforms}{
62 \CustomizeMathJax{\let\LWRorigTheta\Theta}
63 \CustomizeMathJax{\let\Theta\varTheta}
64 \CustomizeMathJax{\let\varTheta\LWRorigTheta}
65 }
66 }
67 }

```

Append new action to mathspec's \AtBeginDocument code:

```

68 \xapptocmd{\exchangeforms}
69 {\AtBeginDocument{\LWR@mathspec@varforms}}
70 {}
71 {\LWR@patcherror{mathspec}{exchangeforms}}

```

```
72
73 \end{warpMathJax}
```

File 288 **lwarp-mathtools.sty**

§ 397 Package **mathtools**

(Emulates or patches code by MORTEN HØGHOLM, LARS MADSEN.)

Pkg mathtools mathtools is patched for use by lwarp. Emulation macros are provided for MATHJAX.

⚠ **equation numbering** showonlyrefs is disabled, as it conflicts with cleveref, which is used by lwarp. Equation numbers may not match the print version.

⚠ **italic correction** mathic is not emulated for HTML.

⚠ **MATHJAX** If using MATHJAX:

- mathtools disallowspaces does not work for MATHJAX. Protect brackets which are not optional arguments, such as:

```
\begin{gathered}{}
[p]=1 . . .
\end{gathered}
```

- showonlyrefs does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- alignat in MATHJAX requires math mode, but in L<sup>A</sup>T<sub>E</sub>X it doesn't. It may be required to use warpHTML and warpprint to isolate a version for each mode.
- \DeclarePairedDelimiter and related must be in the preamble before \begin{document}.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathtools}[2018/01/08]

2 \RequirePackage{graphicx}

3 \MHInternalSyntaxOn

Forces showonlyrefs off because lwarp uses cleveref, which is not compatible with showonlyrefs.

```
4 \renewcommand* \MT_showonlyrefs_true: {%
5 \PackageWarningNoLine{lwarp}
6 {%
7 Mathtools \space showonlyrefs \space conflicts \space
8 with \space cleveref, \MessageBreak
9 which \space is \space used \space by \space lwarp, \space
10 so \space showonlyrefs \space is \MessageBreak
11 forced \space off. \space \space
12 Equation \space numbers \space may \space not \space match%
```

```

13 }
14 \MT_showonlyrefs_false:
15 }
16 \mathtoolsset{showonlyrefs=false}

```

Forces math italic correction off. Not patched for lwarp.

```

17 \renewcommand*{\MT_mathic_true:}{\MT_mathic_false:}
18 \mathtoolsset{mathic=false}

```

```

19 \MHInternalSyntaxOff

```

For MATHJAX.

The MATHJAX package is used, and improvements are added.

```

20 \begin{warpMathJax}
21 \CustomizeMathJax{\require{mathtools}}
22
23 \LWR@infoprocessingmathjax{mathtools}
24
25 \CustomizeMathJax{\newenvironment{crampedsubarray}[1]{}{}}
26
27 \CustomizeMathJax{\newcommand{\smashoperator}[2][\#2\limits]}
28
29 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{}{}}
30
31 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{#1}}}
32 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{#1}}}
33
34
35 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][\begin{multline*}]}
36 \CustomizeMathJax{\newenvironment{multlined}[1][\LWRmultlined]{\end{multline*}}}
37
38 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
39 \CustomizeMathJax{\renewcommand{\shoveleft}[1][\LWRorigshoveleft]}
40 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
41 \CustomizeMathJax{\renewcommand{\shoveright}[1][\LWRorigshoveright]}
42
43 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{#1}\notag \}}
44
45 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiter\DeclarePairedDelimiter
46 \renewcommand{\DeclarePairedDelimiter}[3]{
47 \LWR@mathtools@orig@DeclarePairedDelimiter{#1}{#2}{#3}
48 % starred:
49 \appto\LWR@customizedMathJax{\LWRbackslash{}}
50 \appto\LWR@customizedMathJax{%
51 \LWRbackslash{}}newcommand{\LWRbackslash\macroto{name{#1}LWRsubstar\}}%
52 }%
53 \appto\LWR@customizedMathJax{[2][]}%
54 \appto\LWR@customizedMathJax{\{\}}%
55 \LWR@subcustomizedmathjax{##1\left##2##1\right##3}%
56 \appto\LWR@customizedMathJax{\}\}%
57 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
58 % not starred:

```



```

59 \appto\LWR@customizedMathJax{\LWRbackslash{
60 \appto\LWR@customizedMathJax{%
61 \LWRbackslash{newcommand{\LWRbackslash\macroto{name{#1}LWRsubnosta\}%
62 }%
63 \appto\LWR@customizedMathJax{[2][]}%
64 \appto\LWR@customizedMathJax{\{\}%
65 \LWR@subcustomizedmathjax{##1#2##2##1#3}%
66 \appto\LWR@customizedMathJax{\}\}%
67 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
68 % user macro:
69 \appto\LWR@customizedMathJax{\LWRbackslash{
70 \appto\LWR@customizedMathJax{%
71 \LWRbackslash{newcommand{\LWRbackslash{\macroto{name{#1}\}%
72 \{\LWRbackslash{ifstar%
73 \LWRbackslash{\macroto{name{#1}LWRsubstar%
74 \LWRbackslash{\macroto{name{#1}LWRsubnosta%
75 \}%
76 }%
77 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
78 }
79 \onlypreamble\DeclarePairedDelimiter
80
81 % (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)
82
83 \let\txMacro\LWR@mathtools@orig@DeclarePairedDelimiterXPP\DeclarePairedDelimiterXPP
84 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m m}{
85 \LWR@mathtools@orig@DeclarePairedDelimiterXPP{#1}{#2}{#3}{#4}{#5}{#6}{#7}
86 % subsubstar, second opt arg
87 \appto\LWR@customizedMathJax{\LWRbackslash{)}%
88 \appto\LWR@customizedMathJax{%
89 \LWRbackslash{newcommand{\LWRbackslash\macroto{name{#1}LWRsubsubstar\}%
90 }%
91 \appto\LWR@customizedMathJax{[#2]}%
92 \appto\LWR@customizedMathJax{\{\LWRbackslash{left}%
93 \LWR@subcustomizedmathjax{#3#4#7}%
94 \appto\LWR@customizedMathJax{\LWRbackslash{right}%
95 \LWR@subcustomizedmathjax{#5#6}%
96 \appto\LWR@customizedMathJax{\}\}%
97 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
98 % substar, first opt arg
99 \appto\LWR@customizedMathJax{\LWRbackslash{)}%
100 \appto\LWR@customizedMathJax{%
101 \LWRbackslash{newcommand{\LWRbackslash\macroto{name{#1}LWRsubstar\}[1][]%
102 }%
103 \appto\LWR@customizedMathJax{%
104 \{
105 \LWRbackslash{def\LWRbackslash{delimsi\{\#1\}
106 \LWRbackslash\macroto{name{#1}LWRsubsubstar
107 \}%
108 }%
109 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
110 % subsubnosta, second opt arg
111 \appto\LWR@customizedMathJax{\LWRbackslash{)}%
112 \appto\LWR@customizedMathJax{%
113 \LWRbackslash{newcommand{\LWRbackslash\macroto{name{#1}LWRsubsubnosta\}%

```

```

114 }%
115 \appto\LWR@customizedMathJax{[#2]}%
116 \appto\LWR@customizedMathJax{\{\LWRbackslash{}delimsize}%
117 \LWR@subcustomizedmathjax{#3#4#7}%
118 \appto\LWR@customizedMathJax{\LWRbackslash{}delimsize}%
119 \LWR@subcustomizedmathjax{#5#6}%
120 \appto\LWR@customizedMathJax{\}\}%
121 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
122 % subnostar, first opt arg
123 \appto\LWR@customizedMathJax{\LWRbackslash()}%
124 \appto\LWR@customizedMathJax{%
125 \LWRbackslash{}newcommand{\LWRbackslash\macrotoocsname{#1}LWRsubnostar}[1][]%
126 }%
127 \appto\LWR@customizedMathJax{%
128 \{
129 \LWRbackslash{}def\LWRbackslash{}delimsize\{#1\}
130 \LWRbackslash\macrotoocsname{#1}LWRsubsubnostar
131 \}%
132 }%
133 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
134 % user macro:
135 \appto\LWR@customizedMathJax{\LWRbackslash()}
136 \appto\LWR@customizedMathJax{%
137 \LWRbackslash{}newcommand{\%
138 \LWRbackslash{}\macrotoocsname{#1}%
139 \}%
140 \{\LWRbackslash{}ifstar%
141 \LWRbackslash{}\macrotoocsname{#1}LWRsubstar%
142 \LWRbackslash{}\macrotoocsname{#1}LWRsubnostar%
143 \}%
144 }%
145 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
146 }
147 \@onlypreamble\DeclareParedDelimiterXPP
148 \@onlypreamble\DeclareParedDelimiterX
149
150 \CustomizeMathJax{\newcommand{\vcentcolon}{\mathrel{\unicode{x2236}}}}
151
152 \LetLtxMacro\LWR@mathtools@orig@newgathered\newgathered
153 \renewcommand{\newgathered}[4]{%
154 \LWR@mathtools@orig@newgathered{#1}{#2}{#3}{#4}%
155 \appto\LWR@customizedMathJax{\LWRbackslash()}%
156 \LWR@subcustomizedmathjax{%
157 \newenvironment{#1}{\begin{gathered}}{\end{gathered}}%
158 }%
159 \appto\LWR@customizedMathJax{\LWRbackslash)}%
160 }
161 \@onlypreamble\newgathered
162
163 \end{warpMathJax}

```

File 289 **lwarp-mattens.sty**

§ 398 Package **mattens**

(Emulates or patches code by DANIE ELS.)

Pkg mattens **mattens** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mattens}[2010/03/26]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRmattensnull}{}}
4
5 \CustomizeMathJax{\newcommand{\LWRmattensnostar}[2][]{%
6 {\#1{\LWRmattensundercmd{\LWRmattensovercmd{\LWRmattenscross{\boldsymbol{#2}}}}}}}%
7 }}
8
9 \CustomizeMathJax{\newcommand{\LWRmattensstar}[2][]{%
10 {\#1{\LWRmattensundercmd{\LWRmattensovercmd{\LWRmattenscross{#2}}}}}}%
11 }}
12
13 \CustomizeMathJax{\newcommand{\LWRmattens}{
14 \ifstar\LWRmattensstar\LWRmattensnostar%
15 }}
16
17 \CustomizeMathJax{\newcommand{\aS}{%
18 \let\LWRmattenscross\LWRmattensnull%
19 \let\LWRmattensovercmd\overrightarrow%
20 \let\LWRmattensundercmd\LWRmattensnull%
21 \LWRmattens%
22 }}
23
24 \CustomizeMathJax{\newcommand{\Sa}{%
25 \let\LWRmattenscross\LWRmattensnull%
26 \let\LWRmattensovercmd\underrightarrow%
27 \let\LWRmattensundercmd\LWRmattensnull%
28 \LWRmattens%
29 }}
30
31 \CustomizeMathJax{\newcommand{\bS}{%
32 \let\LWRmattenscross\LWRmattensnull%
33 \let\LWRmattensovercmd\overline%
34 \let\LWRmattensundercmd\LWRmattensnull%
35 \LWRmattens%
36 }}
37
38 \CustomizeMathJax{\newcommand{\bSb}{%
39 \let\LWRmattenscross\LWRmattensnull%
40 \let\LWRmattensovercmd\underline%
41 \let\LWRmattensundercmd\LWRmattensnull%
42 \LWRmattens%

```

```

43 }}
44
45 \CustomizeMathJax{\newcommand{\aSa}{%
46 \let\LWRmattenscross\LWRmattensnull%
47 \let\LWRmattensovercmd\overrightarrow%
48 \let\LWRmattensundercmd\underrightarrow%
49 \LWRmattens%
50 }}
51
52 \CustomizeMathJax{\newcommand{\aSb}{%
53 \let\LWRmattenscross\LWRmattensnull%
54 \let\LWRmattensovercmd\overrightarrow%
55 \let\LWRmattensundercmd\underline%
56 \LWRmattens%
57 }}
58
59 \CustomizeMathJax{\newcommand{\bSa}{%
60 \let\LWRmattenscross\LWRmattensnull%
61 \let\LWRmattensovercmd\overline%
62 \let\LWRmattensundercmd\underrightarrow%
63 \LWRmattens%
64 }}
65
66 \CustomizeMathJax{\newcommand{\bSb}{%
67 \let\LWRmattenscross\LWRmattensnull%
68 \let\LWRmattensovercmd\overline%
69 \let\LWRmattensundercmd\underline%
70 \LWRmattens%
71 }}
72
73 \CustomizeMathJax{\newcommand{\aCSa}{%
74 \let\LWRmattenscross\tilde%
75 \let\LWRmattensovercmd\overrightarrow%
76 \let\LWRmattensundercmd\underrightarrow%
77 \LWRmattens%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bCSb}{%
81 \let\LWRmattenscross\tilde%
82 \let\LWRmattensovercmd\overline%
83 \let\LWRmattensundercmd\underline%
84 \LWRmattens%
85 }}
86 \end{warpMathJax}

```


---

File 290 **lwarp-maybemath.sty**

§ 399 Package **maybemath**

*(Emulates or patches code by ANDY BUCKLEY.)*

Pkg maybemath maybemath is used as-is for SVG math, and is emulated for MATHJAX.

 **no effect** MATHJAX is not able to detect the surrounding text font, so all `maybe` macros are ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{maybe}[2005/2/22]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\maybe}[1]{\#1}}
4 \CustomizeMathJax{\let\maybe\maybe}
5 \CustomizeMathJax{\let\maybeit\maybe}
6 \CustomizeMathJax{\let\maybeitrm\maybe}
7 \CustomizeMathJax{\let\maybeitsubscript\maybe}
8 \CustomizeMathJax{\let\maybesf\maybe}
9 \CustomizeMathJax{\let\maybebsf\maybe}
10 \end{warpMathJax}

```

---

File 291 **lwarp-mcaption.sty**

§ 400 Package **mcaption**

*(Emulates or patches code by STEPHAN HENNIG.)*

Pkg mcaption mcaption is ignored.

**for HTML output:** Discard all options for `lwarp-mcaption`:

```

1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]

2 \newenvironment{margincap}{}{}
3 \newcommand*\margincapalign{}
4 \newlength{\margincapsep}

```

---

File 292 **lwarp-mdframed.sty**

§ 401 Package **mdframed**

*(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)*

Pkg mdframed mdframed is loaded with options forced to `framemethod=none`.

### § 401.1 **Limitations**

**support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for `mdframed` environments and frame titles.

 **loading** When used, `lwarp` loads `mdframed` in HTML with `framemethod=none`.

**font** For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the `mdframed` source). Since `lwarp` does not support `\bfseries` and friends, only one font selection may be made at a time.

**theoremtitlefont** `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

**ignored options** `userdefinedwidth` and `align` are currently ignored.

**css classes** Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `|mdframedtitle|`. Subtitles are in a `<div>` of class `|mdframedsubtitle|`, and likewise for subsubtitles.

Pre-existing hooks are used to patch extra functions before and after the frames.

### § 401.2 **Package loading**

**for HTML output:**

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require `Tikz` or `pstricks`:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

### § 401.3 **Patches**

Patch to remove PDF formatting and add HTML tags:

```
5 \AtBeginDocument{
6 \def\mdf@trivlist#1{%
7 \edef\mdf@temp{%
8 % \topsep=\the\topsep\relax%
9 % \partopsep=\the\partopsep\relax%
10 % \parsep=\the\parsep\relax%
```

```

11 }%
12 % \setlength{\topsep}{#1}%
13 % \topskip\z@%
14 % \partopsep\z@%
15 % \parsep\z@%
16 % \@nbrlistfalse%
17 % \@trivlist%
18 % \labelwidth\z@%
19 % \leftmargin\z@%
20 % \itemindent\z@%
21 \let\@itemlabel\@empty%
22 \def\makelabel##1{##1}%
23 % \item\relax\mdf@temp\relax%
24 }
25
26 \renewcommand*\@endmdf@trivlist{%
27 \LWR@traceinfo{\endmdf@trivlist}%
28 % \endtrivlist%
29 \LWR@listend%
30 }
31 }% AtBeginDocument

```

#### § 401.4 Initial setup

To handle css and paragraphs, patch code at start and end of environment and contents. `\LWR@print@raggedright` helps avoid hyphenation.

```

32 \mdfsetup{
33 startcode={\LWR@mdf@start\LWR@print@raggedright},
34endcode={\LWR@mdf@end},
35startinnercode={\LWR@startpars\LWR@print@raggedright},
36endinnercode={\LWR@stoppars},
37}

```

#### § 401.5 Color and length HTML conversion

`\LWR@mdfprintcolor`     $\{ \langle mdfcolorkey \rangle \}$

Given the `mdf@key`, print the color.

```

38 \newcommand*\LWR@mdfprintcolor[1]{%
39 \convertcolorspec{named}{\@nameuse{mdf@#1}}{HTML}\LWR@tempcolor%
40 \LWR@origpound\LWR@tempcolor
41 }

```

`\LWR@mdfprintlength`     $\{ \langle mdflengthkey \rangle \}$

Given the `mdf@key`, print the length.

```

42 \newcommand*\LWR@mdfprintlength[1]{%
43 \LWR@forceminwidth{\@nameuse{mdf@#1@length}}%
44 \LWR@printlength{\LWR@atleastonept}%
45 }

```

## § 401.6 Environment encapsulation

`\LWR@mdframedstart` Actions before an mdframe starts.

Encapsulate a frame inside a `<div>` of the desired class.

```
46 \newcommand*{\LWR@mdframedstart}{%
47 \LWR@traceinfo{\LWR@mdframedstart start}%
```

Warn if starting a frame inside a `<span>`:

```
48 \LWR@spanwarninvalid{mdframe}%
```

Turn off paragraph handling during the generation of the encapsulating tags:

```
49 \LWR@stoppars%
```

Open a `<div>` and with custom class and custom style. A `BlockClass` environment is not used because this `<div>` is created by the `mdframed` startcode and endcode settings, which do not properly nest the `<div>` inside the `mdframed` environment.

```
50 \LWR@htmltagc{div class=\textquotedbl%
51 mdframed%
52 \ifdefstring{\LWR@mdthisenv}{mdframed}}{\LWR@mdthisenv}%
53 \textquotedbl \LWR@orignewline
54 style=\textquotedbl\LWR@orignewline
```

Convert and print the background color:

```
55 background: \LWR@mdfprintcolor{backgroundcolor} ; \LWR@orignewline
```

Convert and print the border color and width:

```
56 border: \LWR@mdfprintlength{linewidth} solid
57 \LWR@mdfprintcolor{linecolor} ; \LWR@orignewline
```

Convert and print the border radius:

```
58 border-radius: \LWR@mdfprintlength{roundcorner} ; \LWR@orignewline
```

Convert and print the shadow:

```
59 \ifbool{mdf@shadow}{%
60 box-shadow:
61 \LWR@mdfprintlength{shadowsize}
62 \LWR@mdfprintlength{shadowsize}
63 \LWR@mdfprintlength{shadowsize}
64 \LWR@mdfprintcolor{shadowcolor} ;
65 }
66 {box-shadow: none ;}
67 \LWR@orignewline
```

```
68 \textquotedbl}
69 % \LWR@htmldivclass{\LWR@mdthisenv}
```

`mdframed` environment may not work with the HTML versions of the following, so restore them to their originals while inside `mdframed`:

```
70 \LWR@select@print@hspace%
71 \renewcommand*{\rule}{\LWR@print@rule}
72 \LetLtxMacro\makebox\LWR@print@makebox%
```

```
73 \LWR@startpars%
74 \LWR@traceinfo{\LWR@mdframedstart done}%
75 }
```



`\LWR@mdframedend` Actions after an mdframe ends.

After closing the `<div>`, globally restore to the default environment type:

```
76 \newcommand*{\LWR@mdframedend}{
77 \LWR@traceinfo{\LWR@mdframedend start}%
```

Close the custom `<div>`:

```
78 \LWR@htmldivclassend{\LWR@mdthisenv}
```

Reset future custom class to the default:

```
79 \gdef\LWR@mdthisenv{mdframed}
```

Resume paragraph handling:

```
80 \LWR@startpars%
81 \LWR@traceinfo{\LWR@mdframedend done}%
82 }
```

#### § 401.7 **Mdframed environment**

```
83 \renewenvironment{mdframed}[1][]{%
84 \color@begingroup%
85 \mdfsetup{userdefinedwidth=\linewidth,#1}%
86 \mdf@startcode%
87 \mdf@preenvsetting%
88 \ifdefempty{\mdf@firstframetitle}{}%
89 {\let\mdf@frametitlesave\mdf@frametitle%
90 \let\mdf@frametitle\mdf@firstframetitle%
91 }%
92 \ifvmode\nointerlineskip\fi%
93 \ifdefempty{\mdf@frametitle}{}%
94 {\mdfframedtitleenv{\mdf@frametitle}%
95 % \mdf@@frametitle@use%
96 }%
97 \mdf@trivlist{\mdf@skipabove@length}%%
98 \mdf@settings%
99 % \mdf@lrbox{\mdf@splitbox@one}%
100 % \mdf@startinnercode%
101 }%
102 {%
103 % \mdf@@ignorelastdescenders%
104 \par%
105 % \unskip\ifvmode\nointerlineskip\hrule \@height\z@ \@width\hsize\fi%
106 \ifmdf@footnoteinside%
107 \def\mdf@reserveda{%
108 \mdf@footnoteoutput%
109 % \mdf@endinnercode%
110 % \endmdf@lrbox%
111 % \ifdefempty{\mdf@frametitle}{}%
112 % {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
113 % \detected@mdf@put@frame
114 }%
115 \else%
116 \def\mdf@reserveda{%
117 % \mdf@endinnercode%
```

```

118 % \endmdf@lrbox%
119 % \ifdefempty{\mdf@frametitle}{}%
120 % {\mdfframedtitleenv{\mdf@frametitle}\mdf@frametitle@use}%
121 % \detected@mdf@put@frame%
122 \mdf@footnoteoutput%
123 }%
124 \fi%
125 \mdf@reserveda%
126 \aftergroup\endmdf@trivlist%
127 \color@endgroup%
128 \mdf@endcode%
129 }

```

\mdf@footnoteoutput

```

130 \renewrobustcmd*\mdf@footnoteoutput{%
131 \LWR@printpendingmpfootnotes%
132 }

```

## § 401.8 Titles and subtitles

\mdfframedtitleenv *{<title>}*

Place the title inside a <div> of class mdfframedtitle:

```

133 \newlength{\LWR@titleroundcorner}
134
135 \renewrobustcmd\mdfframedtitleenv[1]{%
136 \LWR@traceinfo{\LWR@mdfframedtitleenv start}%

```

Open a <div> with a custom class and custom style:

```

137 \begin{BlockClass}[%

```

Convert and print the title background color:

```

138 background:
139 \LWR@mdfprintcolor{frametitlebackgroundcolor}
140 ; \LWR@orignewline

```

Convert and print the title rule:

```

141 \ifbool{mdf@frametitlerule}{%
142 border-bottom:
143 \LWR@mdfprintlength{frametitlerulewidth}
144 solid
145 \LWR@mdfprintcolor{frametitlerulecolor}
146 ; \LWR@orignewline
147 }{}%

```

Finish the custom style and the opening <div> tag:

```

148]{mdfframedtitle}%

```

Print the title inside the <div>:

```

149 \mdf@frametitlefont{\LWR@textcurrentfont{#1}}%

```

Close the <div>:

```

150 \end{BlockClass}%

```

```
151 \LWR@traceinfo{LWR@mdframedtitleenv end}%
152 }
```

```
\LWR@mdfsubtitlecommon {<sub — or — subsub>} [<options>] {<title>}
```

Common code for \LWR@mdfsubtitle and \LWR@mdfsubsubtitle.

Encapsulate the subtitle inside a <div> of class mdframedsubtitle:

```
153 \NewDocumentCommand{\LWR@mdfsubtitlecommon}{m o m}
154 {% the following empty line is required
155
156 \LWR@traceinfo{LWR@mdframedsubtitlecommon start}%
```

Open a <div> with a custom class and custom style:

```
157 \begin{BlockClass}{%
```

Convert and print the background color:

```
158 background:
159 \LWR@mdfprintcolor{#1titlebackgroundcolor}
160 ; \LWR@orignewline
```

Convert and print the above line:

```
161 \ifbool{mdf@#1titleaboveline}{%
162 border-top:
163 \LWR@mdfprintlength{#1titleabovelinewidth}
164 solid
165 \LWR@mdfprintcolor{#1titleabovelinecolor}
166 ; \LWR@orignewline
167 }{}%
```

Convert and print the below line:

```
168 \ifbool{mdf@#1titlebelowline}{%
169 border-bottom:
170 \LWR@mdfprintlength{#1titlebelowlinewidth}
171 solid
172 \LWR@mdfprintcolor{#1titlebelowlinecolor}
173 ; \LWR@orignewline
174 }{}%
```

Finish the custom style and the opening <div> tag:

```
175]{mdframed#1title}%
```

Perform the original subtitle action:

```
176 \IfNoValueTF{#2}
177 {\@nameuse{LWR@origmdf#1title}}{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}%
178 {\@nameuse{LWR@origmdf#1title}[#2]}{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}%
```

Close the <div>:

```
179 \end{BlockClass}%
180 \LWR@traceinfo{LWR@mdframedsubtitlecommon end}%
181 }
```

```
\LWR@mdfsubtitle [<options>] {<title>}
```

```

182 \newcommand*\LWR@mdfsubtitle}{%
183 \LWR@mdfsubtitlecommon{sub}%
184 }
185 \let\mdfsubtitle\LWR@mdfsubtitle

```

`\LWR@mdfsubsubtitle` [*options*] {*title*}

```

186 \newcommand*\LWR@mdfsubsubtitle}{%
187 \LWR@mdfsubsubtitlecommon{subsub}%
188 }
189 \let\mdfsubsubtitle\LWR@mdfsubsubsubtitle

```

### § 401.9 New environments

`\LWR@mdthisenv` Stores the environment of the frame about to be created:

```

190 \newcommand*\LWR@mdthisenv}{mdframed}

```

`\newmdenv` [*options*] {*env-name*}

Modified from the original to remember the environment.

```

191 \renewrobustcmd*\newmdenv[2][]{%
192 \newenvironment{#2}%
193 {%
194 \mdfsetup{#1}%
195 \renewcommand*\LWR@mdthisenv}{md#2}%
196 \begin{mdframed}%
197 }
198 {\end{mdframed}}%
199 }

```

`\surroundwithmdframed` [*options*] {*environment*}

Modified from the original to remember the environment.

```

200 \renewrobustcmd*\surroundwithmdframed[2][]{%
201 \BeforeBeginEnvironment{#2}{%
202 \renewcommand*\LWR@mdthisenv}{md#2}%
203 \begin{mdframed}[#1]}%
204 \AfterEndEnvironment{#2}{\end{mdframed}}%
205 }

```

`\mdtheorem` [*mdframed-options*] {*envname*} [*numberedlike*] {*caption*} [*within*]

Modified from the original to remember the environment.

```

206 \DeclareDocumentCommand{\mdtheorem}{ O{ } m o m o }%
207 {\ifcsdef{#2}%
208 {\mdf@PackageWarning{Environment #2 already exists\MessageBreak}}%
209 }%
210 \IfNoValueTF {#3}%
211 {%#3 not given -- number relationship
212 \IfNoValueTF {#5}%
213 {%#3+#5 not given
214 \@definecounter{#2}%
215 \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%

```

```

216 \newenvironment{#2}[1][]{%
217 \refstepcounter{#2}%
218 \ifstrempy{##1}%
219 {\let\temptitle\relax}%
220 {%
221 \def\temptitle{\mdf@theoremseparator%
222 \mdf@theoremspace%
223 \mdf@theoremtitlefont%
224 \LWR@textcurrentfont{##1}}% lwarp
225 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
226 }%
227 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
228 \temptitle}]]%
229 {\end{mdframed}}%
230 \newenvironment{#2*}[1][]{%
231 \ifstrempy{##1}{\let\temptitle\relax}{\def\temptitle{: \ ##1}}%
232 \begin{mdframed}[#1,frametitle={\strut#4\temptitle}]]%
233 {\end{mdframed}}%
234 }%
235 {%#5 given -- reset counter
236 \@definecounter{#2}\newctr{#2}[#5]%
237 \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
238 \expandafter\xdef\csname the#2\endcsname{%
239 \expandafter\noexpand\csname the#5\endcsname \@thmcountersep%
240 \@thmcounter{#2}}%
241 \newenvironment{#2}[1][]{%
242 \refstepcounter{#2}%
243 \ifstrempy{##1}%
244 {\let\temptitle\relax}%
245 {%
246 \def\temptitle{\mdf@theoremseparator%
247 \mdf@theoremspace%
248 \mdf@theoremtitlefont%
249 \LWR@textcurrentfont{##1}}% lwarp
250 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
251 }
252 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
253 \temptitle}]]%
254 {\end{mdframed}}%
255 \newenvironment{#2*}[1][]{%
256 \ifstrempy{##1}%
257 {\let\temptitle\relax}%
258 {%
259 \def\temptitle{\mdf@theoremseparator%
260 \mdf@theoremspace%
261 \mdf@theoremtitlefont%
262 \LWR@textcurrentfont{##1}}% lwarp
263 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
264 }%
265 \begin{mdframed}[#1,frametitle={\strut#4\temptitle}]]%
266 {\end{mdframed}}%
267 }%
268 }%
269 {%#3 given -- number relationship
270 \global\@namedef{the#2}{\@nameuse{the#3}}%

```

```

271 \newenvironment{#2}[1][]{%
272 \refstepcounter{#3}%
273 \ifstrempy{##1}%
274 {\let\@temptitle\relax}%
275 {%
276 \def\@temptitle{\mdf@theoremseparator%
277 \mdf@theoremspace%
278 \mdf@theoremtitlefont%
279 \LWR@textcurrentfont{##1}}% lwarp
280 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
281 }
282 \begin{mdframed}[#1,frametitle={\strut#4 \csname the#2\endcsname%
283 \@temptitle}]]%
284 {\end{mdframed}}%
285 \newenvironment{#2*}[1][]{%
286 \ifstrempy{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ ##1}}%
287 \begin{mdframed}[#1,frametitle={\strut#4 \@temptitle}]]%
288 {\end{mdframed}}%
289 }%
290 \BeforeBeginEnvironment{#2}{\renewcommand*\LWR@mdthisenv}{md#2}}% lwarp
291 \BeforeBeginEnvironment{#2*}{\renewcommand*\LWR@mdthisenv}{md#2}}% lwarp
292 }%
293 }

```

`\newmdtheoremenv` [*⟨1: mdframed-options⟩*] [*⟨2: envname⟩*] [*⟨3: numberedlike⟩*] [*⟨4: caption⟩*] [*⟨5: within⟩*]

Modified from the original to remember the environment.

```

294 \DeclareDocumentCommand\newmdtheoremenv{O{} m o m o }{%
295 \ifboolexpr{ test {\IfNoValueTF {#3}} and test {\IfNoValueTF {#5}} }%
296 {\newtheorem{#2}{#4}}%
297 {%
298 \IfValueT{#3}{\newtheorem{#2}[#3]{#4}}%
299 \IfValueT{#5}{\newtheorem{#2}{#4}[#5]}%
300 }%
301 \BeforeBeginEnvironment{#2}{%
302 \renewcommand*\LWR@mdthisenv}{md#2}}%
303 \begin{mdframed}[#1]}%
304 \AfterEndEnvironment{#2}{%
305 \end{mdframed}}%
306 }

```

---

File 293 **lwarp-mdwmath.sty**

§ 402 Package **mdwmath**

(Emulates or patches code by MARK WOODING.)

Pkg mdwmath mdwmath is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mdwmath}[1996/04/11]

---

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\LWRmdwmathsqrt\sqrt}
4 \CustomizeMathJax{\renewcommand{\sqrt}{\ifstar\LWRmdwmathsqrt\LWRmdwmathsqrt}}
5 \CustomizeMathJax{\newcommand{\bitand}{\mathbin\&}}
6 \CustomizeMathJax{\def\bitor{\mathbin\mid}}
7 \CustomizeMathJax{\def\dblror{\mathbin{\mid\mid}}}
8 \CustomizeMathJax{\def\dblrand{\mathbin{\mathrel\bitand\mathrel\bitand}}}
9 \end{warpMathJax}

```

---

File 294 **lwarp-media9.sty**

§ 403 Package **media9**

Pkg media9 **media9** is emulated.

The packages `multimedia`, `movie15`, and `media9` are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.


HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a `YOUTUBE™` video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

 **& in a URL** Many special characters are converted to regular catcode 12 characters for use inside a URL. & is used in the flash variables fields, which are split with `xparse \SplitList`, which does not seem to work with a catcode 12 divider token, so & is not converted to catcode 12, and will not work in a URL with `media9`. Using & in a URL in a flashvars field may also cause parsing problems with print output, as well.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{media9}[2019/02/21]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}

```

`\addmediapath`     $\langle path \rangle$

Supported.

```

5 \newcommand*\LWR@medianine@path{}
6
7 \newcommand*\addmediapath}[1]{\appto\LWR@medianine@path{#{1}}}

```

The options and poster text are reused in several places.

```

8 \newcommand*\LWR@medianine@postertext{}
9 \newcommand*\LWR@medianine@options{}

```

Each addressource can generate a multimedia object.

```

10 \define@key{LWR@medianine}{addressource}{%
11 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]
12 {\LWR@medianine@postertext}
13 {#1}
14 }

```

Each flashvars source can generate a multimedia object.

```

15 \newcommand*\LWR@medianine@flashvarsb}[1]{%
16 \IfBeginWith{#1}{source=}{%
17 \StrGobbleLeft{#1}{7}[\LWR@tempone]%
18 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
19 {\LWR@medianine@postertext}%
20 {\LWR@tempone}%
21 }{%
22 \IfBeginWith{#1}{src=}{%
23 \StrGobbleLeft{#1}{4}[\LWR@tempone]%
24 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
25 {\LWR@medianine@postertext}%
26 {\LWR@tempone}%
27 }{%
28 }
29
30 \NewDocumentCommand{\LWR@medianine@flashvars}{ >{\SplitList{&}} m }{%
31 \ProcessList {#1}{\LWR@medianine@flashvarsb}%
32 }
33

```



```

34 \define@key{LWR@medianine}{flashvars}{%
35 \LWR@medianine@flashvars{#1}%
36 }

```

```

\includemedia [⟨options⟩] {⟨poster text⟩} {⟨file or url⟩}
37 \newcommand*{\LWR@includemediab}[3][[]]{%
38 \let\input@path\LWR@medianine@path%
39 \renewcommand*{\LWR@medianine@options}{#1}%
40 \renewcommand*{\LWR@medianine@postertext}{#2}%
41 \setkeys*{LWR@medianine}{#1}%
42 \IfBeginWith{#3}{http}{\LWR@multimedia[#1]{#2}{#3}}{%
43 \IfBeginWith{#3}{HTTP}{\LWR@multimedia[#1]{#2}{#3}}{%
44 \IfBeginWith{#3}{ftp}{\LWR@multimedia[#1]{#2}{#3}}{%
45 \IfBeginWith{#3}{FTP}{\LWR@multimedia[#1]{#2}{#3}}{%
46 }}}}%
47 \endgroup%
48 }
49
50 \newrobustcmd*{\includemedia}{%
51 \begingroup%
52 \LWR@linkmediacatcodes%
53 \LWR@includemediab%
54 }

```

```

\mediabutton [⟨options⟩] {⟨text⟩}
Ignored.
55 \newcommand*{\mediabutton}[2][[]]{

```

---

File 295 **lwarp-memhfixc.sty**

§ 404 Package **memhfixc**

Pkg memhfixc memhfixc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

---

File 296 **lwarp-menukeys.sty**

§ 405 Package **menukeys**

(Emulates or patches code by TOBIAS WEH.)

Pkg menukeys menukeys is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{menukeys}[2020/12/19]

Patch to use a `lateximage` whose `alt` text is the contents of this use of the macro. A hash on these contents allows the reuse of the image for each instance of the same contents.

```

2 \xpatchcmd{\tw@define@menu@macro@}
3 {\@nameuse{tw@style@#4@pre}}
4 {%
5 \begin{lateximage}*\detokenize{##2}]%
6 \@nameuse{tw@style@#4@pre}%
7 }
8 {}
9 {\LWR@patcherror{menukeys}{tw@define@menu@macro@}}
10
11 \xpatchcmd{\tw@define@menu@macro@}
12 {\@nameuse{tw@style@#4@post}}
13 {%
14 \@nameuse{tw@style@#4@post}%
15 \end{lateximage}%
16 }
17 {}
18 {\LWR@patcherror{menukeys}{tw@define@menu@macro@ B}}

```

Patch the existing macros:

```

19 \renewmenumacro{\menu}[>]{menus}
20 \renewmenumacro{\directory}[/]{paths}
21 \renewmenumacro{\keys}[+]{roundedkeys}

```

---

File 297 **lwarp-metalogo.sty**

§ 406 Package **metalogo**

*(Emulates or patches code by ANDREW GILBERT MOSCHOU.)*

Pkg metalogo metalogo is used in print mode, and emulated in HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{metalogo}[2010/05/29]

```

2 \newcommand*\LWR@HTML@setlogokern}[2]{}
3 \newcommand*\LWR@HTML@setlogodrop}[2][XeTeX]{}
4 \newcommand*\LWR@HTML@setLaTeXa}[1]{}
5 \newcommand*\LWR@HTML@setLaTeXee}[1]{}
6 \newcommand*\LWR@HTML@seteverylogo}[1]{}
7 \newcommand*\LWR@HTML@everylogo}[1]{}
8
9 \LWR@formatted{setlogokern}
10 \LWR@formatted{setlogodrop}
11 \LWR@formatted{setLaTeXa}
12 \LWR@formatted{setLaTeXee}
13 \LWR@formatted{seteverylogo}
14 \LWR@formatted{everylogo}

```

---

File 298 **lwarp-metalogox.sty**

§ 407 Package **metalogox**

(Emulates or patches code by BRIAN DUNN.)

Pkg metalogox metalogox is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{metalogox}[2019/01/20]

\AtBeginDocument, adjust the logo setting according to the font which is active at that moment.

```
2 \AtBeginDocument{
3 \let\LWR@metalogox@currentformatting\LWR@formatting
4 \renewcommand*{\LWR@formatting}{print}%
5 \autoadjustlogos*
6 \let\LWR@formatting\LWR@metalogox@currentformatting
7 }
```

---

File 299 **lwarp-mhchem.sty**

§ 408 Package **mhchem**

(Emulates or patches code by MARTIN HENSEL.)

Pkg mhchem mhchem is patched for use by lwarp.

**without MATHJAX** Without MATHJAX, mhchem expressions are converted to svg math. Inline expressions use hashed filenames to allow reuse, and assume that any mhchem options are global.

**MATHJAX with mhchem extension** For MATHJAX, the mhchem extension is used if the mhchem expression is used inside a math expression:

$$\text{\ce{C6H5-CHO}}$$

To force the use of svg math for an expression which does not work with MATHJAX, place the expression between `\displaymathother` and `\displaymathnormal`:

```
\displaymathother
[\ce{ . . . }] . . . $ \ce { . . . } $
\displaymathnormal
```

not inside math

If *not* used inside a math expression, lwarp converts standalone mhchem expressions into svg math images.



**nested math**

When producing HTML output without the MATHJAX mhchem extension, lwarp does not support the use of nested dollar signs in mhchem expressions.

For some examples from the mhchem manual, change as follows:

|                                             |       |
|---------------------------------------------|-------|
| $\text{\ce{NaOH(aq, \infty)}}$              | % old |
| $\text{\ce{NaOH(aq, \infty)}}$              | % new |
| $\text{\ce{Fe(CN)_{\frac{6}{2}}}}$          | % old |
| $\text{\ce{Fe(CN)_{\frac{6}{2}}}}$          | % new |
| $\text{\ce{NO_x}}$                          | % old |
| $\text{\ce{NO_x}}$                          | % new |
| $\text{\ce{NO_{x}}}$                        | % old |
| $\text{\ce{NO_{x}}}$                        | % new |
| $\text{\ce{\$cis\{-}[PtCl2(NH3)2]}}$        | % old |
| $\text{\ce{\mathit{cis}\{-}[PtCl2(NH3)2]}}$ | % new |

for HTML output: 1 \LWR@ProvidesPackagePass{mhchem}[2018/06/22]

The original definition of \ce:

```
2 \LetLtxMacro\LWR@mhchem@origce\ce
```

The new definition, called from the new \ce after math shift is set. The starred lateximage uses a hashed filename for the svg image. The alt tag is set to the mhchem expression.

```
3 \newcommand{\LWR@mhchem@HTML@ce}[1]{%
4 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
5 \ifbool{\LWR@xfakebold}%
6 {\def\LWR@tempone{Y}}%
7 {\def\LWR@tempone{N}}%
8 \begin{lateximage}*\[\textbackslash\}ce{\LWR@HTMLsanitize{#1}\}%
9 [%
10 FM\LWR@f@family%
11 SR\LWR@f@series%
12 SH\LWR@f@shape%
13 SHC\LWR@f@shapecaps%
14 CL\LWR@tempcolor%
15 FB\LWR@tempone% xfakebold
16]%
17 \LWR@setcurrentfont%
18 \LWR@mhchem@origce{#1}%
19 \end{lateximage}%
20 \endgroup%
21 \addtocounter{\LWR@mhchem@cedepth}{-1}%
22 }
```

Only set math shift if outer depth:

```
23 \newcounter{\LWR@mhchem@cedepth}
24 \setcounter{\LWR@mhchem@cedepth}{0}
```

The new `\ce`. Sets math shift then continues.

```

25 \renewcommand{\ce}{%
26 \begingroup%
27 \ifnumequal{\value{LWR@mhchem@cedepth}}{0}{%
28 \catcode'\$=3% math shift
29 }{}%
30 \addtocounter{LWR@mhchem@cedepth}{1}%
31 \LWR@mhchem@HTML@ce%
32 }

```

The original definition of `\cesplit`:

```

33 \LetLtxMacro\LWR@mhchem@origcesplit\cesplit

```

The new definition, called from the new `\cesplit` after math shift is set. The starred `lateximage` uses a hashed filename for the `svg` image. The `alt` tag is set to the `mhchem` expression.

```

34 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]
35 {%
36 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
37 \ifbool{LWR@xfakebold}%
38 {\def\LWR@tempone{Y}}%
39 {\def\LWR@tempone{N}}%
40 \begin{lateximage}*[\textbackslash{}cesplit\{\LWR@HTMLsanitize{#2}\}]*%
41 [%
42 FM\LWR@f@family%
43 SR\LWR@f@series%
44 SH\LWR@f@shape%
45 SHC\LWR@f@shapecaps%
46 CL\LWR@tempcolor%
47 FB\LWR@tempone% xfakebold
48]%
49 \LWR@setcurrentfont%
50 \LWR@mhchem@origcesplit{#1}{#2}%
51 \end{lateximage}%
52 \endgroup%
53 }

```

Only set math shift if outer depth:

```

54 \newcounter{LWR@mhchem@cesplitdepth}
55 \setcounter{LWR@mhchem@cesplitdepth}{0}

```

The new `\cesplit`. Sets math shift then continues.

```

56 \renewcommand{\cesplit}{%
57 \begingroup%
58 \ifnumequal{\value{LWR@mhchem@cesplitdepth}}{0}{%
59 \catcode'\$=3% math shift
60 }{}%
61 \addtocounter{LWR@mhchem@cesplitdepth}{1}%
62 \LWR@mhchem@HTML@cesplit%
63 }

```

Resore originals inside a lateximage:

```
64 \appto\LWR@restoreorigformatting{%
65 \LetLtxMacro\ce\LWR@mhchem@origce%
66 \LetLtxMacro\cesplit\LWR@mhchem@origcesplit%
67 }
68
69 \begin{warpMathJax}
70 \CustomizeMathJax{\require{mhchem}}
71 \end{warpMathJax}
```

---

File 300 **lwarp-microtype.sty**

§ 409 Package **microtype**

*(Emulates or patches code by R SCHLICHT.)*

Pkg microtype microtype is pre-loaded by lwarp. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for lwarp-microtype:

```
1 \LWR@ProvidesPackageDrop{microtype}[2018/01/14]

2 \DeclareDocumentCommand{\DeclareMicrotypeSet}{o m m}{}
3 \DeclareDocumentCommand{\UseMicrotypeSet}{o m}{}
4 \DeclareDocumentCommand{\DeclareMicrotypeSetDefault}{o m}{}
5 \DeclareDocumentCommand{\SetProtrusion}{o m m}{}
6 \DeclareDocumentCommand{\SetExpansion}{o m m}{}
7 \DeclareDocumentCommand{\SetTracking}{o m m}{}
8 \DeclareDocumentCommand{\SetExtraKerning}{o m m}{}
9 \DeclareDocumentCommand{\SetExtraSpacing}{o m m}{}
10 \DeclareDocumentCommand{\DisableLigatures}{o m}{}
11 \DeclareDocumentCommand{\DeclareCharacterInheritance}{o m m}{}
12 \DeclareDocumentCommand{\DeclareMicrotypeVariants}{m}{}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m}{}
14 \DeclareDocumentCommand{\LoadMicrotypeFile}{m}{}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m}{}
16 \DeclareDocumentCommand{\microtypesetup}{m}{}
17 \DeclareDocumentCommand{\microtypecontext}{m}{}
18 \DeclareDocumentCommand{\textmicrotypecontext}{m m}{#2}
19 \ifpackageloaded{letterspace}{\let\MT@textls\relax}{%
20 \DeclareDocumentCommand{\lsstyle}{}{}}
21 \DeclareDocumentCommand{\textls}{o +m}{}
22 \DeclareDocumentCommand{\lslig}{m}{#1}
23 }
24 \def\DeclareMicrotypeSet#1#{\@gobbletwo}
25 \def\DeclareMicrotypeVariants#1#{\@gobble}
26 \@onlypreamble\DeclareMicrotypeSet
27 \@onlypreamble\UseMicrotypeSet
28 \@onlypreamble\DeclareMicrotypeSetDefault
29 \@onlypreamble\DisableLigatures
30 \@onlypreamble\DeclareMicrotypeVariants
```

---

```
31 \@onlypreamble\DeclareMicrotypeBabelHook
```

---

File 301 **lwarp-midfloat.sty**

§ 410 Package **midfloat**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg midfloat midfloat is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{midfloat}[2012/05/29]

```
2 \newenvironment{strip}[1][{}]{}
```

```
3 \newskip\stripsep
```

---

File 302 **lwarp-midpage.sty**

§ 411 Package **midpage**

Pkg midpage midpage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{midpage}[2009/09/03]

```
2 \newenvironment{midpage}
```

```
3 {\begin{BlockClass}[%
```

```
4 \LWR@print@mbbox{margin-top:6ex} ; \LWR@print@mbbox{margin-bottom:6ex}%
```

```
5]{midpage}}
```

```
6 {\end{BlockClass}}
```

---

File 303 **lwarp-minibox.sty**

§ 412 Package **minibox**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg minibox minibox is patched for use by lwarp.

Due to HTML limitations regarding paragraphs and <div>s, miniboxes inline with other text will appear on their own line.

**for HTML output:** 1 \LWR@ProvidesPackagePass{minibox}[2013/06/21]

```
2 \ExplSyntaxOn
```

```
3 \newcommand\LWR@HTML@minibox[2][{}]{%
```

```
4 \LWR@stoppars%
```

```
5 \group_begin:
```

```

6 \keys_set:nn {minibox} {#1}
7 \bool_if:NTF \l_minibox_frame_bool
8 {
9 \setlength\fbboxrule{\l_minibox_rule_dim}
10 \setlength\fbboxsep{\l_minibox_pad_dim}
11 \fbboxBlock{%
12 \begin{tabular}[\l_minibox_tabular_valign_tl]%
13 {\l_minibox_tabular_preamble_tl}
14 {#2}
15 \end{tabular}
16 }%
17 }
18 {
19 \begin{BlockClass}[display:inline-block]{minibox}
20 \begin{tabular}[\l_minibox_tabular_valign_tl]%
21 {\l_minibox_tabular_preamble_tl}
22 {#2}
23 \end{tabular}
24 \end{BlockClass}
25 }
26 \group_end:
27 \LWR@startpars%
28 }
29 \ExplSyntaxOff
30
31 \LWR@formatted{minibox}

```

---

File 304 **lwarp-minitoc.sty**

§ 413 Package **minitoc**

Pkg minitoc minitoc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{minitoc}[2018/07/12]

mtcoff disables minitoc.

2 \usepackage{mtcoff}


---

File 305 **lwarp-minted.sty**

§ 414 Package **minted**

(Emulates or patches code by GEOFFREY M. POORE.)

Pkg minted minted is patched for use by lwarp.

 **limitations** mathescape and highlightlines don't work. Line numbers on the right will not be aligned. Due to *pdftotext*, extra spaces may appear in broken lines if other formatting is included.



```

for HTML output: 1 \LWR@ProvidesPackagePass{minted}[2017/07/19]

2 \xpatchcmd{\minted}
3 {\setkeys{minted@opt@cmd}{#1}}
4 {%
5 \setkeys{minted@opt@cmd}{%
6 #1,%
7 mathescape=false,breaklines,texcomments=false,highlightlines={}%
8 }%
9 }
10 {}
11 {\LWR@patcherror{minted}{minted}}
12
13 \xpatchcmd{\mintinline}
14 {\setkeys{minted@opt@cmd}{#1}}
15 {\setkeys{minted@opt@cmd}{%
16 #1,%
17 mathescape=false,breaklines,texcomments=false,highlightlines={}%
18 }%
19 }
20 {}
21 {\LWR@patcherror{minted}{mintinline}}
22
23 \xpatchcmd{\mint}
24 {\setkeys{minted@opt@cmd}{#1}}
25 {%
26 \setkeys{minted@opt@cmd}{%
27 #1,%
28 mathescape=false,breaklines,texcomments=false,highlightlines={}%
29 }%
30 }
31 {}
32 {\LWR@patcherror{minted}{mint}}
33
34 \xpatchcmd{\inputminted}
35 {\setkeys{minted@opt@cmd}{#1}}
36 {\setkeys{minted@opt@cmd}{%
37 #1,%
38 mathescape=false,breaklines,texcomments=false,highlightlines={}%
39 }%
40 }
41 {}
42 {\LWR@patcherror{minted}{inputminted}}

```


---

File 306 **lwarp-mismath.sty**

§ 415 Package **mismath**

(Emulates or patches code by ANTOINE MISSIER.)

Pkg mismath mismath is patched for SVG math, and emulated for MATHJAX.

 **MATHJAX** \enumber, \inumber, \jnumber, and \pinumber are ignored for MATHJAX, except that

`\itpi` is made available as a clone of `\pi`.

For MATHJAX, `\boldvect` and `\arrowvect` are honored if in the preamble.

If `\boldvectcommand` is set to `\mathbf` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathit`. `\boldvectcommand` may also be set with `\CustomizeMathJax` in the preamble. See section 8.7.5. Note that as of this writing there is not a bold italic font across all MATHJAX fonts.

If `\probastyle` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathrm`. `\probastyle` may be set with `\CustomizeMathJax` in the preamble.

If `\mathset` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathbf`. `\mathset` may be set with `\CustomizeMathJax` in the preamble.

**for HTML output:** `1 \LWR@ProvidesPackagePass{mismath}[2019/12/27]`

For MATHJAX, used in the HTML comment before the environment.

```

2 \ifbool{mathjax}{
3 \RenewEnviron{mathcols}{%
4 \preto\BODY{\begin{aligned}\displaystyle}
5 \appto\BODY{\end{aligned}}
6 \expandafter\(\BODY\)
7 }
8 }% mathjax

```

For svg math. The `lateximage` restores the original definition of the math environment.

```

9 {% svg
10 \renewenvironment{mathcols}{
11 \begin{lateximage}
12 \begin{math}
13 \begin{aligned}\displaystyle
14 }{
15 \end{aligned}%
16 \end{math}
17 \end{lateximage}
18 }
19 }% svg
20
21 \renewcommand{\changeacol}{
22 \end{aligned} \quad
23 \begin{aligned}\displaystyle
24 }
25
26 \begin{warpMathJax}
27 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}
28 \CustomizeMathJax{\newcommand{\e}{\mathrm{e}}}
29 \CustomizeMathJax{\newcommand{\i}{\mathrm{i}}}
30 \CustomizeMathJax{\newcommand{\j}{\mathrm{j}}}
31
32 \CustomizeMathJax{\newcommand{\boldvect}{}}
33 \CustomizeMathJax{\newcommand{\arrowvect}{}}

```

```

34 \CustomizeMathJax{\newcommand{\pinumber}[1][{}]}
35 \CustomizeMathJax{\newcommand{\hvect}[1]{\vec{\vphantom{h}#1}}}
36 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{\vphantom{t}#1}}}
37 \CustomizeMathJax{%
38 \newcommand{\norm}[1]{\left\| \left\| \left\| \left\| \right\| \right\| \right\| \right\|}
39 }
40 \CustomizeMathJax{\newcommand{\di}{\mathop{\!|\!|}\mathrm{d}}}
41
42 \CustomizeMathJax{\newcommand{\P}{\operatorname{\probastyle{P}}}}
43 \CustomizeMathJax{\newcommand{\E}{\operatorname{\probastyle{E}}}}
44 \CustomizeMathJax{\newcommand{\V}{\operatorname{\probastyle{V}}}}
45 \CustomizeMathJax{\newcommand{\Par}{\unicode{x00B6}}}
46
47 \CustomizeMathJax{\DeclareMathOperator{\adj}{adj}}
48 \CustomizeMathJax{\DeclareMathOperator{\Aut}{Aut}}
49 \CustomizeMathJax{\DeclareMathOperator{\Conv}{Conv}}
50 \CustomizeMathJax{\DeclareMathOperator{\cov}{cov}}
51 \CustomizeMathJax{\DeclareMathOperator{\Cov}{Cov}}
52 \CustomizeMathJax{\newcommand{\curl}{\operatorname{\vect{\mathrm{curl}}}}}
53 \CustomizeMathJax{\DeclareMathOperator{\divg}{div}}
54 \CustomizeMathJax{\DeclareMathOperator{\End}{End}}
55
56 \CustomizeMathJax{\DeclareMathOperator{\erf}{erf}}
57 \CustomizeMathJax{\newcommand{\grad}{\operatorname{\vect{\mathrm{grad}}}}}
58 \CustomizeMathJax{\DeclareMathOperator{\id}{id}}
59 \CustomizeMathJax{\DeclareMathOperator{\Id}{Id}}
60 \CustomizeMathJax{\DeclareMathOperator{\im}{im}}
61 \CustomizeMathJax{\let\oldIm\Im}
62 \CustomizeMathJax{\renewcommand{\Im}{\operatorname{Im}}}
63 \CustomizeMathJax{\DeclareMathOperator{\lb}{lb}}
64 \CustomizeMathJax{\DeclareMathOperator{\lcm}{lcm}}
65
66 \CustomizeMathJax{\DeclareMathOperator{\rank}{rank}}
67 \CustomizeMathJax{\let\oldRe\Re}
68 \CustomizeMathJax{\renewcommand{\Re}{\operatorname{Re}}}
69 \CustomizeMathJax{\newcommand{\rot}{\operatorname{\vect{\mathrm{rot}}}}}
70 \CustomizeMathJax{\DeclareMathOperator{\sgn}{sgn}}
71 \CustomizeMathJax{\DeclareMathOperator{\spa}{span}}
72 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
73 \CustomizeMathJax{\DeclareMathOperator{\Var}{Var}}
74 \CustomizeMathJax{\DeclareMathOperator{\Zu}{Z}}
75
76 \CustomizeMathJax{\DeclareMathOperator{\arccot}{arccot}}
77 \CustomizeMathJax{\DeclareMathOperator{\sech}{sech}}
78 \CustomizeMathJax{\DeclareMathOperator{\csch}{csch}}
79 \CustomizeMathJax{\DeclareMathOperator{\arsinh}{arsinh}}
80 \CustomizeMathJax{\DeclareMathOperator{\arcosh}{arcosh}}
81 \CustomizeMathJax{\DeclareMathOperator{\artanh}{artanh}}
82 \CustomizeMathJax{\DeclareMathOperator{\arcoth}{arcoth}}
83 \CustomizeMathJax{\DeclareMathOperator{\arsech}{arsech}}
84 \CustomizeMathJax{\DeclareMathOperator{\arcsch}{arcsch}}
85
86 \CustomizeMathJax{\DeclareMathOperator{\bigO}{\mathcal{O}}}
87 \CustomizeMathJax{\DeclareMathOperator{\bigo}{O}}
88 \CustomizeMathJax{\DeclareMathOperator{\lito}{o}}

```

```

89
90 \CustomizeMathJax{\newcommand{\R}{\mathset{R}}}
91 \CustomizeMathJax{\newcommand{\C}{\mathset{C}}}
92 \CustomizeMathJax{\newcommand{\N}{\mathset{N}}}
93 \CustomizeMathJax{\newcommand{\Z}{\mathset{Z}}}
94 \CustomizeMathJax{\newcommand{\Q}{\mathset{Q}}}
95 \CustomizeMathJax{\newcommand{\F}{\mathset{F}}}
96 \CustomizeMathJax{\newcommand{\K}{\mathset{K}}}
97
98 \CustomizeMathJax{\newcommand{\ds}{\displaystyle}}
99 \CustomizeMathJax{\newcommand{\dlim}{\lim\limits}}
100 \CustomizeMathJax{\newcommand{\dsum}{\sum\limits}}
101 \CustomizeMathJax{\newcommand{\dprod}{\prod\limits}}
102 \CustomizeMathJax{\newcommand{\dcup}{\bigcup\limits}}
103 \CustomizeMathJax{\newcommand{\dcap}{\bigcap\limits}}
104 \CustomizeMathJax{\newcommand{\lbar}{\overline}}
105 \CustomizeMathJax{\newcommand{\hlbar}[1]{\overline{\vphantom{h}#1}}}
106 \CustomizeMathJax{\newcommand{\eqdef}{\stackrel{\mathrm{def}}{=}}}
107 \CustomizeMathJax{\newcommand{\unbr}{\underbrace}}
108 \CustomizeMathJax{\newcommand{\iif}{if and only if }}
109
110 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
111 \CustomizeMathJax{\newcommand{\then}{\ \Longrightarrow \ \mbox{ } }}
112 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{#1}\quad}}
113 \CustomizeMathJax{\newcommand{\paren}[1]{\mathopen{\left(#1 \right)}}}
114 \CustomizeMathJax{\newcommand{\pow}[2]{\left(#1 \right)^{\!#2}}}
115 \CustomizeMathJax{\newcommand{\abs}[1]{\left| \! \left| #1 \right| \! \right|}}
116 \CustomizeMathJax{\newcommand{\lfrac}[2]{\frac{\!#1\!}{\!#2\!}}}
117
118 \CustomizeMathJax{\newenvironment{system}[1][l]%
119 {\left\{\begin{array}{@{.15em}#1@{}}
120 {\end{array}\right.}
121 }
122
123 \CustomizeMathJax{\newenvironment{spmatrix}
124 {\left(\begin{smallmatrix}
125 {\end{smallmatrix}\right)}
126 }
127
128 \CustomizeMathJax{%
129 \newenvironment{mathcols}
130 {\begin{aligned}\displaystyle}
131 {\end{aligned}}
132 }
133 \CustomizeMathJax{\newcommand{\changepcol}{\end{aligned}\quad\begin{aligned}}}

```

User-adjustable settings, detected if in the preamble.

```

134 \AtBeginDocument{
135 \ifdef{\itpi}{
136 \CustomizeMathJax{\let\itpi\pi}
137 }{ }
138 \ifdefstring{\boldvectcommand}{\mathbf}{
139 \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\mathbf{#1}}}
140 }{ }

```

```

141 \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\boldsymbol{#1}}}
142 }
143 \ifbool{arrowvect}{
144 \CustomizeMathJax{\newcommand{\vect}[1]{\overrightarrow{#1}}}
145 }{
146 \CustomizeMathJax{\newcommand{\vect}[1]{\boldvectcommand{#1}}}
147 }
148 \ifdefstring{\probastyle}{\mathbb}{
149 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathbb{#1}}}
150 }{
151 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathrm{#1}}}
152 }
153 \ifdefstring{\mathset}{\mathbb}{
154 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbb{#1}}}
155 }{
156 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbf{#1}}}
157 }
158 }
159 \end{warpMathJax}

```

---

File 307 **lwarp-mleftright.sty**

§ 416 Package **mleftright**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg mleftright mleftright is used as-is, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mleftright}[2019/12/03]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mleft}{\left}}
4 \CustomizeMathJax{\newcommand{\mright}{\right}}
5 \CustomizeMathJax{\newcommand{\mleftright}{}}
6 \CustomizeMathJax{\newcommand{\mleftrightrestore}{}}
7 \end{warpMathJax}

```

---

File 308 **lwarp-morefloats.sty**

§ 417 Package **morefloats**

Pkg morefloats morefloats is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

File 309 **lwarp-moreverb.sty**

§ 418 Package **moreverb**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg moreverb **moreverb** is supported with some patches.

```

1 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]

2 \BeforeBeginEnvironment{verbatim}{%
3 \LWR@forcenewpage
4 \LWR@atbeginverbatim{Verbatim}%
5 }
6 \AfterEndEnvironment{verbatim}{%
7 \LWR@afterendverbatim%
8 }
9
10
11 \LetLtxMacro\LWRMV@orig@verbatiminput\@verbatiminput
12
13 \renewcommand{\@verbatiminput}[2][]{%
14 \LWR@forcenewpage
15 \LWR@atbeginverbatim{Verbatim}%
16 \LWRMV@orig@verbatiminput[#1]{#2}%
17 \LWR@afterendverbatim%
18 }
19
20 \BeforeBeginEnvironment{listing}{%
21 \LWR@forcenewpage
22 \LWR@atbeginverbatim{programlisting}%
23 }
24
25 \AfterEndEnvironment{listing}{%
26 \LWR@afterendverbatim%
27 }
28
29 \BeforeBeginEnvironment{listingcont}{%
30 \LWR@forcenewpage
31 \LWR@atbeginverbatim{programlisting}%
32 }
33
34 \AfterEndEnvironment{listingcont}{%
35 \LWR@afterendverbatim%
36 }

37 \LetLtxMacro\LWRMV@listinginput\@listinginput
38
39 \renewcommand{\@listinginput}[3][]{
40 \LWR@forcenewpage
41 \LWR@atbeginverbatim{programlisting}%

```

```
42 \LWRMV@listinginput[#1]{#2}{#3}%
43 \LWR@afterendverbatim%
44 }
45
46
47 \renewenvironment*{boxedverbatim}
48 {
49 \LWR@forcenewpage
50 \LWR@atbeginverbatim{boxedverbatim}%
51 \verbatim%
52 }
53 {
54 \endverbatim%
55 \LWR@afterendverbatim%
56 }
```

---

File 310 **lwarp-movie15.sty**

§ 419 Package **movie15**

Pkg movie15 movie15 is emulated.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each addressource=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 \addmediapath is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each <audio> and <video> object.

media9 slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{movie15}[2012/05/16]

2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
5
6 \newcommand*\LWR@moviefifteen@text{}
7
8 \define@key{LWR@moviefifteen}{text}{\renewcommand{\LWR@moviefifteen@text}{#1}}
9
10 \newcommand*\LWR@includemovie}[4][[]]{%
11 \renewcommand{\LWR@moviefifteen@text}{(multimedia)}
12 \setkeys*LWR@moviefifteen}{#1}%
13 \LWR@multimedias[#1,width=#2,height=#3]{\LWR@moviefifteen@text}{#4}%
14 }
15
16 \newrobustcmd*\includemovie){%
17 \begingroup%
18 \LWR@linkmediacatcodes%
19 \LWR@includemovieb%
20 }
21
22
23 \newcommand*\movieref}[3][[]]{
24
25 \LetLtxMacro\movie\LWR@multimedia
26 % \LetLtxMacro\sound\LWR@multimedia% not in media15
27
28 \newcommand{\hyperlinkmovie}[3][[]]{

```

---

File 311 **lwarp-mparhack.sty**

§ 420 Package **mparhack**

Pkg mparhack mparhack is ignored.

**for HTML output:** Discard all options for lwarp-mparhack:

```

1 \LWR@ProvidesPackageDrop{mparhack}[2005/04/17]

```



---

File 312 **lwarp-multibib.sty**

§ 421 Package **multibib**

*(Emulates or patches code by THORSTEN HANSEN.)*

Pkg multibib multibib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{multibib}[2008/12/10]

2 \xpatchcmd{\newcites}
3 {{{\@suffix}}}
4 {{{\@suffix_html}}}
5 {}
6 {\LWR@patcherror{multibib}{newcites}}
```

---

File 313 **lwarp-multicap.sty**

§ 422 Package **multicap**

Pkg multicap multicap is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multicap}[2002/05/04]

2 \newcommand*{\mfcaption}{\captionof{figure}}
3 \newcommand*{\mtcaption}{\captionof{table}}
4 \newcounter{mcapsize}
5 \newcounter{mcapskip}
6 \newlength{\abvmcapskip}
7 \newlength{\blwmcapskip}
```

---

File 314 **lwarp-multicol.sty**

§ 423 Package **multicol**

*(Emulates or patches code by FRANK MITTELBACH.)*

Pkg multicol multicol is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multicol}[2018/12/27]
```

Multicols are converted into a 1–3 column display, browser-supported.

The optional multicol heading is placed inside a <div> of class multicolshheading.

The content is placed inside a <div> of class multicol.

```
Env multicol * {<numcols>} [<heading>]
2 \NewDocumentEnvironment{multicol}{s m o}
```

HTML <div> class to contain everything:

```
3 {
4 \LWR@forcenewpage
5 \BlockClass{multicol}
```

Optional HTML <div> class for the heading:

```
6 \IfValueT{#3}{\begin{BlockClass}{multicolshheading}#3\end{BlockClass}}%
```

Change \linewidth to compensate for expected size:

```
7 \setlength{\linewidth}{\linewidth/#2}
```

Locally force any minipages to be fullwidth:

```
8 \booltrue{LWR@forceminipagefullwidth}
9 }
```

When done with the environment, close the <div>:

```
10 {\endBlockClass}
```

Emulated null functions which are not used in HTML:

```
11 \newcommand*{\columnbreak}{}
12 \newcommand*{\RLmulticolcolumns}{}
13 \newcommand*{\LRmulticolcolumns}{}
14
15 \newlength{\premulticol}
16 \newlength{\postmulticol}
17 \newlength{\multicolsep}
18 \newlength{\multicolbaselineskip}
19 \newlength{\multicoltolerance}
20 \newlength{\multicolpretolerance}
21 \newcommand*{\columnseprulecolor}{\normalcolor}
22 \newcounter{columnbadness}
23 \newcounter{finalcolumnbadness}
24 \newcounter{collectmore}
25 \newcounter{unbalance}
26 \newlength{\multicolovershoot}
27 \newlength{\multicolundershoot}

28 \NewDocumentCommand{\docolaction}{s o m m m}{%
29 \IfValueTF{#2}{#2}{#3}%
30 }
```

---

File 315 **lwarp-multicolrule.sty**

§ 424 Package **multicolrule**

Pkg multicolrule multicolrule is ignored.

**for HTML output:**

```

1 \RequirePackage{multicol}
2
3 \LWR@ProvidesPackageDrop{multicolrule}[2019/01/01]

4 \newcommand*{\SetMCRule}[1]{}
5 \NewDocumentCommand{\DeclareMCRulePattern}{m m}{}

```

---

File 316 **lwarp-multimedia.sty**

§ 425 Package **multimedia**

Pkg multimedia multimedia is emulated.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each addressource=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 \addmediapath is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each <audio> and <video> object.

media9 slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multimedia}[2012/05/02]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \LetLtxMacro\movie\LWR@multimedia
5 \LetLtxMacro\sound\LWR@multimedia
6
7 \newcommand{\hyperlinkmovie}[3][[]]{}
```

---

File 317 **lwarp-multiobjective.sty**

§ 426 Package **multiobjective**

*(Emulates or patches code by LUIS MARTÍ.)*

Pkg multiobjective **multiobjective** is used as-is for svg math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{multiobjective}[2008/08/19]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\dom}{\prec}}
4 \CustomizeMathJax{\newcommand{\negdom}{\not\prec}}
5 \CustomizeMathJax{\newcommand{\weakdom}{\preccurlyeq}}
6 \CustomizeMathJax{\newcommand{\negweakdom}{\not\preccurlyeq}}
7 \CustomizeMathJax{\newcommand{\strictdom}{\mathord{\prec}\!\!\!\mathord{\prec}}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\mathord{\not\prec}\!\!\!\mathord{\prec}}}
9 \CustomizeMathJax{\newcommand{\multepsilondom}{\preccurlyeq_{\epsilon\cdot}}}
10 \CustomizeMathJax{\newcommand{\addiepsilondom}{\preccurlyeq_{\epsilon +}}}
11 \CustomizeMathJax{\newcommand{better}{\triangleleft}}
12 \CustomizeMathJax{\def\vec#1{%
13 \mathchoice%
14 {{\displaystyle\boldsymbol{#1}}}%
15 {{\textstyle\boldsymbol{#1}}}%
16 {{\scriptstyle\boldsymbol{#1}}}%
17 {{\scriptscriptstyle\boldsymbol{#1}}}%
18 }}
19
20 \CustomizeMathJax{\newcommand{\set}[1]{%
21 \mathchoice%
22 {{\displaystyle\mathcal{#1}}}%
23 {{\textstyle\mathcal{#1}}}%
24 {{\scriptstyle\mathcal{#1}}}%
25 {{\scriptscriptstyle\mathcal{#1}}}%
26 }}
```

```

25 {{\scriptscriptstyle\mathcal{#1}}}%
26 }}
27 \CustomizeMathJax{\def\argmax{\mathop{\{\mathrm{arg}}\}\, \max}}
28 \CustomizeMathJax{\def\argmin{\mathop{\{\mathrm{arg}}\}\, \min}
29 }}
30 \end{warpMathJax}

```

File 318 **lwarp-multirow.sty**

§ 427 Package **multirow**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg multirow **multirow** is emulated during HTML output, and used as-is while inside a lateximage.

**vposn** • Note that recent versions of **multirow** include a new optional **vposn** argument.

**multirow cells** • For **multirow**, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```

... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...

```

**colored cells** • The **multirow** documentation regarding colored cells recommends using a negative number of rows. This will not work with **lwarp**, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

with `\multicolumn` • See section 427.2 for `\multicolumnrow`.

⚠ `\multicolumn` & `\multirow` **lwarp** does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ **skipped cells** As per **multirow**, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

⚠ **empty cells**

```

... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & & \mcolrowcell & ...
... & \mcolrowcell & & \mcolrowcell & ...

```

⚠ **MathJax** • **MATHJAX** does not support **multirow**, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or `svg math`.

In a `lateximage`, the print versions are restored.

See section 75.24 for the print-mode versions.

**for HTML output:** Remove the placeholder macro which was used if multirow was not loaded:

```
1 \LetLtxMacro\multirow\relax
2 \LWR@ProvidesPackagePass{multirow}[2021/01/29]
```

`\LWR@multirowborder` Set to left or right to create a thick border for the cell, for use by `bigdelim`:

```
3 \newcommand{\LWR@multirowborder}{}
```

### § 427.1 **Multirow**

`\LWR@multirow@par` `\par` inside a `\multirow`.

```
4 \newcommand*\LWR@multirow@par{\LWR@htmltag{br /}\LWR@origpar}%
```

`\multirow` [*vpos*] [*numrows*] [*bigstruts*] [*width*] [*fixup*] [*text*]

```
5 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}%
6 {%
7 \LWR@traceinfo{*** LWR@HTML@multirow #1 #2 #4}%
```

```
8 \booltrue{LWR@usedmultirow}%
```

```
9 \LWR@maybenewtablerow%
10 \LWR@tabularleftedge%
```

Print the start of a new table data cell:

```
11 \LWR@htmltag{td rowspan=\textquotedbl#2\textquotedbl\ %
```

A class adds the column spec and the rule:

```
12 class=\textquotedbl{}td%
```

Append this column's spec:

```
13 \LWR@getexparray{LWR@tablecolspec}{\arabic{LWR@tableLaTeXcolindex}}%
```

If this column has a `cmidrule`, add “rule” to the end of the HTML class tag. Also add the vertical bar class.

```
14 \LWR@addcmidruletrim%
15 \LWR@addleftmostbartag%
16 \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
17 \textquotedbl%
```

```
18 \LWR@tdstartstyles%
```

The vertical alignment, if given:

```
19 \ifstrequal{#1}{c}{\LWR@tdaddstyle\LWR@print@box{vertical-align:middle}}{}%
20 \ifstrequal{#1}{b}{\LWR@tdaddstyle\LWR@print@box{vertical-align:bottom}}{}%
21 \ifstrequal{#1}{t}{\LWR@tdaddstyle\LWR@print@box{vertical-align:top}}{}%
```

The left/right border, if given:

```
22 \ifdefvoid{\LWR@multirowborder}{}{%
23 \LWR@tdaddstyle%
24 \LWR@print@ebox{border-\LWR@multirowborder:} 2px dotted black ; %
25 \LWR@print@ebox{padding-\LWR@multirowborder:} 2px%
26 }%
```

Additional style elements:

```
27 \LWR@addcmidrulewidth%
28 \LWR@addcdashline%
29 \LWR@addtabularrulecolors%
30 \LWR@tdendstyles%
31 }%
```

The column's < spec:

```
32 \LWR@getexparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
```

While printing the text, redefine `\` to generate a new line. If a nested tabular occurs, `\` is redefined to `\LWR@tabularendofline` at the start of the tabular, then `\LWR@endofline` before again printing any `\multirow` contents inside the nested tabular.

`\par` is redefined to insert an HTML break, and if tabular is nested, it is redefined at the start of tabular.

```
33 \begingroup%
34 \LetLtxMacro{\}{\LWR@endofline}%
35 \let\par\LWR@multirow@par%
36 #6%
37 \endgroup%
38 \LWR@stoppars%
39 \boolfalse{\LWR@intabularmetadata}%
40 \renewcommand{\LWR@multirowborder}{}%
41 \LWR@traceinfo{*** LWR@HTML@multirow done}%
42 }%
43
44 \LWR@formatted{multirow}
```

## § 427.2 Combined multicolumn and multirow

```
\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}
```

`\ifpackageloaded{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The HTML version follows.

`\AtBeginDocument` because the print version had to see if `multirow` was loaded before determining how to define `\LWR@print@multicolumnrow`.

```

45 \AtBeginDocument{
46
47 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{ } m O{ } m O{ } +m}{%

48 \booltrue{LWR@usedmultirow}%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```

49 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}

```

Create the multicolumn/multirow tag, temporarily redefining the end of line. (Using a group caused problems with a nested tabular.)

```

50 \LetLtxMacro{\}\{\LWR@endofline}%
51 \LWR@domulticolumn[#3][#4]{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#8}%
52 \LetLtxMacro{\}\{\LWR@tabularendofline}%

```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```

53 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
54 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%

```

Skip any trailing @ or ! columns for this cell:

```

55 \booltrue{LWR@skipatbang}%
56 }
57
58 \LWR@expandableformatted{multicolumnrow}
59
60 }% \AtBeginDocument

```

For MATHJAX. Only the text is used. All other parameters are ignored.

```

61 \begin{warpMathJax}
62 % \multirow[vpos]{num}[bigstruts]{width}[vmove]{text}
63 \CustomizeMathJax{\newcommand{\LWRsubmultirow}[2][]{#2}}
64 \CustomizeMathJax{\newcommand{\LWRmultirow}[2][]{\LWRsubmultirow}}
65 \CustomizeMathJax{\newcommand{\multirow}[2][]{\LWRmultirow}}
66 %
67 \CustomizeMathJax{\newcommand{\mrowcell}{}}
68 \CustomizeMathJax{\newcommand{\mcolrowcell}{}}
69 \CustomizeMathJax{\newcommand{\STneed}[1]}
70 \end{warpMathJax}

```

---

File 319 **lwarp-multitoc.sty**

§ 428 Package **multitoc**

Pkg multitoc multitoc is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{multitoc}[1999/06/08]



```

2 \newcommand{\multicolumntoc}{2}
3 \newcommand{\multicolumnlot}{2}
4 \newcommand{\multicolumnlof}{2}
5 \newcommand*{\immediateaddtocontents}[2]{}
```

File 320 **lwarp-musicography.sty**

§ 429 Package **musicography**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg musicography musicography is patched for use by lwarp.

Images are used for the meter symbols and fingered bass, since the HTML fonts tend not to be the correct size and HTML cannot stack items. The HTML al t tag copies C and 3/2, etc. Hashes are used for the meter images, which are then reused as necessary.



Note that browser support for musical symbols may be buggy. ALT text and copy/paste into a text editor work well.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{musicography}[2019/05/28]

2 \NewDocumentCommand{\LWR@HTML@musSymbol}{ O{\musFont} m m m m }{%
3 \begin{lateximage}%
4 {#1\kern#2\raisebox{#3}{#5}\kern#4}%
5 \end{lateximage}%
6 }
7
8 \LWR@formatted{musSymbol}
9
10 \NewDocumentCommand{\LWR@HTML@musStemmedNote}{ m }{%
11 \begin{lateximage}%
12 \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
13 \end{lateximage}%
14 }
15
16 \LWR@formatted{musStemmedNote}
17
18 \NewDocumentCommand{\LWR@HTML@musFlaggedNote}{ m m }{%
19 \begin{lateximage}%
20 \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
21 \musSymbol{0pt}{0pt}{0.9em}{#2}%
22 \end{lateximage}%
23 }
24
25 \LWR@formatted{musFlaggedNote}
26
27 \NewDocumentCommand{\LWR@HTML@musDottedNote}{ m }{%
28 \begin{lateximage}%
29 #1\musDot%
30 \end{lateximage}%
31 }
32
```

```
33 \LWR@formatted{musDottedNote}
34
35 \NewDocumentCommand{\LWR@HTML@musMeter}{ m m }{%
36 \begin{lateximage}*[#1/#2][#1#2]*%
37 \musStack{#1 #2}\kern0.05em%
38 \end{lateximage}%
39 }
40
41 \LWR@formatted{musMeter}
42
43 \NewDocumentCommand{\LWR@HTML@meterCplus}{ m }{%
44 \begin{lateximage}*[C#1]*%
45 \meterC{}\kern-0.7pt#1%
46 \end{lateximage}%
47 }
48
49 \LWR@formatted{meterCplus}
50
51 \NewDocumentCommand{\LWR@HTML@meterC}{}{%
52 \begin{lateximage}*[C]*%
53 \musSymbolMeter{\symbol{83}}%
54 \end{lateximage}%
55 }
56
57 \LWR@formatted{meterC}
58
59 \NewDocumentCommand{\LWR@HTML@meterCutC}{}{%
60 \begin{lateximage}*[C]*%
61 \musSymbolMeter{\symbol{82}}%
62 \end{lateximage}%
63 }
64
65 \LWR@formatted{meterCutC}
66
67 \NewDocumentCommand{\LWR@HTML@meterCThreeTwo}{}{%
68 \begin{lateximage}*[C3/2]*%
69 \meterCplus{\musStack{3 2}}%
70 \end{lateximage}%
71 }
72
73 \LWR@formatted{meterCThreeTwo}
74
75 \NewDocumentCommand{\LWR@HTML@meterO}{}{\HTMLUnicode{25EF}}
76
77 \LWR@formatted{meterO}
78
79 \newcommand{\LWR@null@noFig}[1][[]]{%
80
81 \NewDocumentCommand{\LWR@HTML@musFig}{ m }{%
82 \begin{lateximage}*[%
83 \quad \% ALT text for copy/paste
84 \quad \LetLtxMacro\noFig\LWR@null@noFig%
85 \quad \LetLtxMacro\musSharp\LWR@HTML@musSharp%
86 \quad \LetLtxMacro\musDoubleSharp\LWR@HTML@musDoubleSharp%
87 \quad \LetLtxMacro\musFlat\LWR@HTML@musFlat%
```

```

88 \LetLtxMacro\musDoubleFlat\LWR@HTML@musDoubleFlat%
89 \LetLtxMacro\musNatural\LWR@HTML@musNatural%
90 {#1}% braces here because \noFig uses []
91 }%
92]*%
93 \musStack[\musFigFont]{#1}%
94 \end{lateximage}%
95 }
96
97 \LWR@formatted{musFig}
98
99 \NewDocumentCommand{\LWR@HTML@musFlat} {}{\HTMLUnicode{266D}}
100 \NewDocumentCommand{\LWR@HTML@musDoubleFlat} {}{\HTMLUnicode{1D12B}}
101 \NewDocumentCommand{\LWR@HTML@musSharp} {}{\HTMLUnicode{266F}}
102 \NewDocumentCommand{\LWR@HTML@musDoubleSharp}{}{\HTMLUnicode{1D12A}}
103 \NewDocumentCommand{\LWR@HTML@musNatural} {}{\HTMLUnicode{266E}}
104
105 \LWR@formatted{musFlat}
106 \LWR@formatted{musDoubleFlat}
107 \LWR@formatted{musSharp}
108 \LWR@formatted{musDoubleSharp}
109 \LWR@formatted{musNatural}
110
111 \NewDocumentCommand{\LWR@HTML@musWhole} {}{\HTMLUnicode{1D15D}}
112 \NewDocumentCommand{\LWR@HTML@musHalf} {}{\HTMLUnicode{1D15E}}
113 \NewDocumentCommand{\LWR@HTML@musQuarter} {}{\HTMLUnicode{1D15F}}
114 \NewDocumentCommand{\LWR@HTML@musEighth} {}{\HTMLUnicode{1D160}}
115 \NewDocumentCommand{\LWR@HTML@musSixteenth} {}{\HTMLUnicode{1D161}}
116 \NewDocumentCommand{\LWR@HTML@musThirtySecond} {}{\HTMLUnicode{1D162}}
117 \NewDocumentCommand{\LWR@HTML@musSixtyFourth} {}{\HTMLUnicode{1D163}}
118
119 \LWR@formatted{musWhole}
120 \LWR@formatted{musHalf}
121 \LWR@formatted{musQuarter}
122 \LWR@formatted{musEighth}
123 \LWR@formatted{musSixteenth}
124 \LWR@formatted{musThirtySecond}
125 \LWR@formatted{musSixtyFourth}
126
127 \NewDocumentCommand{\LWR@HTML@musWholeDotted}{}
128 {\HTMLUnicode{1D15D}\HTMLUnicode{1D16D}}
129 \NewDocumentCommand{\LWR@HTML@musHalfDotted}{}
130 {\HTMLUnicode{1D15E}\HTMLUnicode{1D16D}}
131 \NewDocumentCommand{\LWR@HTML@musQuarterDotted}{}
132 {\HTMLUnicode{1D15F}\HTMLUnicode{1D16D}}
133 \NewDocumentCommand{\LWR@HTML@musEighthDotted}{}
134 {\HTMLUnicode{1D160}\HTMLUnicode{1D16D}}
135 \NewDocumentCommand{\LWR@HTML@musSixteenthDotted}{}
136 {\HTMLUnicode{1D161}\HTMLUnicode{1D16D}}
137 \NewDocumentCommand{\LWR@HTML@musThirtySecondDotted}{}
138 {\HTMLUnicode{1D162}\HTMLUnicode{1D16D}}
139 \NewDocumentCommand{\LWR@HTML@musSixtyFourthDotted}{}
140 {\HTMLUnicode{1D163}\HTMLUnicode{1D16D}}
141
142 \LWR@formatted{musWholeDotted}

```

```

143 \LWR@formatted{musHalfDotted}
144 \LWR@formatted{musQuarterDotted}
145 \LWR@formatted{musEighthDotted}
146 \LWR@formatted{musSixteenthDotted}
147 \LWR@formatted{musThirtySecondDotted}
148 \LWR@formatted{musSixtyFourthDotted}

```

---

File 321 **lwarp-mwe.sty**

§ 430 Package **mwe**

*(Emulates or patches code by MARTIN SCHARRER.)*

Pkg mwe **mwe** is used as-is, but a warning is issued to copy the images to the local directory.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mwe}[2018/03/30]

```

2 \AtEndDocument{%
3 \PackageWarningNoLine{lwarp}{%
4 For package mwe, copy any mwe images to be used for\MessageBreak
5 HTML, such as PNG or JPG, to the document's base\MessageBreak
6 directory. Neither a subdirectory nor the mwe\MessageBreak
7 directory will work, due to the TeX file search\MessageBreak
8 algorithm%
9 }%
10 }%

```

---

File 322 **lwarp-nameauth.sty**

§ 431 Package **nameauth**

*(Emulates or patches code by CHARLES P. SCHAUM.)*

Pkg nameauth **nameauth** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nameauth}[2017/03/22]

**lwarp** formatting is inserted in the following.

```

2 \renewcommand*\@nameauth@Hook[1]
3 {%
4 \if@nameauth@Lock
5 \@nameauth@InHooktrue%
6 \protected@edef\test{#1}%
7 \expandafter\@nameauth@TestDot\expandafter{\test}%
8 \if@nameauth@InAKA
9 \if@nameauth@AlwaysFormat
10 \@nameauth@FirstFormattrue%
11 \else

```

```
12 \unless\if@nameauth@AKAFormat
13 \@nameauth@FirstFormatfalse\fi
14 \fi
15 \if@nameauth@MainFormat
16 \if@nameauth@FirstFormat
17 \bgroup\NamesFormat{%
18 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
19 }\egroup%
20 \else
21 \bgroup\MainNameHook{%
22 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
23 }\egroup%
24 \fi
25 \else
26 \if@nameauth@FirstFormat
27 \bgroup\FrontNamesFormat{%
28 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
29 }\egroup%
30 \else
31 \bgroup\FrontNameHook{%
32 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
33 }\egroup%
34 \fi
35 \fi
36 \else
37 \if@nameauth@AlwaysFormat
38 \@nameauth@FirstFormattrue%
39 \fi
40 \if@nameauth@MainFormat
41 \if@nameauth@FirstFormat
42 \bgroup\NamesFormat{%
43 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
44 }\egroup%
45 \else
46 \bgroup\MainNameHook{%
47 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
48 }\egroup%
49 \fi
50 \else
51 \if@nameauth@FirstFormat
52 \bgroup\FrontNamesFormat{%
53 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
54 }\egroup%
55 \else
56 \bgroup\FrontNameHook{%
57 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
58 }\egroup%
59 \fi
60 \fi
61 \fi
62 \@nameauth@FirstFormatfalse%
63 \@nameauth@InHookfalse%
64 \fi
65 }
```

File 323 **lwarp-nameref.sty**

§ 432 Package **nameref**

Pkg nameref **nameref** is emulated by **lwarp**.

**for HTML output:** Discard all options for **lwarp-nameref**:

```

1 \PackageInfo{lwarp}{%
2 Using the lwarp HTML version of package 'nameref',\MessageBreak
3 and discarding options.\MessageBreak
4 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
5 do not attempt to patch lwarp's version of 'nameref'.)\MessageBreak
6 }
7 \DeclareOption*{}
8 \ProcessOptions\relax

```

File 324 **lwarp-natbib.sty**

§ 433 Package **natbib**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg natbib **natbib** is patched for use by **lwarp**.

**for HTML output:** 1 \LWRN@ProvidesPackagePass{natbib}[2010/09/13]

Replace math < and > with \textless and \textgreater:

A macro to compare:

```
2 \newcommand{\LWRNB@NAT@open}{<$}
```

To patch \NAT@open and \NAT@close

```

3 \newcommand{\LWRNB@patchnatbibopenclose}{
4 \ifdefstrequal{\NAT@open}{\LWRNB@NAT@open}
5 {
6 \renewcommand{\NAT@open}{\textless}
7 \renewcommand{\NAT@close}{\textgreater}
8 }}
9 }

```

Do it now in case angle was selected as an option:

```
10 \LWRNB@patchnatbibopenclose
```

Also patch `\setcitestyle` to patch after settings are made:

```
11 \let\LWRNB@origsetcitestyle\setcitestyle
12
13 \renewcommand{\setcitestyle}[1]{%
14 \LWRNB@origsetcitestyle{#1}%
15 \LWRNB@patchnatbibopenclose%
16 }
```

Synchronize the autopage labels:

```
17 \xpretocmd{\NAT@reset@parser}
18 {\LWR@newautopagelabel{page}}%
19 {}
20 {\LWR@patcherror{natbib}{NAT@reset@parser}}
```

File 325 **lwarp-nccfancyhdr.sty**

§ 434 Package **nccfancyhdr**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg nccfancyhdr nccfancyhdr is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nccfancyhdr}[2004/12/07]

```
2 \newcommand*\headrulewidth{}
3 \newcommand*\footrulewidth{}
4 \newcommand{\headstrutheight}{}
5 \newcommand{\footstrutheight}{}
6 \newcommand*\headrule{}
7 \newcommand*\footrule{}
8
9 \newdimen\headwidth
10 \newcommand*\extendedheaders{}
11 \newcommand*\normalheaders{}
12
13 \newcommand*\fancyhead[2][{}
14 \newcommand*\fancyfoot[2][{}
15 \newcommand*\fancyhf[2][{}
16 \newcommand*\fancypagestyle[2][{}
17 \newcommand*\lhead[2][{}
18 \newcommand*\chead[2][{}
19 \newcommand*\rhead[2][{}
20 \newcommand*\lfoot[2][{}
21 \newcommand*\cfoot[2][{}
22 \newcommand*\rfoot[2][{}
23
24 \newcommand{\nouppercase}[1]{#1}
25
26 \NewDocumentCommand{\fancycenter}{o o m m m}{}
27
```

```

28 \NewDocumentCommand{\newpagestyle}{m o m}{}
29
30 \newcommand*{\iffloatpage}[2]{#2}
31 \newcommand*{\ifftopfloat}[2]{#2}
32 \newcommand*{\iffbotfloat}[2]{#2}

```

---

File 326 **lwarp-nccfoots.sty**

§ 435 Package **nccfoots**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg nccfoots nccfoots is used as-is, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nccfoots}[2005/02/03]



For MATHJAX. There is no way to test for an empty argument, so the mark is not automatically duplicated.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\Footnotemark}[1]{{}^{\mathrm{#1}}}}
4 \CustomizeMathJax{\newcommand{\Footnote}[2]{\Footnotemark{#1}}}
5 \end{warpMathJax}

```

---

File 327 **lwarp-nccmath.sty**

§ 436 Package **nccmath**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg nccmath nccmath is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

```

2 \let\LWR@origeqnarray\eqnarray
3 \let\LWR@origendeqnarray\endeqnarray
4
5 \csletcs{LWR@origeqnarraystar}{eqnarray*}
6 \csletcs{LWR@origendeqnarraystar}{endeqnarray*}
7
8 \RenewEnviron{eqnarray}
9 {%
10 \LWR@eqnarrayfactor
11 }
12
13 }
14
15 \RenewEnviron{eqnarray*}
16 {%

```



```

17
18 \begingroup
19 \csletcs{LWR@origeqnarray}{LWR@origeqnarraystar}
20 \csletcs{LWR@origendeqnarray}{LWR@origendeqnarraystar}
21 \boolfalse{LWR@numbereqnarray}
22 \LWR@eqnarrayfactor
23 \endgroup
24
25 }
26
27 \def\eqs{%
28 \ifstar\LWR@nccmath@eqsstar\LWR@nccmath@eqs%
29 }
30 \newcommand*{\LWR@nccmath@eqsstar}[2][\begin{eqnarray*}#2\end{eqnarray*}]
31 \newcommand*{\LWR@nccmath@eqs}[2][\begin{eqnarray}#2\end{eqnarray}]
32
33 \begin{warpMathJax}

34 \CustomizeMathJax{\renewcommand{\intertext}[2][\text{#2}\notag \\\}}
35 \CustomizeMathJax{\newenvironment{fleqn}[1][\{\}}
36 \CustomizeMathJax{\newenvironment{ceqn}[\{\}}
37 \CustomizeMathJax{\newenvironment{darray}[2][c]{\begin{array}[#1][#2]{\end{array}}}}
38 \CustomizeMathJax{\newcommand{\dmulticolumn}[3][#3]}

```

As of v0.86, MATHJAX v3 does not offer `\*`, so the unstarred version is used here.

```

39 \CustomizeMathJax{\newcommand{\LWR@nccmath@eqsstar}[1][0.5ex]{\[\[#1]]}
40 \CustomizeMathJax{\newcommand{\nr}{\ifstar\LWR@nccmath@eqsstar\LWR@nccmath@eqs}}
41
42 \CustomizeMathJax{\newcommand{\mrel}[1]{\begin{aligned}#1\end{aligned}}}
43 \CustomizeMathJax{\newcommand{\underrel}[2]{\underset{#2}{#1}}}
44 \CustomizeMathJax{\newcommand{\medmath}[1][#1]}
45 \CustomizeMathJax{\newcommand{\medop}[1][#1]}
46 \CustomizeMathJax{\newcommand{\medint}[1][#1]}
47 \CustomizeMathJax{\newcommand{\medintcorr}[1][#1]}
48 \CustomizeMathJax{\newcommand{\mfrac}[2]{\frac{#1}{#2}}}
49 \CustomizeMathJax{\newcommand{\mbinom}[2]{\binom{#1}{#2}}}
50 \CustomizeMathJax{\newenvironment{mmatrix}{\begin{matrix}}{\end{matrix}}}

51 \CustomizeMathJax{\newcommand{\displaybreak}[1][\]}

\eq, \eqs, \eqalign are created by LATEX, not MATHJAX.

52 \end{warpMathJax}

```

---

File 328 **lwarp-needspace.sty**

§ 437 Package **needspace**

(Emulates or patches code by PETER WILSON.)

Pkg needspace needspace is ignored.

**for HTML output:** Discard all options for lwarp-needspace:

```
1 \LWR@ProvidesPackageDrop{needspace}[2010/09/12]
2
3 \DeclareDocumentCommand{\needspace}{m}{}
4 \DeclareDocumentCommand{\Needspace}{s m}{}


```

File 329 **lwarp-newpxmath.sty**

§ 438 Package **newpxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg newpxmath newpxmath is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored. The dedicated macros for upright and italic Greek do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** The MATHJAX code from newtxmath is used:

```
1 \LWR@ProvidesPackagePass{newpxmath}[2020/01/09]
2
3 \LWR@infoprocessingmathjax{newpxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{}{}
15 \LWR@mathjax@addgreek@l@up{}{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}

```

Optional slanted Greek:

```
18 \ifpx@slantedG
19 \LWR@mathjax@addgreek@u@it*{}{}
20 \fi
21
22 \end{warpMathJax}


```

File 330 **lwarp-newtxmath.sty**

§ 439 Package **newtxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newtxmath newtxmath is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored, and except that bold italic Latin letters are not defined for MATHJAX if the option is not selected.

The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{newtxmath}[2020/08/04]
2
3 \LWR@infoprocessingmathjax{newtxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpxtxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{up}{up}{}
14 \LWR@mathjax@addgreek@l@up*{}{up}{}
15 \LWR@mathjax@addgreek@l@up*{}{up}{}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it*{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{}{it}{}
21 \LWR@mathjax@addgreek@l@it*{}{it}{}
22
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
29 }{}

```

Optional slanted Greek:

```

30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{}

```

```

32 \fi
33
34 \end{warpMathJax}


```

File 331 **lwarp-newtxsf.sty**

§ 440 Package **newtxsf**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newtxsf newtxsf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored. The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

svg math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{newtxsf}[2020/05/02]
2
3 \LWR@infoprocessingmathjax{newtxsf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{}{}
15 \LWR@mathjax@addgreek@l@up{}{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{}{it}{}
21 \LWR@mathjax@addgreek@l@it{}{it}{}
22 %
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
29 }{}

```

Optional slanted Greek:

```

30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{}
32 \fi

```

```
33
34 \end{warpMathJax}
```

---

File 332 **lwarp-nextpage.sty**

§ 441 Package **nextpage**

*(Emulates or patches code by PETER WILSON.)*

Pkg nextpage nextpage is ignored.

**for HTML output:** Discard all options for lwarp-nextpage.

```
1 \LWR@ProvidesPackageDrop{nextpage}[2009/09/03]

2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}
5 \DeclareDocumentCommand{\movetooddpage}{o}{}

```

---

File 333 **lwarp-nfssex-cfr.sty**

§ 442 Package **nfssex-cfr**

*(Emulates or patches code by CLEA F. REES.)*

Pkg nfssex-cfr nfssex-cfr is emulated in HTML, and used as-is in print output.

Results depend on the browser's font.

**for HTML output:** `1 \LWR@ProvidesPackagePass{nfssex-cfr}[2017/03/28]`

Macros which are present in the lwarp core are commented out here.

```
2 \newrobustcmd{\LWR@HTML@lnstyle}{}
3 \newrobustcmd{\LWR@HTML@osstyle}{\LWR@HTML@scshape}
4 \newrobustcmd{\LWR@HTML@instyle}{}
5 \newrobustcmd{\LWR@HTML@sustyle}{}
6 \newrobustcmd{\LWR@HTML@swstyle}{}
7 \newrobustcmd{\LWR@HTML@pstyle}{}
8 \newrobustcmd{\LWR@HTML@tistyle}{}
9 \newrobustcmd{\LWR@HTML@ostyle}{\LWR@HTML@scshape}
10 \newrobustcmd{\LWR@HTML@postyle}{\LWR@HTML@scshape}
11 \newrobustcmd{\LWR@HTML@ltstyle}{}
12 \newrobustcmd{\LWR@HTML@ofstyle}{}
13 \newrobustcmd{\LWR@HTML@altstyle}{}
14 \newrobustcmd{\LWR@HTML@regstyle}{}
15 \newrobustcmd{\LWR@HTML@embosstyle}{}
16 \newrobustcmd{\LWR@HTML@ornamentalstyle}{}
17 \newrobustcmd{\LWR@HTML@qtstyle}{}

```

```
18 \newrobustcmd{\LWR@HTML@shstyle}{}
19 \newrobustcmd{\LWR@HTML@swashstyle}{}
20 \newrobustcmd{\LWR@HTML@tmstyle}{\renewcommand*{\LWR@f@family}{tt}}
21 \newrobustcmd{\LWR@HTML@tvstyle}{\renewcommand*{\LWR@f@family}{tt}}
22 \newrobustcmd{\LWR@HTML@tstyle}{}
23 \newrobustcmd{\LWR@HTML@lstyle}{}
24 \newrobustcmd{\LWR@HTML@tlstyle}{}
25 \newrobustcmd{\LWR@HTML@plstyle}{}
26 \newrobustcmd{\LWR@HTML@tostyle}{\LWR@HTML@scshape}
27 % \newrobustcmd{\LWR@HTML@sishape}{}
28 \newrobustcmd{\LWR@HTML@olshape}{}
29 \newrobustcmd{\LWR@HTML@scolshape}{}
30 \newrobustcmd{\LWR@HTML@ushape}{}
31 \newrobustcmd{\LWR@HTML@scushape}{}
32 \newrobustcmd{\LWR@HTML@uishape}{\LWR@HTML@itshape}
33 \newrobustcmd{\LWR@HTML@rishape}{}
34 \newrobustcmd{\LWR@HTML@regwidth}{}
35 \newrobustcmd{\LWR@HTML@nwwidth}{}
36 \newrobustcmd{\LWR@HTML@cdwidth}{}
37 \newrobustcmd{\LWR@HTML@ecwidth}{}
38 \newrobustcmd{\LWR@HTML@ucwidth}{}
39 \newrobustcmd{\LWR@HTML@etwidth}{}
40 \newrobustcmd{\LWR@HTML@epwidth}{}
41 \newrobustcmd{\LWR@HTML@exwidth}{}
42 \newrobustcmd{\LWR@HTML@uxwidth}{}
43 \newrobustcmd{\LWR@HTML@mbweight}{\renewcommand*{\LWR@f@series}{md}}
44 \newrobustcmd{\LWR@HTML@dbweight}{\renewcommand*{\LWR@f@series}{db}}
45 \newrobustcmd{\LWR@HTML@sbweight}{\renewcommand*{\LWR@f@series}{sb}}
46 % \newrobustcmd{\LWR@HTML@ebweight}{\renewcommand*{\LWR@f@series}{eb}}
47 \newrobustcmd{\LWR@HTML@ubweight}{\renewcommand*{\LWR@f@series}{ub}}
48 % \newrobustcmd{\LWR@HTML@lgweight}{\renewcommand*{\LWR@f@series}{lg}}
49 \newrobustcmd{\LWR@HTML@elweight}{\renewcommand*{\LWR@f@series}{el}}
50 \newrobustcmd{\LWR@HTML@ulweight}{\renewcommand*{\LWR@f@series}{ul}}
51 % \newrobustcmd{\LWR@HTML@itshape}{}
52 % \newrobustcmd{\LWR@HTML@scshape}{}
53 % \newrobustcmd{\LWR@HTML@upshape}{}
54 \newrobustcmd{\LWR@HTML@dfshape}{}
55
56 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes
57 \newrobustcmd{\LWR@HTML@swshape}{}
58 }
59
60 \newrobustcmd{\LWR@HTML@ornament}[1]{}
61
62 \LWR@formatted{lnstyle}
63 \LWR@formatted{osstyle}
64 \LWR@formatted{instyle}
65 \LWR@formatted{sustyle}
66 \LWR@formatted{swstyle}
67 \LWR@formatted{pstyle}
68 \LWR@formatted{tistyle}
69 \LWR@formatted{ostyle}
70 \LWR@formatted{postyle}
71 \LWR@formatted{ltstyle}
72 \LWR@formatted{ofstyle}
```

```

73 \LWR@formatted{altstyle}
74 \LWR@formatted{regstyle}
75 \LWR@formatted{embosstyle}
76 \LWR@formatted{ornamentalstyle}
77 \LWR@formatted{qtstyle}
78 \LWR@formatted{shstyle}
79 \LWR@formatted{swashstyle}
80 \LWR@formatted{tmstyle}
81 \LWR@formatted{tvstyle}
82 \LWR@formatted{tstyle}
83 \LWR@formatted{lstyle}
84 \LWR@formatted{tlstyle}
85 \LWR@formatted{plstyle}
86 \LWR@formatted{tostyle}
87 % \LWR@formatted{sishape}
88 \LWR@formatted{olshape}
89 \LWR@formatted{scolshape}
90 \LWR@formatted{ushape}
91 \LWR@formatted{scushape}
92 \LWR@formatted{uishape}
93 \LWR@formatted{rishape}
94 \LWR@formatted{regwidth}
95 \LWR@formatted{nwwidth}
96 \LWR@formatted{cdwidth}
97 \LWR@formatted{ecwidth}
98 \LWR@formatted{ucwidth}
99 \LWR@formatted{etwidth}
100 \LWR@formatted{epwidth}
101 \LWR@formatted{exwidth}
102 \LWR@formatted{uxwidth}
103 \LWR@formatted{mbweight}
104 \LWR@formatted{dbweight}
105 \LWR@formatted{sbweight}
106 % \LWR@formatted{ebweight}
107 \LWR@formatted{ubweight}
108 % \LWR@formatted{lgweight}
109 \LWR@formatted{elweight}
110 \LWR@formatted{ulweight}
111 \LWR@formatted{itshape}% adapt to the new print version
112 \LWR@formatted{scshape}% adapt to the new print version
113 \LWR@formatted{upshape}% adapt to the new print version
114 \LWR@formatted{dfshape}
115
116 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes
117 \LWR@formatted{swshape}
118 }
119
120 \LWR@formatted{ornament}

121 \FilenameNullify{%
122 \LetLtxMacro\lnstyle\@empty%
123 \LetLtxMacro\osstyle\@empty%
124 \LetLtxMacro\instyle\@empty%
125 \LetLtxMacro\sustyle\@empty%
126 \LetLtxMacro\swstyle\@empty%

```

```

127 \LetLtxMacro\pstyle\@empty%
128 \LetLtxMacro\tistyle\@empty%
129 \LetLtxMacro\ostyle\@empty%
130 \LetLtxMacro\postyle\@empty%
131 \LetLtxMacro\ltstyle\@empty%
132 \LetLtxMacro\ofstyle\@empty%
133 \LetLtxMacro\altstyle\@empty%
134 \LetLtxMacro\regstyle\@empty%
135 \LetLtxMacro\embossstyle\@empty%
136 \LetLtxMacro\ornamentalstyle\@empty%
137 \LetLtxMacro\qtstyle\@empty%
138 \LetLtxMacro\shstyle\@empty%
139 \LetLtxMacro\swashstyle\@empty%
140 \LetLtxMacro\tmstyle\@empty%
141 \LetLtxMacro\tvstyle\@empty%
142 \LetLtxMacro\tstyle\@empty%
143 \LetLtxMacro\lstyle\@empty%
144 \LetLtxMacro\tlstyle\@empty%
145 \LetLtxMacro\plstyle\@empty%
146 \LetLtxMacro\tostyle\@empty%
147 % \LetLtxMacro\sishape\@empty%
148 \LetLtxMacro\olshape\@empty%
149 \LetLtxMacro\scolshape\@empty%
150 \LetLtxMacro\ushape\@empty%
151 \LetLtxMacro\scushape\@empty%
152 \LetLtxMacro\uishape\@empty%
153 \LetLtxMacro\rishape\@empty%
154 \LetLtxMacro\regwidth\@empty%
155 \LetLtxMacro\nwidth\@empty%
156 \LetLtxMacro\cdwidth\@empty%
157 \LetLtxMacro\ecwidth\@empty%
158 \LetLtxMacro\ucwidth\@empty%
159 \LetLtxMacro\etwidth\@empty%
160 \LetLtxMacro\epwidth\@empty%
161 \LetLtxMacro\exwidth\@empty%
162 \LetLtxMacro\uxwidth\@empty%
163 \LetLtxMacro\mbweight\@empty%
164 \LetLtxMacro\dbweight\@empty%
165 \LetLtxMacro\sweight\@empty%
166 % \LetLtxMacro\ebweight\@empty%
167 \LetLtxMacro\ubweight\@empty%
168 % \LetLtxMacro\lgweight\@empty%
169 \LetLtxMacro\elweight\@empty%
170 \LetLtxMacro\ulweight\@empty%
171 % \LetLtxMacro\itshape\@empty%
172 % \LetLtxMacro\scshape\@empty%
173 % \LetLtxMacro\upshape\@empty%
174 \LetLtxMacro\dfshape\@empty%
175 \LetLtxMacro\swshape\@empty%
176 \LetLtxMacro\ornament\@gobble%
177 }
178
179 \newrobustcmd{\LWR@HTML@textln}[1]{\InlineClass{textln}{#1}}
180 \newrobustcmd{\LWR@HTML@textos}[1]{\textsc{#1}}
181 \newrobustcmd{\LWR@HTML@textin}[1]{#1}

```



```
182 \newrobustcmd{\LWR@HTML@textsu}[1]{#1}
183 % \newrobustcmd{\LWR@HTML@textsi}[1]{#1}
184 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}

185 \ifdef{\LWR@HTML@textsw}{% duplicated by fontaxes
186 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
187 \LWR@formatted{textsw}
188 }
189
190 \newrobustcmd{\LWR@HTML@textti}[1]{#1}
191 \newrobustcmd{\LWR@HTML@textlt}[1]{#1}
192 \newrobustcmd{\LWR@HTML@textof}[1]{#1}
193 \newrobustcmd{\LWR@HTML@textalt}[1]{#1}
194 \newrobustcmd{\LWR@HTML@textreg}[1]{#1}
195 \newrobustcmd{\LWR@HTML@emboss}[1]{#1}
196 \newrobustcmd{\LWR@HTML@textorn}[1]{#1}
197 \newrobustcmd{\LWR@HTML@textqt}[1]{#1}
198 \newrobustcmd{\LWR@HTML@textsh}[1]{#1}
199 \newrobustcmd{\LWR@HTML@texttm}[1]{\texttt{#1}}
200 \newrobustcmd{\LWR@HTML@texttv}[1]{\texttt{#1}}
201 \newrobustcmd{\LWR@HTML@textl}[1]{\InlineClass{textln}{#1}}
202 \newrobustcmd{\LWR@HTML@texto}[1]{\textsc{#1}}
203 \newrobustcmd{\LWR@HTML@textp}[1]{\InlineClass{textp}{#1}}
204 \newrobustcmd{\LWR@HTML@textt}[1]{\InlineClass{textt}{#1}}
205 \newrobustcmd{\LWR@HTML@textpl}[1]{#1}
206 \newrobustcmd{\LWR@HTML@textpo}[1]{\textsc{#1}}
207 \newrobustcmd{\LWR@HTML@texttl}[1]{\InlineClass{textln}{#1}}
208 \newrobustcmd{\LWR@HTML@textto}[1]{\textsc{#1}}
209 \newrobustcmd{\LWR@HTML@textol}[1]{#1}
210 \newrobustcmd{\LWR@HTML@textswash}[1]{#1}
211 \newrobustcmd{\LWR@HTML@textu}[1]{#1}
212 \newrobustcmd{\LWR@HTML@textscu}[1]{#1}
213 \newrobustcmd{\LWR@HTML@textui}[1]{\LWR@HTML@textit{#1}}
214 \newrobustcmd{\LWR@HTML@textri}[1]{#1}
215 \newrobustcmd{\LWR@HTML@textnw}[1]{#1}
216 \newrobustcmd{\LWR@HTML@textcd}[1]{#1}
217 \newrobustcmd{\LWR@HTML@textec}[1]{#1}
218 \newrobustcmd{\LWR@HTML@textuc}[1]{#1}
219 \newrobustcmd{\LWR@HTML@textet}[1]{#1}
220 \newrobustcmd{\LWR@HTML@textep}[1]{#1}
221 \newrobustcmd{\LWR@HTML@textex}[1]{#1}
222 \newrobustcmd{\LWR@HTML@textux}[1]{#1}
223 \newrobustcmd{\LWR@HTML@textrw}[1]{#1}
224 \newrobustcmd{\LWR@HTML@textmb}[1]{\{\LWR@HTML@mbweight\InlineClass{textmb}{#1}\}}
225 \newrobustcmd{\LWR@HTML@textdb}[1]{\{\LWR@HTML@dbweight\InlineClass{textdb}{#1}\}}
226 \newrobustcmd{\LWR@HTML@textsb}[1]{\{\LWR@HTML@sbweight\InlineClass{textsb}{#1}\}}
227 % \newrobustcmd{\LWR@HTML@texteb}[1]{#1}
228 \newrobustcmd{\LWR@HTML@textub}[1]{\{\LWR@HTML@ubweight\InlineClass{textub}{#1}\}}
229 % \newrobustcmd{\LWR@HTML@textlg}[1]{#1}
230 \newrobustcmd{\LWR@HTML@textel}[1]{\{\LWR@HTML@elweight\InlineClass{textel}{#1}\}}
231 \newrobustcmd{\LWR@HTML@textul}[1]{\{\LWR@HTML@ulweight\InlineClass{textul}{#1}\}}
232
233 \LWR@formatted{textln}
234 \LWR@formatted{textos}
235 \LWR@formatted{textin}
```

236 \LWR@formatted{textsu}  
237 % \LWR@formatted{textsi}  
238 \LWR@formatted{textdf}  
239 \LWR@formatted{textti}  
240 \LWR@formatted{textlt}  
241 \LWR@formatted{textof}  
242 \LWR@formatted{textalt}  
243 \LWR@formatted{textreg}  
244 \LWR@formatted{emboss}  
245 \LWR@formatted{textorn}  
246 \LWR@formatted{textqt}  
247 \LWR@formatted{textsh}  
248 \LWR@formatted{texttm}  
249 \LWR@formatted{texttv}  
250 \LWR@formatted{textl}  
251 \LWR@formatted{texto}  
252 \LWR@formatted{textp}  
253 \LWR@formatted{textt}  
254 \LWR@formatted{textpl}  
255 \LWR@formatted{textpo}  
256 \LWR@formatted{texttl}  
257 \LWR@formatted{textto}  
258 \LWR@formatted{textol}  
259 \LWR@formatted{textswash}  
260 \LWR@formatted{textu}  
261 \LWR@formatted{textscu}  
262 \LWR@formatted{textui}  
263 \LWR@formatted{textri}  
264 \LWR@formatted{textnw}  
265 \LWR@formatted{textcd}  
266 \LWR@formatted{textec}  
267 \LWR@formatted{textuc}  
268 \LWR@formatted{textet}  
269 \LWR@formatted{textep}  
270 \LWR@formatted{textex}  
271 \LWR@formatted{textux}  
272 \LWR@formatted{textrw}  
273 \LWR@formatted{textmb}  
274 \LWR@formatted{textdb}  
275 \LWR@formatted{textsb}  
276 % \LWR@formatted{texteb}  
277 \LWR@formatted{textub}  
278 % \LWR@formatted{textlg}  
279 \LWR@formatted{textel}  
280 \LWR@formatted{textul}  
281  
  
282 \FilenameNullify{%  
283 \LetLtxMacro\textln\@firstofone%  
284 \LetLtxMacro\textos\@firstofone%  
285 \LetLtxMacro\textin\@firstofone%  
286 \LetLtxMacro\textsu\@firstofone%  
287 % \LetLtxMacro\textsi\@firstofone%  
288 \LetLtxMacro\textdf\@firstofone%  
289 \LetLtxMacro\textsw\@firstofone%

```

290 \LetLtxMacro\textti\@firstofone%
291 \LetLtxMacro\textlt\@firstofone%
292 \LetLtxMacro\textof\@firstofone%
293 \LetLtxMacro\textalt\@firstofone%
294 \LetLtxMacro\textreg\@firstofone%
295 \LetLtxMacro\emboss\@firstofone%
296 \LetLtxMacro\textorn\@firstofone%
297 \LetLtxMacro\textqt\@firstofone%
298 \LetLtxMacro\textsh\@firstofone%
299 \LetLtxMacro\texttm\@firstofone%
300 \LetLtxMacro\texttv\@firstofone%
301 \LetLtxMacro\textl\@firstofone%
302 \LetLtxMacro\texto\@firstofone%
303 \LetLtxMacro\textp\@firstofone%
304 \LetLtxMacro\textt\@firstofone%
305 \LetLtxMacro\textpl\@firstofone%
306 \LetLtxMacro\textpo\@firstofone%
307 \LetLtxMacro\texttl\@firstofone%
308 \LetLtxMacro\textto\@firstofone%
309 \LetLtxMacro\textol\@firstofone%
310 \LetLtxMacro\textswash\@firstofone%
311 \LetLtxMacro\textu\@firstofone%
312 \LetLtxMacro\textscu\@firstofone%
313 \LetLtxMacro\textui\@firstofone%
314 \LetLtxMacro\textri\@firstofone%
315 \LetLtxMacro\textnw\@firstofone%
316 \LetLtxMacro\textcd\@firstofone%
317 \LetLtxMacro\textec\@firstofone%
318 \LetLtxMacro\textuc\@firstofone%
319 \LetLtxMacro\textet\@firstofone%
320 \LetLtxMacro\textep\@firstofone%
321 \LetLtxMacro\textex\@firstofone%
322 \LetLtxMacro\textux\@firstofone%
323 \LetLtxMacro\textrw\@firstofone%
324 \LetLtxMacro\textmb\@firstofone%
325 \LetLtxMacro\textdb\@firstofone%
326 \LetLtxMacro\textsb\@firstofone%
327 % \LetLtxMacro\texteb\@firstofone%
328 \LetLtxMacro\textub\@firstofone%
329 % \LetLtxMacro\textlg\@firstofone%
330 \LetLtxMacro\textel\@firstofone%
331 \LetLtxMacro\textul\@firstofone%
332 }
333
334 \providecommand*\zeroslash{}
335 \newrobustcmd*\LWR@HTML@zeroslash{}
336 \LWR@formatted{zeroslash}

```

---

File 334 **lwarp-nicefrac.sty**

§ 443 Package **nicefrac**

*(Emulates or patches code by AXEL REICHERT.)*

Pkg nicefrac nicefrac is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass[nicefrac][1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@UnitsNiceFrac}[3][[]]{%
3 {% localize font selection
4 #1{%
5 \LWR@textcurrentfont{%
6 \InlineClass{numerator}{#2}%
7 /%
8 \InlineClass{denominator}{#3}%
9 }%
10 }%
11 }%
12 }
13
14 \LWR@formatted{@UnitsNiceFrac}
15
16 \DeclareRobustCommand*\LWR@HTML@UnitsUglyFrac}[3][[]]{%
17 {% localize font selection
18 #1{\LWR@textcurrentfont{#2/#3}}%
19 }%
20 }
21
22 \LWR@formatted{@UnitsUglyFrac}

```

For MATHJAX:

```

23 \begin{warpMathJax}
24 \CustomizeMathJax{\newcommand{\nicefrac}[3][[]]{\mathinner{{}^{\#2}\!/\/\!_{\#3}}}}
25 \end{warpMathJax}

```

---

File 335 **lwarp-niceframe.sty**

§ 444 Package **niceframe**

Pkg niceframe niceframe is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop[niceframe]% the original date is in yyyy/dd/mm format

2 \newcommand{\LWR@niceframe}[3]{%
3 \begin{LWR@setvirtualpage}*%
4 \setlength{\LWR@templengthone}{#1}%
5 \begin{BlockClass}[max-width:\LWR@printlength{\LWR@templengthone}]{#3}%
6 #2
7 \end{BlockClass}%
8 \end{LWR@setvirtualpage}%
9 }
10
11 \newcommand{\niceframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{niceframe}}
12 \newcommand{\curlyframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{curlyframe}}

```

```

13 \newcommand{\artdecoframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{artdecoframe}}
14
15 \newcommand{\generalframe}[9]{\LWR@niceframe{\textwidth}{#9}{generalframe}}


```

File 336 **lwarp-nicematrix.sty**

§ 445 Package **nicematrix**

*(Emulates or patches code by F. PANTIGNY.)*

Pkg nicematrix nicematrix is used as-is for SVG math, and is emulated for MATHJAX.

 **MATHJAX** Keys/values are ignored in MATHJAX. \Cdots, etc. do not span multiple cells. AutoNiceMatrix, etc. are not supported for MATHJAX. SVG math output preserves all nicematrix features. To force SVG output for one or more consecutive math expressions, for inline math use \inlinemathother and \inlinemathnormal, or for display math use \displaymathother and \displaymathnormal.

**for HTML output:** 1 \LWR@ProvidesPackagePass[nicematrix][2020/11/23]

NiceTabular must be converted to SVG to support the various nicematrix options:

```

2 \begin{warpHTML}
3 \BeforeBeginEnvironment{NiceTabular}{%
4 \begin{lateximage}[-nicematrix-~\PackageDiagramAltText]%
5 }
6 \AfterEndEnvironment{NiceTabular}{\end{lateximage}}
7 \BeforeBeginEnvironment{NiceTabular*}{%
8 \begin{lateximage}[-nicematrix-~\PackageDiagramAltText]%
9 }
10 \AfterEndEnvironment{NiceTabular*}{\end{lateximage}}
11 \end{warpHTML}

```

Special handling for the optional arguments, and the lack of a delimiter:

```

12 \begin{warpMathJax}
13 \CustomizeMathJax{\newcommand{\LWRnicearrayarray}[1]{\begin{array}{#1}}}
14 \CustomizeMathJax{\def\LWRnicearrayarrayopt#1[#2] {\begin{array}{#1}}}
15
16 \CustomizeMathJax{%
17 \newenvironment{NiceArray}[2][[%
18 {\ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
19 {\end{array}}}%
20 }
21
22 \CustomizeMathJax{%
23 \newcommand{\LWRnicearraywithdelimitwo}[2][[%
24 {\ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
25 }%
26 }

```



```

71 \CustomizeMathJax{\newcommand{\LWRnicematrixBlock}[1]{#1}}
72 \CustomizeMathJax{\def\LWRnicematrixBlockopt<#1>#2{#2}}
73
74 \CustomizeMathJax{%
75 \newcommand{\Block}[2][\ifnextchar<\LWRnicematrixBlockopt\LWRnicematrixBlock}%
76 }

```

Form an approximation:

```

77 \CustomizeMathJax{%
78 \newcommand{\diagbox}[2]{%
79 \begin{array}{l}\hfill\quad#2\\\hline#1\quad\hfill\end{array}%
80 }%
81 }

```

More approximations:

```

82 \CustomizeMathJax{\let\hdottedline\hdashline}

83 \CustomizeMathJax{\let\Hline\hline}
84
85 \CustomizeMathJax{\newcommand{\ldots}[1][\dots]}
86 \CustomizeMathJax{\newcommand{\cdots}[1][\cdots]}
87 \CustomizeMathJax{\newcommand{\vdots}[1][\vdots]}
88 \CustomizeMathJax{\newcommand{\Ddots}[1][\ddots]}
89 \CustomizeMathJax{\newcommand{\Iddots}[1][\mathinner{\unicode{x22F0}}]}
90
91 \CustomizeMathJax{\newcommand{\Hdotsfor}[1]{\ldots}}
92 \CustomizeMathJax{\newcommand{\Vdotsfor}[1]{\vdots}}

```

There is no way to emulate `AutoNiceMatrix` in `MATHJAX`.

```

93 \CustomizeMathJax{\newcommand{\AutoNiceMatrix}[2]{\text{(AutoNiceMatrix #1)}}}
94 \CustomizeMathJax{\let\pAutoNiceMatrix\AutoNiceMatrix}
95 \CustomizeMathJax{\let\bAutoNiceMatrix\AutoNiceMatrix}
96 \CustomizeMathJax{\let\BAutoNiceMatrix\AutoNiceMatrix}
97 \CustomizeMathJax{\let\vAutoNiceMatrix\AutoNiceMatrix}
98 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
99 \end{warpMathJax}

```

---

File 337 **lwarp-noitcrul.sty**

§ 446 Package **noitcrul**

*(Emulates or patches code by PAUL EBERMANN.)*

Pkg noitcrul noitcrul is used as-is for SVG and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{noitcrul}[2006/04/11]

2 \begin{warpMathJax}

---

```

3 \CustomizeMathJax{\newcommand{\noitUnderline}[1]{\underline{#1}\!}}
4 \end{warpMathJax}

```

---

File 338 **lwarp-nolbreaks.sty**

§ 447 Package **nolbreaks**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg nolbreaks nolbreaks is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{nolbreaks}[2012/05/31]

2 \NewDocumentCommand{\nolbreaks}{s m}{\InlineClass{nolbreaks}{#2}}

```

---

File 339 **lwarp-nomencl.sty**

§ 448 Package **nomencl**

(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)

Pkg nomencl nomencl is patched for use by lwarp.

To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.list -o <project>_html.nls
```

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{nomencl}[2005/09/22]

```

\BaseJobname is added to the label in case xr or xr-hyper are used.

```

2 \def\@@@nomenclature[#1]#2#3{%
3 \def\@tempa{#2}\def\@tempb{#3}%
4 \protected@write\@nomenclaturefile{%
5 {\string\nomenclatureentry{#1\nom@verb\@tempa @[\nom@verb\@tempa]}%
6 \begingroup\nom@verb\@tempb\protect\nomeqref{\theequation}%
7 |nompageref{\theLWR@previousautopagelabel}}% lwarp
8 \endgroup
9 \@esphack}
10
11 \renewcommand*\pagedeclaration[1]{, \nameref{\BaseJobname-autopage-#1}}%

```

---

File 340 **lwarp-nonfloat.sty**

§ 449 Package **nonfloat**

(Emulates or patches code by KAI RASCHER.)



Pkg nonfloat nonfloat is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nonfloat}[1999/07/05]

```

2 \LetLtxMacro\topcaption\caption
3 \newcommand{\figcaption}{\def\@captype{figure}\caption}
4 \newcommand{\tabcaption}{\def\@captype{table}\topcaption}
5 \newenvironment{narrow}[2]{}{}
```

---

File 341 **lwarp-nonumonpart.sty**

§ 450 Package **nonumonpart**

Pkg nonumonpart nonumonpart is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

---

File 342 **lwarp-nopageno.sty**

§ 451 Package **nopageno**

Pkg nopageno nopageno is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]

---

File 343 **lwarp-notes.sty**

§ 452 Package **notes**

Pkg notes notes is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{notes}[2002/10/29]

```

2 \newcommand*{\LWR@notes@onenote}[2]{%
3 \newenvironment{#1}
4 {
5 \BlockClass{notes#1}
6 \begin{BlockClass}{notesicon}\textcircled{~#2~}\end{BlockClass}
7 \BlockClass{notescontents}
8 }
9 {\endBlockClass\endBlockClass}
10 }
11
12 \LWR@notes@onenote{importantnote}{!}
13
14 \LWR@notes@onenote{warningnote}{--}
15
16 \LWR@notes@onenote{informationnote}{i}
```

---

File 344 **lwarp-notespages.sty**

§ 453 Package **notespages**

Pkg notespages notespages is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{notespages}[2016/08/21]

```

2 \newcommand*\npnotesname{}
3 \newcommand*\npnotestext{}
4 \newcommand*\remainingtextheight{}
5 \newdimen\remainingtextheight
6 \newcommand*\notestitletext{}
7 \newcommand*\notesareatext{}
8 \newcommand*\npnpinfo}[1]{}
9 \newcommand*\tracingnmarks{}
10 \newcommand*\notespage}[1]{}
11 \newcommand*\notespages}[1]{}
12 \newcommand*\notesfill}[1]{}
13 \newcommand*\setnotespages}[1]{}
14 \newcommand*\definotesoption}[2]{}
15 \newcommand*\definotesstyle}[2]{}
16 \newcommand*\definetitlestyle}[2]{}
17 \newcommand*\nppatchchapter}[1]{}
18 \newcommand*\npunpatchchapter{}

```

---

File 345 **lwarp-nowidow.sty**

§ 454 Package **nowidow**

*(Emulates or patches code by RAPHAËL PINSON.)*

Pkg nowidow nowidow is ignored.

**for HTML output:** Discard all options for lwarp-nowidow [2011/09/20]

```

\nowidow [⟨lines⟩]
\setnowidow [⟨lines⟩]

2 \newcommand*\nowidow}[1]{}
3 \newcommand*\setnowidow}[1]{}

\noclub [⟨lines⟩]
\setnoclub [⟨lines⟩]

4 \newcommand*\noclub}[1]{}
5 \newcommand*\setnoclub}[1]{}

```

File 346 **lwarp-ntheorem.sty**

§ 455 Package **ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

Pkg ntheorem ntheorem is patched for use by lwarp.

Table 20: Ntheorem package — css styling of theorems and proofs


**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader<style>

where <theoremstyle> is plain, break, etc.


### § 455.1 Limitations

 **Font control** This conversion is not total. Font control is via css, and the custom L<sup>A</sup>T<sub>E</sub>X font settings are ignored.

 **Equation numbering** ntheorem has a bug with equation numbering in  $\mathcal{A}\mathcal{M}\mathcal{S}$  environments when the option thref is used. lwarp does not share this bug, so equations with \split, etc, are numbered correctly with lwarp's HTML output, but not with the print output. It is recommended to use cleveref instead of ntheorem's thref option.

### § 455.2 Options

Options amsthm or standard choose which set of theorems and proofs to initialize.

 **Disabled options** The options thmmarks and amsmath are disabled, since they heavily modify the underlying math code. Theorem marks are emulated. The AMS-math modifications are not done.

Option thref is disabled because cleveref functions are used instead. \thref is emulated.

Option hyperref is disabled because lwarp emulated hyperref.

**for HTML output:** Some disabled options:

```

1 \DeclareOption{thref}{
2 \AtEndDocument{
3 \PackageWarningNoLine{lwarp}{%
4 Lwarp uses cleveref, which takes over ntheorem's\MessageBreak
5 referencing, including
6 \protect\label \space and \protect\thref.\MessageBreak
7 Cleveref does not accept ntheorem's optional\MessageBreak
8 argument for \protect\label, so it will appear\MessageBreak
9 in the text. It is recommended to remove the\MessageBreak

```

```

10 thref option, \protect\usepackage{cleveref} instead, \MessageBreak
11 and remove any trailing optional arguments for \protect\label%
12 }%
13 }
14 }
15
16
17 \newbool{LWR@theoremmarks}
18 \boolfalse{LWR@theoremmarks}
19
20 \DeclareOption{thmmarks}{
21 \booltrue{LWR@theoremmarks}
22 \newif\ifsetendmark\setendmarktrue
23 }
24
25
26 \newbool{LWR@theoremamsthm}
27 \boolfalse{LWR@theoremamsthm}
28
29 \DeclareOption{amsthm}{\booltrue{LWR@theoremamsthm}}
30
31
32 \DeclareOption{amsmath}{}
33 \DeclareOption{hyperref}{}
34
35 \LWR@ProvidesPackagePass{ntheorem}[2011/08/15]

```

### § 455.3 Remembering the theorem style

Storage for the style being used for new theorems.

```

36 \newcommand{\LWR@newtheoremstyle}{plain}

37 \AtBeginDocument{
38 \ifpackageloaded{cleveref}{
39 \gdef\@thm#1#2#3{%
40 \if@thmmarks
41 \stepcounter{end\InTheoType ctr}%
42 \fi
43 \renewcommand{\InTheoType}{#1}%
44 \if@thmmarks
45 \stepcounter{curr#1ctr}%
46 \setcounter{end#1ctr}{0}%
47 \fi
48 \refstepcounter[#1]{#2}% <<< cleveref modification
49 \theorem@prework
50 \LWR@forcenewpage% lwarp

51 \LWR@printpendingfootnotes% lwarp

52 \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
53 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
54 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
55 \ifthm@inframe

```

```

56 \thm@topsep\theoremframepreskipamount
57 \thm@topsepadd\theoremframepostskipamount
58 \else
59 \thm@topsep\theorempreskipamount
60 \thm@topsepadd\theorempostskipamount
61 \fi
62 \else% oldframeskips
63 \thm@topsep\theorempreskipamount
64 \thm@topsepadd \theorempostskipamount
65 \ifvmode\advance\thm@topsepadd\partopsep\fi
66 \fi
67 \@topsep\thm@topsep
68 \@topsepadd\thm@topsepadd
69 \advance\linewidth -\theorem@indent
70 \advance\linewidth -\theorem@rightindent
71 \advance\@totalleftmargin \theorem@indent
72 \parshape \@ne \@totalleftmargin \linewidth
73 \ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
74 }
75 }{% not @ifpackageloaded{cleveref}
76 \gdef\@thm#1#2#3{%
77 \if@thmmarks
78 \stepcounter{end\InTheoType ctr}%
79 \fi
80 \renewcommand{\InTheoType}{#1}%
81 \if@thmmarks
82 \stepcounter{curr#1ctr}%
83 \setcounter{end#1ctr}{0}%
84 \fi
85 \refstepcounter{#2}%
86 \theorem@prework
87 \LWR@forcenewpage% lwarp

88 \LWR@printpendingfootnotes% lwarp

89 \BlockClass{theorembody#1}\LWR@thisthmstyle% lwarp
90 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
91 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
92 \ifthm@inframe
93 \thm@topsep\theoremframepreskipamount
94 \thm@topsepadd\theoremframepostskipamount
95 \else
96 \thm@topsep\theorempreskipamount
97 \thm@topsepadd\theorempostskipamount
98 \fi
99 \else% oldframeskips
100 \thm@topsep\theorempreskipamount
101 \thm@topsepadd \theorempostskipamount
102 \ifvmode\advance\thm@topsepadd\partopsep\fi
103 \fi
104 \@topsep\thm@topsep
105 \@topsepadd\thm@topsepadd
106 \advance\linewidth -\theorem@indent
107 \advance\linewidth -\theorem@rightindent
108 \advance\@totalleftmargin \theorem@indent

```

```

109 \parshape \@ne \@totalleftmargin \linewidth
110 \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
111 }
112 }
113 }% AtBeginDocument

```

Patched to remember the style being used for new theorems:

```

114 \gdef\theoremstyle#1{%
115 \@ifundefined{th@#1}{\@warning
116 {Unknown theoremstyle ‘#1’. Using ‘plain’}%
117 \theorem@style{plain}
118 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
119 }%
120 {
121 \theorem@style{#1}
122 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
123 }
124 }

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

125
126 \gdef\@xnthm#1#2[#3]{%
127 \ifthm@tempif
128 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
129 \expandafter\@ifundefined{c@#1}%
130 {\@definecounter{#1}}{}%
131 \@newctr{#1}[#3]%
132 \expandafter\xdef\csname the#1\endcsname{%
133 \expandafter\@noexpand\csname the#3\endcsname \@thmcountersep
134 {\@noexpand\csname\the\theoremnumbering\endcsname{#1}}}%
135 \expandafter\gdef\csname mkheader@#1\endcsname
136 {\csname setparms@#1\endcsname
137 \@thm{#1}{#1}{#2}
138 }%
139 \global\@namedef{end#1}{\@endtheorem}
140 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
141 \fi
142 }
143
144 \gdef\@ynthm#1#2{%
145 \ifthm@tempif
146 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
147 \expandafter\@ifundefined{c@#1}%
148 {\@definecounter{#1}}{}%
149 \expandafter\xdef\csname the#1\endcsname
150 {\@noexpand\csname\the\theoremnumbering\endcsname{#1}}%
151 \expandafter\gdef\csname mkheader@#1\endcsname
152 {\csname setparms@#1\endcsname
153 \@thm{#1}{#1}{#2}
154 }%
155 \global\@namedef{end#1}{\@endtheorem}
156 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp

```

```

157 \fi
158 }
159
160 \gdef\@thm#1[#2]#3{%
161 \ifundefined{c@#2}{\@nocounterr{#2}}%
162 {\ifthm@tempif
163 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
164 \global\@namedef{the#1}{\@nameuse{the#2}}%
165 \expandafter\protected@xdef\csname num@addtheorem#1\endcsname{%
166 \noexpand\@num@addtheorem#1}{#3}}%
167 \expandafter\protected@xdef\csname nonum@addtheorem#1\endcsname{%
168 \noexpand\@nonum@addtheorem#1}{#3}}%
169 \theoremkeyword{#3}%
170 \expandafter\protected@xdef\csname #1Keyword\endcsname
171 {\the\theoremkeyword}%
172 \expandafter\gdef\csname mkheader@#1\endcsname
173 {\csname setparms@#1\endcsname
174 \@thm{#1}{#2}{#3}
175 }%
176 \global\@namedef{end#1}{\@endtheorem}
177 \AtBeginEnvironment{#1}{\edef\LWR@thmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
178 \fi}
179 }

```

#### § 455.4 HTML cross-referencing

Mimics a float by incrementing the float counter and generating an HTML anchor. These are used for list-of-theorem cross-references.

```

180 \newcommand{\LWR@intheorem}{%
181 \addtocounter{LWR@thisautoid}{1}}%
182 \LWR@stoppars%
183 \LWR@htmltag{%
184 a id=\textquotedbl\LWR@print@mbx{autoid-\arabic{LWR@thisautoid}}\textquotedbl%
185 }%
186 \LWR@htmltag{/a}%
187 \LWR@startpars%
188 }

```

#### § 455.5 \newtheoremstyle

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader<style>.

```

189 \gdef\newtheoremstyle#1#2#3{%
190 \expandafter\ifundefined{th@#1}%
191 {\expandafter\gdef\csname th@#1\endcsname{%
192 \def\@begintheorem####1####2{%
193 \LWR@intheorem% lwarp

```

```

194 #2}%
195 \def\@opargbegintheorem####1####2####3{%
196 \LWR@intheorem% lwarp
197 #3}%
198 }%
199 }%
200 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}
201 }

```

## § 455.6 Standard styles

```

202 \renewtheoremstyle{plain}%
203 {\item[
204 \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
205 {\item[
206 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]}
207
208 \renewtheoremstyle{break}%
209 {\item[
210 \InlineClass{theoremheaderbreak}{##1\ ##2\theorem@separator}\newline
211]}%
212 {\item[
213 \InlineClass{theoremheaderbreak}%
214 {##1\ ##2\ (##3)\theorem@separator}\newline
215]}
216
217 \renewtheoremstyle{change}%
218 {\item[
219 \InlineClass{theoremheaderchange}{##2\ ##1\theorem@separator}]}%
220 {\item[
221 \InlineClass{theoremheaderchange}{##2\ ##1\ (##3)\theorem@separator}]}
222
223 \renewtheoremstyle{changebreak}%
224 {\item[
225 \InlineClass{theoremheaderchangebreak}%
226 {##2\ ##1\theorem@separator}\newline
227]}%
228 {\item[
229 \InlineClass{theoremheaderchangebreak}%
230 {##2\ ##1\ (##3)\theorem@separator}\newline
231]}
232
233 \renewtheoremstyle{margin}%
234 {\item[
235 \InlineClass{theoremheadermargin}{##2 \quad ##1\theorem@separator}
236]}%
237 {\item[
238 \InlineClass{theoremheadermargin}{##2 \quad ##1\ (##3)\theorem@separator}
239]}
240
241 \renewtheoremstyle{marginbreak}%
242 {\item[
243 \InlineClass{theoremheadermarginbreak}%
244 {##2 \quad ##1\theorem@separator}\newline
245]}%

```



```

246 {\item[
247 \InlineClass{theoremheadermarginbreak}%
248 {##2 \quad ##1\ (##3)\theoremseparator}\newline
249]}
250
251 \renewtheoremstyle{nonumberplain}%
252 {\item[
253 \InlineClass{theoremheaderplain}{##1\theoremseparator}]]%
254 {\item[
255 \InlineClass{theoremheaderplain}{##1\ (##3)\theoremseparator}]]}
256
257 \renewtheoremstyle{nonumberbreak}%
258 {\item[
259 \InlineClass{theoremheaderbreak}{##1\theoremseparator}\newline
260]}%
261 {\item[
262 \InlineClass{theoremheaderbreak}{##1\ (##3)\theoremseparator}\newline
263]}
264
265 \renewtheoremstyle{empty}%
266 {\item[]}%
267 {\item[
268 \InlineClass{theoremheaderplain}{##3}]]}
269
270 \renewtheoremstyle{emptybreak}%
271 {\item[]}%
272 {\item[
273 \InlineClass{theoremheaderplain}{##3}] \ \newline}

```

### § 455.7 Additional objects

The following manually adjust the css for the standard configuration objects which are not a purely plain style:

```
274 \ifbool{LWR@theoremamsthm}{}{%
```

Upright text via CSS:

```

275 \newtheoremstyle{plainupright}%
276 {\item[
277 \InlineClass{theoremheaderplain}{##1\ ##2\theoremseparator}]]%
278 {\item[
279 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theoremseparator}]]}

```

Upright text and small caps header via CSS:

```

280 \newtheoremstyle{nonumberplainuprightsc}%
281 {\item[
282 \InlineClass{theoremheadersc}{##1\theoremseparator}]]%
283 {\item[
284 \InlineClass{theoremheadersc}{##1\ (##3)\theoremseparator}]]}
285 }% not amsthm

```

## § 455.8 Renewed standard configuration

The following standard configuration is renewed using the new css:

```

286 \ifbool{LWR@theoremamsthm}{}{%

287 \ifx\thm@usestd\undefined
288 \else
289 \theoremnumbering{arabic}
290 \theoremstyle{plain}
291 \RequirePackage{latexsym}
292 \theoremsymbol{\Box}
293 \theorembodyfont{\itshape}
294 \theoremheaderfont{\normalfont\bfseries}
295 \theoremseparator{}
296 \renewtheorem{Theorem}{Theorem}
297 \renewtheorem{theorem}{Theorem}
298 \renewtheorem{Satz}{Satz}
299 \renewtheorem{satz}{Satz}
300 \renewtheorem{Proposition}{Proposition}
301 \renewtheorem{proposition}{Proposition}
302 \renewtheorem{Lemma}{Lemma}
303 \renewtheorem{lemma}{Lemma}
304 \renewtheorem{Korollar}{Korollar}
305 \renewtheorem{korollar}{Korollar}
306 \renewtheorem{Corollary}{Corollary}
307 \renewtheorem{corollary}{Corollary}
308
309 \theoremstyle{plainupright}
310 \theorembodyfont{\upshape}
311 \theoremsymbol{\HTMLUnicode{25A1}}% UTF-8 white box
312 \renewtheorem{Example}{Example}
313 \renewtheorem{example}{Example}
314 \renewtheorem{Beispiel}{Beispiel}
315 \renewtheorem{beispiel}{Beispiel}
316 \renewtheorem{Bemerkung}{Bemerkung}
317 \renewtheorem{bemerkung}{Bemerkung}
318 \renewtheorem{Anmerkung}{Anmerkung}
319 \renewtheorem{anmerkung}{Anmerkung}
320 \renewtheorem{Remark}{Remark}
321 \renewtheorem{remark}{Remark}
322 \renewtheorem{Definition}{Definition}
323 \renewtheorem{definition}{Definition}
324
325 \theoremstyle{nonumberplainuprightsc}
326 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
327 \renewtheorem{Proof}{Proof}
328 \renewtheorem{proof}{Proof}
329 \renewtheorem{Beweis}{Beweis}
330 \renewtheorem{beweis}{Beweis}
331 \qedsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
332
333 \theoremsymbol{}
334 \fi
335 }% not amsthm

```

§ 455.9 **amsthm option**

Only if the `amsthm` option was given:

```

336 \ifbool{LWR@theoremamsthm}{
337
338 \gdef\th@plain{%
339 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
340 \def\@begintheorem##1##2{%
341 \LWR@intheorem% lwarp
342 \item[
343 \InlineClass{theoremheaderplain}{##1\ ##2.}
344]}%
345 \def\@opargbegintheorem##1##2##3{%
346 \LWR@intheorem% lwarp
347 \item[
348 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3).}
349]}}
350
351 \gdef\th@nonumberplain{%
352 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
353 \def\@begintheorem##1##2{%
354 \LWR@intheorem% lwarp
355 \item[
356 \InlineClass{theoremheaderplain}{##1.}
357]}%
358 \def\@opargbegintheorem##1##2##3{%
359 \LWR@intheorem% lwarp
360 \item[
361 \InlineClass{theoremheaderplain}{##1\ (##3).}
362]}}
363
364 \gdef\th@definition{%
365 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
366 \def\@begintheorem##1##2{%
367 \LWR@intheorem% lwarp
368 \item[
369 \InlineClass{theoremheaderdefinition}{##1\ ##2.}
370]}%
371 \def\@opargbegintheorem##1##2##3{%
372 \LWR@intheorem% lwarp
373 \item[
374 \InlineClass{theoremheaderdefinition}{##1\ ##2\ (##3).}
375]}}
376
377 \gdef\th@nonumberdefinition{%
378 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
379 \def\@begintheorem##1##2{%
380 \LWR@intheorem% lwarp
381 \item[
382 \InlineClass{theoremheaderdefinition}{##1.}
383]}%
384 \def\@opargbegintheorem##1##2##3{%
385 \LWR@intheorem% lwarp
386 \item[

```

```

387 \InlineClass{theoremheaderdefinition}{##1\ (##3).}
388]}}
389
390 \gdef\th@remark{%
391 \def\theorem@headerfont{\itshape}\normalfont%
392 \def\@begintheorem##1##2{%
393 \LWR@intheorem% lwarp
394 \item[
395 \InlineClass{theoremheaderremark}{##1\ ##2.}
396]}%
397 \def\@opargbegintheorem##1##2##3{%
398 \LWR@intheorem% lwarp
399 \item[
400 \InlineClass{theoremheaderremark}{##1\ ##2\ (##3).}
401]}}
402
403 \gdef\th@nonumberremark{%
404 \def\theorem@headerfont{\itshape}\normalfont%
405 \def\@begintheorem##1##2{%
406 \LWR@intheorem% lwarp
407 \item[
408 \InlineClass{theoremheaderremark}{##1.}
409]}%
410 \def\@opargbegintheorem##1##2##3{%
411 \LWR@intheorem% lwarp
412 \item[
413 \InlineClass{theoremheaderremark}{##1\ (##3).}
414]}}
415
416 \gdef\th@proof{%
417 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
418 \def\@begintheorem##1##2{%
419 \LWR@intheorem% lwarp
420 \item[
421 \InlineClass{theoremheaderproof}{##1.}
422]}%
423 \def\@opargbegintheorem##1##2##3{%
424 \LWR@intheorem% lwarp
425 \item[
426 \InlineClass{theoremheaderproof}{##1\ (##3).}
427]}}
428
429
430
431 \newcounter{proof}%
432 \if@thmmarks
433 \newcounter{currproofctr}%
434 \newcounter{endproofctr}%
435 \fi
436
437 \gdef\proofSymbol{\openbox}
438
439 \newcommand{\proofname}{Proof}
440
441 \newenvironment{proof}[1][\proofname]{

```

```

442 \th@proof
443 \def\theorem@headerfont{\itshape}%
444 \normalfont
445 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
446 \@thm{proof}{proof}{#1}
447 }%
448 {\@endtheorem}
449
450 }{}% amsthm option

```

### § 455.10 **Ending a theorem**

Patched for css:

```

451 \let\LWR@origendtheorem\@endtheorem
452 \renewcommand{\@endtheorem}{%
453 \ifbool{LWR@theoremmarks}{%
454 \ifsetendmark%
455 \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
456 \setendmarkfalse%
457 \fi%
458 }{}%
459 \LWR@origendtheorem% also does \@endtrivlist
460 \ifbool{LWR@theoremmarks}{\global\setendmarktrue}{}}%

461 \LWR@printpendingfootnotes% lwarp

462 \endBlockClass%
463 }

```

### § 455.11 **\NoEndMark**

```
464 \gdef\NoEndMark{\global\setendmarkfalse}
```

### § 455.12 **List-of**

Redefined to reuse the float mechanism to add list-of-theorem links:

```

\thm@thmline {<1: printed type>} {<2: #>} {<3: optional>} {<4: page>}

465 \renewcommand{\thm@thmline@noname}[4]{%
466 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}}%
467 }
468
469 \renewcommand{\thm@thmline@name}[4]{%
470 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}}%
471 }

```

This was redefined by ntheorem when loaded, so it is now redefined for lwarp:

```
472 \def\thm@thmline{\thm@thmline@name}
```

Patch for css:

```

473 \def\listtheorems#1{
474 \LWR@html@elementclass{nav}{lohtm}%
475 \begingroup
476 \c@tocdepth=-2%
477 \def\thm@list{#1}\thm@processlist
478 \endgroup
479 \LWR@html@elementclassend{nav}{lohtm}%
480 }

```

### § 455.13 Symbols

Proof QED symbol:

```

481 \newcommand{\qed}{\quad\the\qedsymbol}
482
483 \AtBeginDocument{
484 \ifundefined{LWR@orig@openbox}{
485 \LetLtxMacro\LWR@orig@openbox\openbox
486 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
487 \LetLtxMacro\LWR@orig@Box\Box
488
489 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
490 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
491 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
492
493 \appto\LWR@restoreorigformatting{%
494 \LetLtxMacro\openbox\LWR@orig@openbox%
495 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
496 \LetLtxMacro\Box\LWR@orig@Box%
497 }% appto
498 }{}% @ifundefined
499 }% AtBeginDocument

```

### § 455.14 Cross-referencing

`\thref {<label>}`

```
500 \newcommand*{\thref}[1]{\cref{#1}}%
```

File 347 **lwarp-octave.sty**

### § 456 Package **octave**

*(Emulates or patches code by ANDREW A. CASHNER.)*

Pkg octave octave is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{octave}[2017/10/31]

Remove the leading 1pt kern:

```
2 \RenewDocumentCommand{\@PrintTicks}{ m }{%
```

```

3 \kern-1pt% lwarp
4 \@TickNum = #1%
5 \loop
6 \@Tick{}%
7 \advance\@TickNum by -1
8 \ifnum\@TickNum > 0
9 \repeat
10 }

```

Use unicode for the prime character:

```
11 \RenewDocumentCommand{\@Tick}{}{\HTMLUnicode{2032}}
```

Catch the inline font:

```

12 \RenewDocumentCommand{\pitch}{ m o m }{%
13 \if@OctaveNumber%
14 {%
15 \pitchfont{%
16 \LWR@textcurrentfont{% lwarp
17 \MakeUppercase{#1}%
18 \IfValueTF{#2}{#2}{\textsubscript{#3}%
19 }%
20 }%
21 }%
22 \else%
23 {%
24 \pitchfont{%
25 \LWR@textcurrentfont{% lwarp
26 \@GetOctaveTick{#1}[#2]{#3}%
27 }%
28 }%
29 }%
30 \fi%
31 }

```

The original was hard to adapt to lwarp's handling of &.

```

32 \StartDefiningTabulars
33 \renewcommand{\octavetable}{%
34 \begin{tabular}{ll}
35 \octaveprimes \pitch{C}{0} & \octavenumbers \pitch{C}{0} \\
36 \octaveprimes \pitch{C}{1} & \octavenumbers \pitch{C}{1} \\
37 \octaveprimes \pitch{C}{2} & \octavenumbers \pitch{C}{2} \\
38 \octaveprimes \pitch{C}{3} & \octavenumbers \pitch{C}{3} \\
39 \octaveprimes \pitch{C}{4} & \octavenumbers \pitch{C}{4} \\
40 \octaveprimes \pitch{C}{5} & \octavenumbers \pitch{C}{5} \\
41 \octaveprimes \pitch{C}{6} & \octavenumbers \pitch{C}{6} \\
42 \octaveprimes \pitch{C}{7} & \octavenumbers \pitch{C}{7} \\
43 \end{tabular}
44 }
45 \StopDefiningTabulars

```

---

File 348 **lwarp-orcidlink.sty**

§ 457 Package **orcidlink**

*(Emulates or patches code by LEO C. STEIN.)*

Pkg orcidlink **orcidlink** is patched for use by **lwarp**.

**for HTML output:**

```

1 \RequirePackage{lwarp-scalerel}
2
3 \LWR@ProvidesPackagePass{orcidlink}[2020/11/21]

4 \renewcommand\orcidlink[1]{%
5 \texorpdfstring%
6 {%
7 \href%
8 {https://orcid.org/#1}%
9 {%
10 \begin{lateximage}[orcid #1]% lwarp
11 \mbox{%
12 \scalerel*{%
13 \begin{tikzpicture}[yscale=-1,transform shape]
14 \pic{orcidlogo};
15 \end{tikzpicture}
16 }{|}%
17 }%
18 \end{lateximage}% lwarp
19 }%
20 }%
21 }%
22 }
23
24 \begin{warpMathJax}
25 \CustomizeMathJax{\newcommand{\orcidlink}[1]{}}
26 \end{warpMathJax}

```


---

File 349 **lwarp-overpic.sty**

§ 458 Package **overpic**

*(Emulates or patches code by ROLF NIEPRASCHK.)*

Pkg overpic **overpic** is patched for use by **lwarp**.

 **scaling** The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.



See section 88.2 for the print-mode version of `\overpicfontsize` and `\overpicfontskip`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{overpic}[2017/10/06]

2 \newcommand*{\overpicfontsize}{12}
3 \newcommand*{\overpicfontskip}{14}
4
5 \BeforeBeginEnvironment{overpic}{%
6 \begin{lateximage}%
7 \fontsize{\overpicfontsize}{\overpicfontskip}%
8 \selectfont%
9 }
10
11 \AfterEndEnvironment{overpic}{\end{lateximage}}
12
13 \BeforeBeginEnvironment{Overpic}{%
14 \begin{lateximage}%
15 \fontsize{\overpicfontsize}{\overpicfontskip}%
16 \selectfont%
17 }
18
19 \AfterEndEnvironment{Overpic}{\end{lateximage}}
```

---

File 350 **lwarp-pagegrid.sty**

§ 459 Package **pagegrid**

Pkg pagegrid pagegrid is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]


2 \newcommand*{\pagegridsetup}[1]{}
```

---

File 351 **lwarp-pagenote.sty**

§ 460 Package **pagenote**

Pkg pagenote pagenote works as-is, but the page option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

**for HTML output:**

```

1 \DeclareOption{page}{}
2 \LWR@ProvidesPackagePass{pagenote}[2009/09/03]
```

For MATHJAX:

```

3 \begin{warpMathJax}
4 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{\LWRpagenote}{\thepagenote}}
5 \CustomizeMathJax{\def\LWRpagenote{1}}
```

```
6 \CustomizeMathJax{\newcommand{\pagenote}[2][\LWRpagenote]{\mathrm{#1}}}
7 \end{warpMathJax}
```

There is no `\pagenotemark`, so the following are not required:

```
\providecommand{\pagenotename}{pagenote}
\appto\LWR@syncnotenames{\LWR@synconenotename[LWRpagenote]{\pagenotename}}
```

File 352 **lwarp-pagesel.sty**

§ 461 Package **pagesel**

Pkg pagesel pagesel is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]

File 353 **lwarp-paralist.sty**

§ 462 Package **paralist**

*(Emulates or patches code by BERND SCHANDL.)*

Pkg paralist paralist is supported with minor changes.

**for HTML output:** 1 \LWR@ProvidesPackagePass{paralist}[2017/01/22]

The compact environments are identical to the regular ones:

```
2 \LetLtxMacro\compactitem\itemize
3 \LetLtxMacro\compactenum\enumerate
4 \LetLtxMacro\compactdesc\description
5 \LetLtxMacro\endcompactitem\enditemize
6 \LetLtxMacro\endcompactenum\endenumerate
7 \LetLtxMacro\endcompactdesc\enddescription
```

For the inline environments, revert `\item` to its original print-mode version:

```
8 \AtBeginEnvironment{inparaitem}{\LetLtxMacro\item\LWR@origitem}
9 \AtBeginEnvironment{inparaenum}{\LetLtxMacro\item\LWR@origitem}
10 \AtBeginEnvironment{inparadesc}{\LetLtxMacro\item\LWR@origitem}
```

Manual formatting of the description labels:

```
11 \def\paradescriptionlabel#1{\normalfont\textbf{#1}}
```

File 354 **lwarp-parallel.sty**

§ 463 Package **parallel**

(Emulates or patches code by MATTHIAS ECKERMANN.)

Pkg parallel parallel is emulated.

Package options are ignored. Footnotes are treated as normal lwarp footnotes.

Environment option `c` gives side-by-side `<div>`s of class `minipage`, each of whose width is a percent depending on the given left and right widths, proportional to `\linewidth`.

Inside each environment, `\linewidth` and `\textwidth` are set for the print-output sizes.

for HTML output: Discard all options for lwarp-parallel:

```

1 \LWR@ProvidesPackageDrop{parallel}[2003/04/13]

2 \newcounter{LWR@parallel@Lwidth}
3 \newcounter{LWR@parallel@Rwidth}
4 \newcommand*{\LWR@parallel@border}
5
6 \newenvironment*{Parallel}[3][[%
7 {%
8 \LWR@printpendingfootnotes%
9 \setlength{\linewidth}{\LWR@userstextwidth}%
10 \setlength{\textwidth}{\LWR@userstextwidth}%
11 \renewcommand*{\LWR@parallel@border}{}%
12 \ifstrequal{#1}{v}%
13 {%
14 \renewcommand*{\LWR@parallel@border}{ ; border-left: 2px solid black}%
15 }%
16 }%
17 \ifblank{#2}{%
18 \ifblank{#3}{% {}{}
19 \setcounter{LWR@parallel@Lwidth}{45}%
20 \setcounter{LWR@parallel@Rwidth}{45}%
21 }% {}{}
22 {% {}{x}
23 \setlength{\LWR@templengthone}{\linewidth-#3}%
24 \setcounter{LWR@parallel@Lwidth}{%
25 90*\ratio{\LWR@templengthone}{\linewidth}%
26 }%
27 \setcounter{LWR@parallel@Rwidth}{%
28 90*\ratio{#3}{\linewidth}%
29 }%
30 }% {}{x}
31 }% #2 blank
32 {% #2 non-blank

```

```

33 \ifblank{#3}{% {x}{}}
34 \setcounter{LWR@parallel@Lwidth}{%
35 90*\ratio{#2}{\linewidth}%
36 }%
37 \setlength{LWR@templengthone}{\linewidth-#2}%
38 \setcounter{LWR@parallel@Rwidth}{%
39 90*\ratio{LWR@templengthone}{\linewidth}%
40 }%
41 }% {x}{x}
42 {% {x}{x}
43 \setcounter{LWR@parallel@Lwidth}{%
44 90*\ratio{#2}{\linewidth}%
45 }%
46 \setcounter{LWR@parallel@Rwidth}{%
47 90*\ratio{#3}{\linewidth}%
48 }%
49 }% {x}{x}
50 }% #2 non-blank
51 }
52 {%
53 \ParallelAtEnd%
54 \renewcommand*{\ParallelAtEnd}{}%
55 \LWR@printpendingfootnotes%
56 }
57
58 \newcommand*{\ParallelLText}[1]{%
59 \begin{BlockClass}[%
60 width:\arabic{LWR@parallel@Lwidth}\% ; % space
61 padding: .5ex 1\% ; % space
62]{minipage}%
63 #1%
64 \end{BlockClass}%
65 }
66
67 \newcommand*{\ParallelRText}[1]{%
68 \begin{BlockClass}[%
69 width:\arabic{LWR@parallel@Rwidth}\% ; % space
70 padding: .5ex 1\% ; % space
71 \LWR@parallel@border%
72]{minipage}%
73 #1%
74 \end{BlockClass}%
75 }
76
77 \newcommand*{\ParallelPar}{\LWR@printpendingfootnotes}
78
79 \newcommand*{\ParallelAtEnd}{}

```

---

File 355 **lwarp-parcolumns.sty**

§ 464 Package **parcolumns**

(Emulates or patches code by JONATHAN SAUER.)

Pkg parcolumns parcolumns is emulated.

rulebetween is honored. The other keys are ignored, including colwidths.

Each column is placed inside a <div> of class minipage, each of whose width is fixed at 85% divided by the number of columns. In most cases, this results in side-by-side minipages adapting to the browser width. Inside each minipage, \linewidth, \textwidth, and \textheight are set for a virtual 6 × 9 inch page, with \linewidth divided by the number of columns.

**for HTML output:** Discard all options for lwarp-parcolumns:

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDrop{parcolumns}[2004/11/25]

4 \newcounter{LWR@parcolumns@numcols}
5 \newcounter{LWR@parcolumns@thiscol}
6 \newcounter{LWR@parcolumns@width}
7 \newbool{LWR@parcolumns@started}
8 \newbool{LWR@parcolumns@rule}
9
10 \define@key{LWRparcols}{colwidths}{}
11 \define@key{LWRparcols}{distance}{}
12 \define@key{LWRparcols}{rulebetween}[true]{%
13 \setbool{LWR@parcolumns@rule}{#1}%
14 }
15 \define@key{LWRparcols}{nofirstindent}{}
16 \define@key{LWRparcols}{sloppy}{}
17 \define@key{LWRparcols}{sloppyspaces}{}
18
19 \newenvironment*{parcolumns}[2][[]
20 {%
21 \begin{LWR@setvirtualpage}*[#2]%
22 \setcounter{LWR@parcolumns@numcols}{#2}%
23 \setcounter{LWR@parcolumns@thiscol}{1}%
24 \boolfalse{LWR@parcolumns@started}%
25 \boolfalse{LWR@parcolumns@rule}%
26 \setcounter{LWR@parcolumns@width}{%
27 85/#2
28 }%
29 \setkeys{LWRparcols}{#1}%
30 }
31 {%

32 \colplacechunks%
33 \end{LWR@setvirtualpage}%
34 }
35
36 \newcommand{\LWR@parcolumns@onecol}[1]{%
37 \ifbool{LWR@parcolumns@started}%
38 {}%
39 {%
40 \LWR@htmldivclass{parcolumns}%
41 \booltrue{LWR@parcolumns@started}%

```

```

42 }%
43 \ifboolexpr{%
44 bool {LWR@parcolumns@rule} and
45 test {%
46 \ifnumgreater
47 {\value{LWR@parcolumns@thiscol}}
48 {1}
49 }%
50 }%
51 {\renewcommand{\LWR@tempone}{ ; border-left: 2px solid black}}%
52 {\renewcommand{\LWR@tempone}{}}%
53 \begin{BlockClass}[%
54 width:\arabic{LWR@parcolumns@width}\% ; % space
55 padding: .5ex 1\% ; % space
56 \LWR@tempone%
57]{minipage}%
58 #1%
59 \end{BlockClass}%
60 \addtocounter{LWR@parcolumns@thiscol}{1}%
61 }
62
63 \newcommand{\colchunk}[2][\value{LWR@parcolumns@thiscol}]{%
64 \whileboolexpr{%
65 test {%
66 \ifnumcomp%
67 {\value{LWR@parcolumns@thiscol}}
68 {<}
69 {#1}%
70 }%
71 }{%
72 \LWR@parcolumns@onecol{}}%
73 }%
74 \LWR@parcolumns@onecol{#2}%
75 }
76
77 \newcommand*{\colplacechunks}{%
78 \ifbool{LWR@parcolumns@started}%
79 {%
80 \LWR@htmldivclassend{div}%
81 \boolfalse{LWR@parcolumns@started}%
82 }%
83 }%
84 \setcounter{LWR@parcolumns@thiscol}{1}%
85 }

```

---

File 356 **lwarp-parnotes.sty**

§ 465 Package **parnotes**

(Emulates or patches code by CHELSEA HUGHES.)

Pkg parnotes parnotes is supported with some patches.

for HTML output:

```

1 \LWR@ProvidesPackagePass{parnotes}[2016/08/15]

2 \long\def\PN@parnote@real#1#2{%
3 \parnotemark{#1}%
4 % Unless this is the first parnote in \PN@text, add a separator first
5 \unless\ifx\PN@text\@empty\g@addto@macro\PN@text{\parnoteintercmd}\fi
6 % Redefine \@currentlabel to the parnote label, so \label works
7 \g@addto@macro\PN@text{%
8 \phantomsection%
9 \def\@currentlabel{#1}%
10 \def\cref@currentlabel{% lwarp
11 [parnotemark][\arabic{parnotemark}][\theparnotemark%
12]%
13 }%
14 \g@addto@macro\PN@text{%
15 \LWR@textcurrentfont{% lwarp
16 \parnotemark{#1}\nolinebreak\thinspace#2%
17 }%
18 }%
19 }
20
21 \def\PN@parnotes@real{%
22 % We call \par later, so this avoids recursion with \PN@parnotes@auto
23 \PN@inparnotestrue
24 \unless\ifvmode\par\fi
25 % Avoid page breaks between a paragraph and its parnotes
26 \nopagebreak\addvspace{\parnotevskip}%
27 \LWR@forcenewpage% lwarp
28 \begin{BlockClass}(note){footnotes}% lwarp
29 {\parnotefmt{\PN@text}}\par}%
30 \end{BlockClass}% lwarp
31 \global\def\PN@text{}%
32 \addvspace{\parnotevskip}%
33 %
34 % These can be enabled or disabled by package options
35 %
36 \PN@disable@indent
37 \PN@reset@optional
38 \PN@inparnotesfalse
39 }
40
41 \AtBeginDocument{
42 \crefname{parnotemark}{paragraph note}{paragraph notes}
43 \Crefname{parnotemark}{Paragraph note}{Paragraph notes}
44 }

```

For MATHJAX:

```

45 \begin{warpMathJax}
46 \providecommand{\parnotename}{parnote}
47 \appto\LWR@syncnotenumbers{%
48 \addtocounter{parnotemark}{-1}% specific to parnotes
49 \LWR@synconenotenummer{\LWRparnote}{\theparnotemark}%
50 \addtocounter{parnotemark}{1}% specific to parnotes
51 }

```

---

```

52 \appto\LWR@syncnotenames{\LWR@synconenotename{LWRparnote}{\parnotename}}
53 \CustomizeMathJax{\def\LWRparnote{1}}
54 \CustomizeMathJax{\newcommand{\parnote}[2][\LWRparnote]{{}^{\mathrm{#1}}}}
55 \CustomizeMathJax{\newcommand{\parnotemark}[1][\LWRparnote]{{}^{\mathrm{#1}}}}
56 \end{warpMathJax}

```

---

File 357 **lwarp-parskip.sty**

§ 466 Package **parskip**

Pkg parskip parskip is ignored.

**for HTML output:** Discard all options for lwarp-parskip.

```
1 \LWR@ProvidesPackageDrop{parskip}[2001/04/09]
```

---

File 358 **lwarp-pbalance.sty**

§ 467 Package **pbalance**

Pkg pbalance pbalance is ignored.

**for HTML output:**

```

1 \RequirePackage{balance}
2
3 \LWR@ProvidesPackageDrop{pbalance}[2020/12/16]

4 \newcommand\shrinkLastPage[1]{}

```

---

File 359 **lwarp-pbox.sty**

§ 468 Package **pbox**

*(Emulates or patches code by SIMON LAW.)*

Pkg pbox pbox is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pbox}[2011/12/07]

2 \NewDocumentCommand{\pbox}{0{t} 0{} 0{t} m +m}{%
3 \global\booltrue{LWR@minipagefullwidth}%
4 \parbox[#1][#2][#3]{#4}{#5}%
5 }
6
7 \newcommand{\settominwidth}[3][\columnwidth]{%
8 \settowidth{#2}{#3}%
9 }
10

```



---

```

11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }

```

---

File 360 **lwarp-pdfcol.sty**

§ 469 Package **pdfcol**

Pkg pdfcol pdfcol is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]
2
3 \ltx@newif\ifpdfcolAvailable
4 \pdfcolAvailablefalse
5
6 \def\pdfcolErrorNoStacks{
7 \PackageInfo{lwarp-pdfcol}{Ignoring pdfcol for HTML output.}
8 }
9
10 \def\pdfcolInitStack#1{%
11
12 \long\def\pdfcolIfStackExists#1#2#3{#3}%
13
14 \def\pdfcolSwitchStack#1{%
15
16 \def\pdfcolSetCurrentColor{%
17
18 \def\pdfcolSetCurrent#1{%

```

---

File 361 **lwarp-pdfcolfoot.sty**

§ 470 Package **pdfcolfoot**

Pkg pdfcolfoot pdfcolfoot is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcolfoot}[2016/05/16]
2
3 \newcommand*{\pdfcolfoot@switch}{}
4
5 \newcommand*{\pdfcolfoot@current}{}

```

---

File 362 **lwarp-pdfcolmk.sty**

§ 471 Package **pdfcolmk**

Pkg pdfcolmk pdfcolmk is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

```

File 363 **lwarp-pdfcolparallel.sty**

§ 472 Package **pdfcolparallel**

Pkg pdfcolparallel pdfcolparallel is ignored.

**for HTML output:**

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDropA{pdfcolparallel}{2016/05/16}

```

Pass options to parallel:

```

4 \DeclareOption*{%
5 \PassoptionsToPackage{\CurrentOption}{parallel}%
6 }

```

Process the options:

```

7 \LWR@ProvidesPackageDropB

```

Require parallel with the given options:

```

8 \RequirePackage{parallel}[2003/04/13]

```

Ignore the new key:

```

9 \define@key{parallel}{rulebetweencolor}{}

```

File 364 **lwarp-pdfcolparcolumns.sty**

§ 473 Package **pdfcolparcolumns**

Pkg pdfcolparcolumns pdfcolparcolumns is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDropA{pdfcolparcolumns}{2016/05/16}

```

Pass options to parcolumns:

```

2 \DeclareOption*{%
3 \PassoptionsToPackage{\CurrentOption}{parcolumns}%
4 }

```

Process the options:

```

5 \LWR@ProvidesPackageDropB

```

Require parcolumns with the given options:

```
6 \RequirePackage{parcolumns}[2004/11/25]
```

Ignore the new key:

```
7 \define@key{LWRparcols}{rulebetweencolor}{}
```

File 365 **lwarp-pdfcomment.sty**

§ 474 Package **pdfcomment**

Pkg pdfcomment pdfcomment is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcomment}[2016/06/13]

```
2 \newenvironment{pdfsidelinecomment}[2][{}]{}
```

```
3 \newcommand{\pdfcomment}[2][{}]
```

```
4 \newcommand{\pdfmargincomment}[2][{}]
```

```
5 \newcommand{\pdfmarkupcomment}[3][{}]{#2}
```

```
6 \newcommand{\pdfreetextcomment}[2][{}]
```

```
7 \newcommand{\pdfsquarecomment}[2][{}]
```

```
8 \newcommand{\pdfcirclecomment}[2][{}]
```

```
9 \newcommand{\pdflinecomment}[2][{}]
```

```
10 \newcommand{\pdftooltip}[3][{}]{#2}
```

```
11 \newcommand{\pdfcommentssetup}[2][{}]
```

```
12 \newcommand{\listofpdfcomments}[1][{}]
```

```
13 \newcommand{\setliststyle}[1][{}]
```

```
14 \newcommand{\defineliststyle}[2][{}]
```

```
15 \newcommand{\defineavatar}[2][{}]
```

```
16 \newcommand{\definestyle}[2][{}]
```

For MATHJAX:

```
17 \begin{warpMathJax}
```

```
18 \CustomizeMathJax{\newcommand{\pdfmarkupcomment}[3][{}]{#2}}
```

```
19 \CustomizeMathJax{\newcommand{\pdftooltip}[3][{}]{#2}}
```

```
20 \end{warpMathJax}
```

File 366 **lwarp-pdfcrypt.sty**

§ 475 Package **pdfcrypt**

Pkg pdfcrypt pdfcrypt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

```
2 \newcommand*{\pdfcryptsetup}[1][{}]
```

File 367 **lwarp-pdflandscape.sty**

§ 476 Package **pdflandscape**

Pkg pdflandscape pdflandscape is ignored.

**for HTML output:** Discard all options for lwarp-pdflandscape:

```

1 \LWR@ProvidesPackageDrop{pdflandscape}[2019/12/05]

2 \let\landscape\relax
3 \let\endlandscape\relax
4
5 \newenvironment*{landscape}{}{}

```

File 368 **lwarp-pdfmarginpar.sty**

§ 477 Package **pdfmarginpar**

Pkg pdfmarginpar pdfmarginpar is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfmarginpar}[2011/08/05]

```

2 \newcommand{\pdfmarginpar}[2][{}]{
3 \newcommand{\pdfmarginparset}[1]{

```

File 369 **lwarp-pdfpages.sty**

§ 478 Package **pdfpages**

*(Emulates or patches code by ANDREAS MATTHIAS.)*

Pkg pdfpages pdfpages is patched for use by lwarp.

Option link and linkname work:

```

\hyperlink{<filename>.pdf.<pagenumber>}{some text}
\hyperlink{<linkname>.<pagenumber>}{some text}

```

Options which make no sense in HTML are disabled.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdfpages}[2017-10-31]

Disable option which have no meaning for HTML output:

```

2 \define@key{pdfpages}{fitpaper}[false]{}
3 \define@key{pdfpages}{landscape}[false]{}
4 \define@key{pdfpages}{openright}[false]{}
5 \define@key{pdfpages}{signature}{}
6 \define@key{pdfpages}{signature*}{}
7 \define@key{pdfpages}{booklet}[false]{}
8 \define@key{pdfpages}{rotateoversize}[false]{}
9 \define@key{pdfpages}{doublepages}[false]{}
10 \define@key{pdfpages}{doublepageswist}[false]{}
11 \define@key{pdfpages}{doublepageswistodd}[false]{}
12 \define@key{pdfpages}{doublepageswist*}[false]{}
13 \define@key{pdfpages}{doublepageswistodd*}[false]{}
14 \define@key{pdfpages}{duplicatepages}[2]{}
15 \define@key{pdfpages}{thread}[false]{}
16 \define@key{pdfpages}{threadname}{}
17 \define@key{pdfpages}{linkfit}{}
18 \define@key{pdfpages}{linktodoc}[false]{}
19 \define@key{pdfpages}{linktodocfit}{}
20 \define@key{pdfpages}{linkfilename}{}
21 \define@key{pdfpages}{survey}[false]{}
22 \define@key{pdfpages}{survey-nolink}[false]{}
23 \define@key{pdfpages}{newwindow}[false]{}

```

Use print mode while measuring the page numbers:

```

24 \xpretocmd{\AM@getpagecount}{\LWR@restoreorigformatting}{}{}

```

Emulate a bit of eso-pic:

```

25 \newif\ifESO@texcoord
26
27 \newcommand{\ESO@HookIIBG}{}
28
29 \renewcommand{\AM@AddToShipoutPicture}{\g@addto@macro\ESO@HookIIBG}
30
31 \renewcommand{\ClearShipoutPicture}{}

```

`\LWR@esopic@newpage` At each `\newpage`.

```

32 \newcommand*{\LWR@esopic@newpage}{}

```

Is there something to draw?

```

33 \ifdefvoid{\ESO@HookIIBG}%
34 {}%
35 {}%

```

If the link option was specified, add a hyper target:

```

36 \ifAM@link%
37 \hypertarget{\AM@linkname.\AM@page}{}%
38 \fi%

```

Draw inside a picture environment of the size of a virtual page:

```

39 \begingroup%
40 \setlength{\unitlength}{1in}%
41 \begin{picture}(8,10.5)%
42 \ESO@HookIIBG%
43 \end{picture}%
44 \endgroup%
45 \global\let\ESO@HookIIBG\@empty%
46 }
47 }

```

`\AM@output` Patched to use `\LWR@esopic@newpage`.

```

48 \xpatchcmd{\AM@output}
49 {\newpage}
50 {\LWR@esopic@newpage}
51 {}
52 {\LWR@patcherror{pdfpages}{AM@output-1}}
53
54 \xpatchcmd{\AM@output}
55 {\newpage}
56 {\LWR@esopic@newpage}
57 {}
58 {\LWR@patcherror{pdfpages}{AM@output-2}}
59
60 \xpatchcmd{\AM@output}
61 {\newpage}
62 {\LWR@esopic@newpage}
63 {}
64 {\LWR@patcherror{pdfpages}{AM@output-3}}

```

`\includepdf` Patched to set the user's paper size.

```

65 \xpretocmd{\includepdf}{%
66 \begingroup%
67 \setlength{\paperwidth}{\LWR@userspaperwidth}%
68 \setlength{\paperheight}{\LWR@userspaperheight}%
69 }{}{}
70
71 \xapptocmd{\includepdf}{%
72 \endgroup%
73 }{}{}

```

`\includepdfmerge` Patched to set the user's paper size.

```

74 \xpretocmd{\includepdfmerge}{%
75 \begingroup%
76 \setlength{\paperwidth}{\LWR@userspaperwidth}%
77 \setlength{\paperheight}{\LWR@userspaperheight}%
78 }{}{}
79
80 \xapptocmd{\includepdfmerge}{%
81 \endgroup%
82 }{}{}

```

`\AM@hyper@begin@i` Hyper links are created by `\LWR@esopic@newpage`, so don't create them here:

```
83 \renewcommand{\AM@hyper@begin@i}{}

```

---

File 370 **lwarp-pdfprivacy.sty**

§ 479 Package **pdfprivacy**

Pkg pdfprivacy pdfprivacy is ignored.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]`

---

File 371 **lwarp-pdfrender.sty**

§ 480 Package **pdfrender**

Pkg pdfrender pdfrender is allowed during HTML, but it has no effect on HTML text output. pdfrender is enabled for use with `xfakebold`, and it is enabled during HTML so that it may be in use when an SVG math image is started. I.e. `xfakebold`'s `\setBold` may be used outside of a math expression and still be detected when the math begins.

The `lwarp-pdfrender` package is present because it used to disable `pdfrender`, so this newer version is to overwrite older versions.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{pdfrender}[2019/12/29]`

---

File 372 **lwarp-pdfsync.sty**

§ 481 Package **pdfsync**

*(Emulates or patches code by J. LAURENS.)*

Pkg pdfsync pdfsync is ignored.

**for HTML output:** Discard all options for `lwarp-pdfsync`:

```
1 \LWR@ProvidesPackageDrop{pdfsync}[2008/01/26]

```

```
2 \newcommand*{\pdfsync}{}
3 \newcommand*{\pdfsyncstart}{}
4 \newcommand*{\pdfsyncstop}{}

```


---

File 373 **lwarp-pdftricks.sty**

§ 482 Package **pdftricks**

*(Emulates or patches code by C. V. RADHAKRISHNAN, C. V. RAJAGOPAL, ANTOINE CHAMBERT-LOIR.)*

Pkg pdftricks pdftricks is patched for use by lwarp.

 **convert image files** The pdftricks image files <jobname>-fig\*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ **lwarpmk pdftosvg <jobname>-fig\*.pdf**

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdftricks}[2003/08/10]

Reuse the print-mode images:

2 \def\PDFTfigname{\BaseJobname-fig\thepsfig}

If the .pdf images have not yet been converted to .svg then an error about a missing file will occur. Warn the user to convert the images.

```
3 \PackageWarning{lwarp-pdftricks}{
4 When the pdftricks images change,
5 remember to convert PDF images to SVG using 'lwarpmk pdftosvg *-fig.pdf',
6 }
7
8 \AfterEndDocument{\typeout{***}}
9 \AfterEndDocument{\typeout{*** Note: If pdftricks images are not found, new, or updated,}}
10 \AfterEndDocument{\typeout{*** \space use 'lwarpmk pdftosvg \BaseJobname-fig*.pdf'}}
11 \AfterEndDocument{\typeout{***}}
```

---

File 374 **lwarp-pdfx.sty**

§ 483 Package **pdfx**

Pkg pdfx pdfx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfx}[2017/05/18]

---

File 375 **lwarp-perpage.sty**

§ 484 Package **perpage**

*(Emulates or patches code by DAVID KASTRUP.)*

Pkg perpage perpage is mostly ignored, but support is added for footnote counters.

There is no page number in HTML, so most counters are not reset. If the document redefines \the<countername> to include \theperpage, it is necessary to place that redefinition inside a warpprint environment to avoid modifying the HTML definitions.



`\AddAbsoluteCounter` must not be inside `warpprint`, as the counter must be added for HTML also, although it is not incremented.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
```

— or —

```
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{perpage}[2014/10/25]
2 \newcommand\AddAbsoluteCounter[1]
3 {
4 \ifundefined{c@abs#1}{%
5 \expandafter\newcount\csname c@abs#1\endcsname
6 \global\value{abs#1}\@ne
7 \global\expandafter\let\csname cl@abs#1\endcsname\@empty
8 \expandafter\xdef\csname theabs#1\endcsname{%
9 \noexpand\number \csname c@abs#1\endcsname
10 }%
11 \global\@namedef{c@pabs@#1}{\pp@cl@begin
12 \stepcounter{abs#1}%
13 \pp@cl@end}%
14 \@addtoreset{pabs@#1}{#1}
15 }
16 {}
17 }
18
19 \AddAbsoluteCounter{page}
20 \def\theabspage{1}
21
22 \newcommand*\MakePerPage[2][1]{%
23 \ifltxcounter{#2Reset}{%
24 \setcounter{#2Reset}{#1}%
25 }{
26
27 }%
28 }
29
30 \newcommand*\MakeSorted[1]{}
31
32 \newcommand*\MakeSortedPerPage[2][1]{%
33 \ifltxcounter{#2Reset}{%
34 \setcounter{#2Reset}{#1}%
35 }{
36 }%
37 }
```


```
38
39 \newcommand*{\theperpage}{1}
```

---

File 376 **lwarp-pfnote.sty**

§ 485 Package **pfnote**

Pkg pfnote pfnote is ignored.

 **pfnote numbers** While emulating pfnote, lwarp is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. lwarp therefore uses continuous footnote numbering even for pfnote.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pfnote}[1999/07/14]

---

File 377 **lwarp-phfqit.sty**

§ 486 Package **phfqit**

*(Emulates or patches code by PHILIPPE FAIST.)*

Pkg phfqit phfqit is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{phfqit}[2017/08/16]

```
2 \LetLtxMacro\LWR@origbitstring\bitstring
3
4 \renewcommand\bitstring[1]{%
5 \InlineClass[%
6 text-decoration: overline underline ;
7]{bitstring}{#1}%
8 % \phfqit@bitstring{#1}%
9 }
10
11 \appto\LWR@restoreorigformatting{%
12 \LetLtxMacro\bitstring\LWR@origbitstring%
13 }
```

---

File 378 **lwarp-physics.sty**

§ 487 Package **physics**

*(Emulates or patches code by SERGIO C. DE LA BARRERA.)*

Pkg physics physics works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 physics extension is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{physics}% No date is provided by the package.
2 \begin{warpMathJax}
3 \PackageWarningNoLine{lwarp, physics}{The MathJax v3 extension will be used}
4 \CustomizeMathJax{\require{physics}}
5 \end{warpMathJax}

```

---

File 379 **lwarp-physunits.sty**

§ 488 Package **physunits**

*(Emulates or patches code by BRIAN W. MULLIGAN.)*

Pkg physunits physunits is supported as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{physunits}[2020/03/26]
2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{physunits}
4
5 \CustomizeMathJax{\newcommand{\micro}{\mu}}
6 \CustomizeMathJax{\newcommand{\V}[1][]{\, \mathrm{#1V}}}
7 \CustomizeMathJax{\newcommand{\Volt}[1][]{\, \mathrm{#1V}}}
8 \CustomizeMathJax{\newcommand{\Coulomb}[1][]{\, \mathrm{#1C}}}
9 \CustomizeMathJax{\newcommand{\esu}{\, \mathrm{esu}}}
10 \CustomizeMathJax{\newcommand{\Ohm}[1][]{\, \mathrm{#1\Omega}}}
11 \CustomizeMathJax{\newcommand{\Amp}[1][]{\, \mathrm{#1A}}}
12 \CustomizeMathJax{\newcommand{\Farad}[1][]{\, \mathrm{#1F}}}
13 \CustomizeMathJax{\newcommand{\Tesla}[1][]{\, \mathrm{#1T}}}
14 \CustomizeMathJax{\newcommand{\Gauss}[1][]{\, \mathrm{#1G}}}
15 \CustomizeMathJax{\newcommand{\Henry}[1][]{\, \mathrm{#1H}}}
16 \CustomizeMathJax{\newcommand{\eV}[1][]{\, \mathrm{#1eV}}}
17 \CustomizeMathJax{\newcommand{\keV}{\, \mathrm{keV}}}
18 \CustomizeMathJax{\newcommand{\MeV}{\, \mathrm{MeV}}}
19 \CustomizeMathJax{\newcommand{\J}[1][]{\, \mathrm{#1J}}}
20 \CustomizeMathJax{\newcommand{\Joule}[1][]{\, \mathrm{#1J}}}
21 \CustomizeMathJax{\newcommand{\erg}{\, \mathrm{erg}}}
22 \CustomizeMathJax{\newcommand{\kcal}{\, \mathrm{kcal}}}
23 \CustomizeMathJax{\newcommand{\Cal}{\, \mathrm{Cal}}}
24 \CustomizeMathJax{\newcommand{\calorie}[1][]{\, \mathrm{#1cal}}}
25 \CustomizeMathJax{\newcommand{\BTU}{\, \mathrm{BTU}}}
26 \CustomizeMathJax{\newcommand{\tnt}{\, \mathrm{ton\, of\, TNT}}}
27 \CustomizeMathJax{\newcommand{\Watt}[1][]{\, \mathrm{#1W}}}
28 \CustomizeMathJax{\newcommand{\hpi}{\, \mathrm{hp(I)}}}
29 \CustomizeMathJax{\newcommand{\hpm}{\, \mathrm{hp(M)}}}
30 \CustomizeMathJax{\newcommand{\hp}{\, \mathrm{hp}}}
31 \CustomizeMathJax{\newcommand{\meter}[1][]{\, \mathrm{#1m}}}
32 \CustomizeMathJax{\newcommand{\m}[1][]{\, \mathrm{#1m}}}
33 \CustomizeMathJax{\newcommand{\km}{\, \mathrm{km}}}
34 \CustomizeMathJax{\newcommand{\au}{\, \mathrm{au}}}
35 \CustomizeMathJax{\newcommand{\pc}[1][]{\, \mathrm{#1pc}}}
36 \CustomizeMathJax{\newcommand{\ly}[1][]{\, \mathrm{#1ly}}}

```

```

37 \CustomizeMathJax{\newcommand{\cm}{\, \mathrm{cm}}}
38 \CustomizeMathJax{\newcommand{\nm}{\, \mathrm{nm}}}
39 \CustomizeMathJax{\newcommand{\ft}{\, \mathrm{ft}}}
40 \CustomizeMathJax{\newcommand{\inch}{\, \mathrm{in}}}
41 \CustomizeMathJax{\newcommand{\mi}{\, \mathrm{mi}}}
42 \CustomizeMathJax{\newcommand{\s}[1][]{\, \mathrm{#1s}}}
43 \CustomizeMathJax{\newcommand{\Sec}[1][]{\, \mathrm{#1s}}}
44 \CustomizeMathJax{\newcommand{\Min}{\, \mathrm{min}}}
45 \CustomizeMathJax{\newcommand{\h}{\, \mathrm{h}}}
46 \CustomizeMathJax{\newcommand{\y}[1][]{\, \mathrm{#1y}}}
47 \CustomizeMathJax{\newcommand{\Day}{\, \mathrm{d}}}
48
49 \CustomizeMathJax{\newcommand{\gm}[1][]{\, \mathrm{#1g}}}
50 \CustomizeMathJax{\newcommand{\kg}{\, \mathrm{kg}}}
51 \CustomizeMathJax{\newcommand{\lb}{\, \mathrm{lb}}}
52 \CustomizeMathJax{\newcommand{\amu}{\, \mathrm{amu}}}
53 \CustomizeMathJax{\newcommand{\N}[1][]{\, \mathrm{#1N}}}
54 \CustomizeMathJax{\newcommand{\Newton}[1][]{\, \mathrm{#1N}}}
55 \CustomizeMathJax{\newcommand{\dyne}[1][]{\, \mathrm{#1dyn}}}
56 \CustomizeMathJax{\newcommand{\lbf}{\, \mathrm{lbf}}}
57 \CustomizeMathJax{\newcommand{\kmps}{\, \mathrm{km}\, \mathrm{s}^{-1}}}
58 \CustomizeMathJax{\newcommand{\kmph}{\, \mathrm{km}\, \mathrm{h}^{-1}}}
59 \CustomizeMathJax{\newcommand{\mps}[1][]{\, \mathrm{#1m}\, \mathrm{s}^{-1}}}
60 \CustomizeMathJax{\newcommand{\miph}{\, \mathrm{mi}\, \mathrm{h}^{-1}}}
61 \CustomizeMathJax{\newcommand{\kts}{\, \mathrm{kts}}}
62
63 \CustomizeMathJax{\newcommand{\mpss}[1][]{\, \mathrm{#1m}\, \mathrm{s}^{-2}}}
64 \CustomizeMathJax{\newcommand{\gacc}{\, \mathrm{g}}}
65 \CustomizeMathJax{\newcommand{\ftpss}{\, \mathrm{ft}\, \mathrm{s}^{-2}}}
66 \CustomizeMathJax{\newcommand{\K}[1][]{\, \mathrm{#1K}}}
67 \CustomizeMathJax{\newcommand{\Kelvin}[1][]{\, \mathrm{#1K}}}
68 \CustomizeMathJax{\newcommand{\Celcius}{\, ^\circ\mathrm{C}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\, ^\circ\mathrm{R}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\, ^\circ\mathrm{F}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\, \mathrm{rev}\, \mathrm{Min}^{-1}}}
73
74 \CustomizeMathJax{\newcommand{\Hz}[1][]{\, \mathrm{#1Hz}}}
75 \CustomizeMathJax{\newcommand{\barP}[1][]{\, \mathrm{#1bar}}}
76 \CustomizeMathJax{\newcommand{\atm}{\, \mathrm{atm}}}
77 \CustomizeMathJax{\newcommand{\Pa}[1][]{\, \mathrm{#1Pa}}}
78 \CustomizeMathJax{\newcommand{\mmHg}{\, \mathrm{mmHg}}}
79 \CustomizeMathJax{\newcommand{\inHg}{\, \mathrm{inHg}}}
80 \CustomizeMathJax{\newcommand{\lbsi}{\, \mathrm{psi}}}
81 \CustomizeMathJax{\newcommand{\lbsf}{\, \mathrm{psf}}}
82 \CustomizeMathJax{\newcommand{\Ba}[1][]{\, \mathrm{#1Ba}}}
83 \CustomizeMathJax{\newcommand{\Torr}[1][]{\, \mathrm{#1Torr}}}
84 \CustomizeMathJax{\newcommand{\mol}{\, \mathrm{mol}}}
85 \end{warpMathJax}

```

File 380 **lwarp-picinpar.sty**

§ 489 Package **picinpar**

(Emulates or patches code by FRIEDHELM SOWA.)

Pkg picinpar **picinpar** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{picinpar}% No date is assigned.

The window is floated by a BlockClass style.

```

2 \long\def\LWR@HTML@window[#1,#2,#3,#4] {%
3 \if #2r%
4 \begin{BlockClass}[float:right](note){marginblock}%
5 \else%
6 \begin{BlockClass}[float:left](note){marginblock}%
7 \fi%
8 #3\par%
9 #4%
10 \end{BlockClass}%
11 }
12
13 \def\endLWR@HTML@window{}
14
15 \LWR@formattedenv{window}

```

The framepic and wframepic are placed inside a BlockClass of class framebox.

```

16 \def\LWR@HTML@framepic#1{%
17 \begin{BlockClass}{framebox}
18 \expandafter\box\csname #1box\endcsname%
19 \end{BlockClass}
20 }
21 \LWR@formatted{framepic}

22 \def\LWR@HTML@wframepic#1#2{%
23 \begin{BlockClass}{framebox}
24 \expandafter\box\csname #1box\endcsname%
25 \end{BlockClass}
26 }
27 \LWR@formatted{wframepic}

```

The caption is placed inside a BlockClass of class figurecaption.

```

28 \long\def\LWR@HTML@makewincaption#1#2{%
29 \begin{BlockClass}{figurecaption}
30 #1: #2
31 \end{BlockClass}
32 }

```

```
33 \LWR@formatted{@makewincaption}
```

With HTML output, `figwindow` and `tabwindow` must not pre-decrement their counters.

```
34 \long\def\LWR@HTML@figwindow[#1,#2,#3,#4] {%
35 % \advance\c@figure -1
36 \window[#1,#2,{#3},{\def\capttype{figure}%
37 \wincaption#4\par}] }
38
39 \def\endLWR@HTML@figwindow{\endwindow}
40
41 \LWR@formattedenv{figwindow}
```

For `tabwindow`, to change the catcode of `&`, `\StartDefiningTabulars` is used before absorbing the arguments, and `\EndDefiningTabulars` is used at the end of the environment.

```
42 \long\def\LWR@HTML@subtabwindow[#1,#2,#3,#4] {%
43 % \advance\c@table -1
44 \window[#1,#2,{#3},{\def\capttype{table}%
45 \wincaption#4\par}] }
46
47 \newcommand*{\LWR@HTML@tabwindow}{%
48 \StartDefiningTabulars%
49 \LWR@HTML@subtabwindow%
50 }
51
52 \def\endLWR@HTML@tabwindow{%
53 \endwindow%
54 \StopDefiningTabulars%
55 }
56
57 \LWR@formattedenv{tabwindow}
```

---

File 381 **lwarp-pifont.sty**

§ 490 Package **pifont**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg pifont pifont is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{pifont}[2005/04/12]
2 \renewcommand{\Pisymbol}[2]{%
3 \begin{lateximage}*[Pisymbol][pisymbol#1#2]%
4 {\Pifont{#1}\char#2}%
5 \end{lateximage}%
6 }
7
```

---

```

8 \newcommand{\LWR@HTML@Pifill}[2]{
9 \Pisymbol{#1}{#2} \Pisymbol{#1}{#2} \Pisymbol{#1}{#2}
10 }
11 \LWR@formatted{Pifill}
12
13 \newcommand{\LWR@HTML@Piline}[2]{%
14 \par\noindent\hspace*{0.5in}
15 \Pifill{#1}{#2} \Pifill{#1}{#2} \Pifill{#1}{#2}
16 }
17 \LWR@formatted{Piline}

```

---

File 382 **lwarp-pinlabel.sty**

§ 491 Package **pinlabel**

*(Emulates or patches code by COLIN ROURKE.)*

Pkg pinlabel pinlabel is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pinlabel}% no date given

```

2 \xpretocmd{\psfig}
3 {\begin{lateximage}[-pinlabel~\PackageDiagramAltText]}
4 {}
5 {\LWR@patcherror{pinlabel}{psfigA}}
6
7 \xapptocmd{\psfig}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{pinlabel}{psfigB}}

```

---

File 383 **lwarp-placeins.sty**

§ 492 Package **placeins**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg placeins placeins is ignored.

Discard all options for lwarp-placeins:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{placeins}[2005/04/18]

```

2 \newcommand*{\FloatBarrier}{}

```

---

File 384 **lwarp-plarydshln.sty**

§ 493 Package **plarydshln**

Pkg plarydshln plarydshln is emulated by lwarp-arydshln.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{plarydshln}[2018/10/20]
2 \LWR@origRequirePackage{lwarp-arydshln}
```

---

File 385 **lwarp-plext.sty**

§ 494 Package **plext**

Pkg plext plext is preloaded by jarticle and related classes.

**for HTML output:**

```
1 \LWR@loadbefore{plext}
2
3 \LWR@ProvidesPackagePass{plext}[2017/07/21]

4 \let\tate\relax
5
6 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}
7
8 % \layoutfloat(width,height)[pos]#4
9 \DeclareDocumentCommand{\layoutfloat}{d(o m){}
10
11 % \DeclareLayoutCaption{type} <dir>(width)[pos1pos2]
12 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d(o){}
13
14 \LetLtxMacro\pcaption\caption
15
16 % \layoutcaption<dir>(width)[pos]
17 \DeclareDocumentCommand{\layoutcaption}{d<> d(o){}
18
19 \let\captiondir\relax
```

Add the optional <t/y> direction:

```
20 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{ } O{t} m}
21 {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
22 {\endLWR@HTML@sub@minipage}
23
24 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> O{t} O{ } O{t} m +m}
25 {
26 \LWR@traceinfo{parbox of width #4}%
27 \begin{minipage}[#2][#3][#4]{#5}%
```



```

28 #6
29 \end{minipage}%
30 }
31
32 % \pbox <t/y> [width] [l/r] {contents}
33 \RenewDocumentCommand{\pbox}{d<> 0{0pt} 0{c} m}{%
34 \global\booltrue{LWR@minipagefullwidth}%
35 \parbox{#2}{#4}%
36 }

```

picture, as modified by `pext`, is encapsulated by the `lwarp` core.

---

File 386 **lwarp-plextarydshln.sty**

§ 495 Package **plextarydshln**

Pkg `plextarydshln` `plextarydshln` is emulated by `lwarp-arydshln`.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{plextarydshln}[2018/10/20]
2 \LWR@origRequirePackage{lwarp-arydshln}

```

---

File 387 **lwarp-plextcolortbl.sty**

§ 496 Package **plextcolortbl**

Pkg `plextcolortbl` `plextcolortbl` is emulated by `lwarp-colortbl`.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{plextcolortbl}[2018/09/19]
2 \LWR@origRequirePackage{lwarp-colortbl}

```

---

File 388 **lwarp-plimsoll.sty**

§ 497 Package **plimsoll**

*(Emulates or patches code by PALLE JØRGENSEN.)*

Pkg `plimsoll` `plimsoll` is used as-is for SVG math, and emulated for `MATHJAX`.

The `circ` option is honored. For `MATHJAX`, `\plimsollsans` is the same as `\plimsollroman`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{plimsoll}[2020/10/09]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\plimsollroman}{\unicode{x029B5}}}

```

---

```

4
5 \CustomizeMathJax{\let\plimsoll\plimsollroman}
6 \CustomizeMathJax{\let\plimsollsans\plimsoll}
7
8 \ifdefstring{\stst}{^{\circ}}
9 {\CustomizeMathJax{\newcommand{\stst}{^{\circ}}}}
10 {\CustomizeMathJax{\newcommand{\stst}{^{\plimsoll}}}}
11 \end{warpMathJax}

```

---

File 389 **lwarp-prelim2e.sty**

§ 498 Package **prelim2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg prelim2e **prelim2e** is ignored.

**for HTML output:** Discard all options for lwarp-prelim2e:

```

1 \LWR@ProvidesPackageDrop{prelim2e}[2009/05/29]

2 \newcommand{\PrelimText}{}
3 \newcommand{\PrelimTextStyle}{}
4 \newcommand{\PrelimWords}{}

```

---

File 390 **lwarp-prettyref.sty**

§ 499 Package **prettyref**

*(Emulates or patches code by KEVIN S. RULAND.)*

Pkg prettyref **prettyref** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{prettyref}[1998/07/09]

```

2 \newrefformat{fig}{Figure \ref{#1}}
3 \newrefformat{tab}{Table \ref{#1}}

```

---

File 391 **lwarp-preview.sty**

§ 500 Package **preview**

Pkg preview **preview** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{preview}[2017/04/24]

```

2 \newenvironment{preview}{}{}
3 \newenvironment{nopreview}{}{}
4 \NewDocumentCommand{\PreviewMacro}{s o o +m}{}
5 \NewDocumentCommand{\PreviewEnvironment}{s o o +m}{}
6 \newcommand{\PreviewSnarfEnvironment}[2][{}]{
7 \NewDocumentCommand{\PreviewOpen}{s o}{}
8 \NewDocumentCommand{\PreviewClose}{s o}{}
9 \let\ifPreview\iffalse% \fi for syntax highlighting

```


---


File 392 **lwarp-psfrag.sty**

§ 501 Package **psfrag**

*(Emulates or patches code by MICHAEL C. GRANT, DAVID CARLISLE.)*

Pkg psfrag psfrag is patched for use by lwarp.

 **use psfrags** The psfrags environment is modified to use lateximage to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by lwarp.

 Tip: Use a mono-spaced font for the tags in the EPS file.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfrag}[1998/04/11]

A lateximage captures the modified image from the document.

```

2 \BeforeBeginEnvironment{psfrags}{%
3 \begin{lateximage}[-psfrags--\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{lateximage}}

```

---

File 393 **lwarp-psfragx.sty**

§ 502 Package **psfragx**

*(Emulates or patches code by PASCAL KOCKAERT.)*

Pkg psfragx psfragx is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfragx}[2012/05/02]

A lateximage captures the modified image from the document.

```

2 \def\pfx@includegraphicx#1#2{%
3 \begin{lateximage}[-psfragx--\PackageDiagramAltText]%
4 \mbox{\pfx@overpix{#1}{#2}\endpfx@overpix}%

```

```

5 \end{lateximage}%
6 }
7
8 \def\@@@overpix[#1]<#2>[#3]#4{%
9 \begin{lateximage}[-psfrag--\PackageDiagramAltText]%
10 \pfx@overpix{#1,ovpfgd={#2},ovbgd={#3}}{#4}%
11 }
12
13 \def\endoverpix{%
14 \endpfx@overpix%
15 \end{lateximage}%
16 }

```

---

File 394 **lwarp-pst-eps.sty**

§ 503 Package **pst-eps**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg pst-eps pst-eps is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pst-eps}[2005/05/20]

```

2 \renewenvironment{TeXtoEPS}{}{}
3 \renewcommand{\PSTtoEPS}[3][[]]{}

```

---


File 395 **lwarp-pstool.sty**

§ 504 Package **pstool**

*(Emulates or patches code by ZEBB PRIME, WILL ROBERTSON.)*

Pkg pstool pstool is patched for use by lwarp.

\graphicspath is ignored, and the file directory must be stated.

 **path and filename** The filename must not have a file extension.

Use

Enter ⇒ **lwarpmk html**

followed by

Enter ⇒ **lwarpmk limages**

.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pstool}[2018/01/20]

Each image is placed inside a `lateximage` to capture the results of `psfrag`.

```

2 \renewcommand\pstool@alwaysprocess[3][\]{%
3 \begin{lateximage}[-pstool-~\PackageDiagramAltText]%
4 \includegraphics{#2.pdf}%
5 \end{lateximage}%
6 }
7 \LetLtxMacro\pstool@neverprocess\pstool@alwaysprocess
8 \LetLtxMacro\pstool@maybeprocess\pstool@alwaysprocess
9
10 \renewcommand\pstool@psfragfig[4]{%
11 \begin{lateximage}[-pstool-~\PackageDiagramAltText]%
12 \includegraphics{#2.pdf}%
13 \end{lateximage}%
14 }
```


---

File 396 **lwarp-pstricks.sty**

§ 505 Package **pstricks**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg pstricks pstricks is patched for use by lwarp.

 **use pspicture** All pstricks content should be contained inside a pspicture environment.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{pstricks}[2018/01/06]

2 \BeforeBeginEnvironment{pspicture}{%
3 \begin{lateximage}[pspicture]%
4 }
5 \AfterEndEnvironment{pspicture}{\end{lateximage}}
6
7 \BeforeBeginEnvironment{pspicture*}{%
8 \begin{lateximage}[pspicture]%
9 }
10 \AfterEndEnvironment{pspicture*}{\end{lateximage}}
```

---

File 397 **lwarp-pxatbegshi.sty**

§ 506 Package **pxatbegshi**

Pkg pxatbegshi pxatbegshi is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]

2 \LWR@origRequirePackage{lwarp-atbegshi}
```

---

File 398 **lwarp-pxeveryshi.sty**

§ 507 Package **pxeveryshi**

Pkg pxeveryshi pxeveryshi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]

2 \LWR@origRequirePackage{lwarp-everyshi}

---

File 399 **lwarp-pxfonts.sty**

§ 508 Package **pxfonts**

*(Emulates or patches code by YOUNG RYU.)*

Pkg pxfonts pxfonts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pxfonts}[2008/01/22]

For MATHJAX:

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}

3

4 \begin{warpMathJax}

5 \LWR@infoprocessingmathjax{pxfonts}

6

7 \LWR@mathjax@addgreek@l@up{}{up}

8 \end{warpMathJax}

---

File 400 **lwarp-pxftnright.sty**

§ 509 Package **pxftnright**

Pkg pxftnright pxftnright is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]

2 \LWR@origRequirePackage{lwarp-ftnright}

File 401 **lwarp-pxjahyper.sty**

§ 510 Package **pxjahyper**

Pkg pxjahyper pxjahyper is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

File 402 **lwarp-quotchap.sty**

§ 511 Package **quotchap**

*(Emulates or patches code by KARSTEN TINNEFELD, JAN KLEVER.)*

Pkg quotchap quotchap is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{quotchap}[2019/07/09]

```
2 \newcommand{\@quotchap}{}
3 \newlength{\LWR@quotchapwidth}
4
5 \let\@printcites\relax
6
7 \newcommand*{\@iprintcites}{%
```

Place the quotes inside a <div> of class quotchap, of the maximum selected width:

```
8 \begin{BlockClass}[max-width: \LWR@printlength{\LWR@quotchapwidth}]{quotchap}
9 %\begin{minipage}{\LWR@quotchapwidth}
10 \@quotchap
11 %\end{minipage}
12 \end{BlockClass}
```

Deactivate the quote printing:

```
13 \global\let\@printcites\relax
14 }
15
16 \NewEnviron{savequote}[1][\linewidth]{%
```

Remember the width, adjusted for HTML, and make the length assignment global, per:

<https://tex.stackexchange.com/questions/300823/>

[why-is-setlength-ineffective-inside-a-tabular-environment](#)

```
17 \setlength{\LWR@quotchapwidth}{#1*2}%
18 \global\LWR@quotchapwidth=\LWR@quotchapwidth%
```

Remember the body, and activate the quote printing:

```
19 \global\let\@quotchap\BODY
20 \global\let\@printcites\@iprintcites%
21 }
```

The quotation author is placed inside a <div> of class qauthor:

```
22 \newcommand{\qauthor}[1]{%
23 \LWR@stoppars%
24 \begin{BlockClass}{qauthor}%
25 {#1}%
26 \end{BlockClass}%
27 \LWR@startpars%
28 }
```

Fonts are ignored. Use css.

```
29 \newcommand{\qsetcnfont}[1]{%
30 \providecommand*\quotefont{}}
31 \providecommand*\qauthorfont{}}
```

---

File 403 **lwarp-quoting.sty**

§ 512 Package **quoting**

(Emulates or patches code by THOMAS TITZ.)

Pkg quoting quoting is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{quoting}[2014/01/28]

```
2 \xpatchcmd{\quoting}{\quo@begintext}
3 {\begin{LWR@blocktextcurrentfont}\quo@begintext}
4 {}
5 {\LWR@patcherror{quoting}{quoting}}
6
7 \xpatchcmd{\endquoting}{\quo@endtext}
8 {\quo@endtext\end{LWR@blocktextcurrentfont}\LWR@stoppars}
9 {}
10 {\LWR@patcherror{quoting}{endquoting}}
```

---

File 404 **lwarp-ragged2e.sty**

§ 513 Package **ragged2e**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg ragged2e ragged2e is emulated.



Discard all options for `lwarp-ragged2e`:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ragged2e}[2009/05/21]

2 \LetLtxMacro\Centering\centering
3 \LetLtxMacro\RaggedLeft\raggedleft
4 \LetLtxMacro\RaggedRight\raggedright
5 \newcommand*\justifying{}
6 \newlength{\CenteringLeftskip}
7 \newlength{\RaggedLeftLeftskip}
8 \newlength{\RaggedRightLeftskip}
9 \newlength{\CenteringRightskip}
10 \newlength{\RaggedLeftRightskip}
11 \newlength{\RaggedRightRightskip}
12 \newlength{\CenteringParfillskip}
13 \newlength{\RaggedLeftParfillskip}
14 \newlength{\RaggedRightParfillskip}
15 \newlength{\JustifyingParfillskip}
16 \newlength{\CenteringParindent}
17 \newlength{\RaggedLeftParindent}
18 \newlength{\RaggedRightParindent}
19 \newlength{\JustifyingParindent}
20 \newenvironment*{Center}\center{\endcenter}
21 \newenvironment*{FlushLeft}\flushleft{\endflushleft}
22 \newenvironment*{FlushRight}\flushright{\endflushright}
23 \newenvironment*{justify}\justifying{\endjustifying}

```

---

File 405 **lwarp-realscripts.sty**

§ 514 Package **realscripts**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg realscripts **realscripts** is emulated. See `lwarp.css` for the `<span>` of class `supsubscript`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{realscripts}[2016/02/13]

```

The following are copied verbatim from the original, but given new names, since `xparse` definitions should not be `\let`.

```

2 \ExplSyntaxOn
3
4 \DeclareDocumentCommand \LWR@print@realsubscript {m} {
5 \fontspec_if_fontspec_font:TF {
6 \fontspec_if_opentype:TF
7 { \fontspec_if_feature:nTF {+subs}
8 { {\addfontfeature{VerticalPosition=Inferior}#1} }
9 { \fontspec_if_feature:nTF {+sinf}
10 { {\addfontfeature{VerticalPosition=ScientificInferior}#1} }
11 { \fakesubscript{#1} }
12 }
13 }

```

```

14 { \fontspec_if_aat_feature:nnTF {10} {2}
15 { {\addfontfeature{VerticalPosition=Inferior}#1} }
16 { \fakesubscript{#1} }
17 }
18 }
19 { \fakesubscript{#1} }
20 }
21
22 \DeclareDocumentCommand \LWR@HTML@realsubscript {m} {
23 \LWR@HTML@textsubscript{#1}
24 }
25
26 \LWR@formatted{realsubscript}
27
28
29 \DeclareDocumentCommand \LWR@print@realsuperscript {m} {
30 \fontspec_if_fontspec_font:TF
31 {
32 \fontspec_if_opentype:TF
33 { \fontspec_if_feature:nTF {+sups}
34 { {\addfontfeature{VerticalPosition=Superior}#1} }
35 { \fakesuperscript{#1} }
36 }
37 { \fontspec_if_aat_feature:nnTF {10} {1}
38 { {\addfontfeature{VerticalPosition=Superior}#1} }
39 { \fakesuperscript{#1} }
40 }
41 }
42 { \fakesuperscript{#1} }
43 }
44
45 \DeclareDocumentCommand \LWR@HTML@realsuperscript {m} {
46 \LWR@HTML@textsuperscript{#1}
47 }
48
49 \LWR@formatted{realsuperscript}
50
51
52 \DeclareDocumentCommand \LWR@print@textsubsuperscript {s O{l} mm} {
53 \leavevmode
54 \group_begin:
55 \IfBooleanTF #1
56 {
57 \hbox_set:Nn \l_tmpa_box {\textsubscript*{#3}}
58 \hbox_set:Nn \l_tmpb_box {\textsuperscript*{#4}}
59 }
60 {
61 \hbox_set:Nn \l_tmpa_box {\textsubscript{#3}}
62 \hbox_set:Nn \l_tmpb_box {#4}
63 }
64 \hbox_set:Nn \l_tmpa_box
65 { \box_move_down:nn \subsupersep {\box_use:N \l_tmpa_box} }
66 \hbox_set:Nn \l_tmpb_box
67 { \box_move_up:nn \subsupersep {\box_use:N \l_tmpb_box} }
68 \str_case:nnF {#2}

```

```

69 {
70 {l}{\use_i:nnn}
71 {c}{\use_ii:nnn}
72 {r}{\use_iii:nnn}
73 }
74 {
75 \PackageWarning{realscripts}{
76 Unknown~alignment~option~'#2'. \MessageBreak
77 One~ of~ 'l',~ 'c',~ 'r',~ only
78 }
79 \use_i:nnn
80 }
81 {
82 \hbox_overlap_right:n { \box_use:N \l_tmpa_box }
83 \hbox_overlap_right:n { \box_use:N \l_tmpb_box }
84 \skip_horizontal:n {
85 \dim_max:nn {\box_wd:N \l_tmpa_box} {\box_wd:N \l_tmpb_box}
86 }
87 }
88 {
89 \dim_compare:nTF { \box_wd:N \l_tmpa_box > \box_wd:N \l_tmpb_box }
90 {
91 \skip_horizontal:n {
92 0.5\box_wd:N \l_tmpa_box-0.5\box_wd:N \l_tmpb_box
93 }
94 \box_use:N \l_tmpb_box
95 \skip_horizontal:n {
96 -0.5\box_wd:N \l_tmpa_box-0.5\box_wd:N \l_tmpb_box
97 }
98 \box_use:N \l_tmpa_box
99 }
100 {
101 \skip_horizontal:n {
102 0.5\box_wd:N \l_tmpb_box-0.5\box_wd:N \l_tmpa_box
103 }
104 \box_use:N \l_tmpa_box
105 \skip_horizontal:n {
106 -0.5\box_wd:N \l_tmpb_box-0.5\box_wd:N \l_tmpa_box
107 }
108 \box_use:N \l_tmpb_box
109 }
110 }
111 {
112 \skip_horizontal:n {
113 \dim_max:nn {\box_wd:N \l_tmpa_box} {\box_wd:N \l_tmpb_box}
114 }
115 \hbox_overlap_left:n { \box_use:N \l_tmpa_box }
116 \hbox_overlap_left:n { \box_use:N \l_tmpb_box }
117 }
118 \group_end:
119 }
120
121 \ExplSyntaxOff
122
123

```

```

124 \newcommand*\LWR@realscriptsalign{}
125
126 \newcommand*\LWR@setrealscriptsalign[1]{%
127 \renewcommand*\LWR@realscriptsalign{}%
128 \ifthenelse{equal{#1}{c}}{%
129 \renewcommand*\LWR@realscriptsalign{%
130 \LWR@print@mbox{text-align:center} ; %
131 }%
132 }{}%
133 \ifthenelse{equal{#1}{r}}{%
134 \renewcommand*\LWR@realscriptsalign{%
135 \LWR@print@mbox{text-align:right} ; %
136 }%
137 }{}%
138 }
139
140 \DeclareDocumentCommand \LWR@HTML@textsubsuperscript {s O{l} mm} {%
141 \LWR@setrealscriptsalign{#2}%
142 \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
143 #4\textsubscript{#3}%
144 }%
145 }
146 \LWR@formatted{textsubsuperscript}
147
148 \FilenameNullify{%
149 \RenewDocumentCommand{\textsuperscript}{s m}{}%
150 \RenewDocumentCommand{\textsubscript}{s m}{}%
151 \renewcommand{\fakesubscript}[1]{}%
152 \renewcommand{\fakesuperscript}[1]{}%
153 \renewcommand{\realsubscript}[1]{}%
154 \renewcommand{\realsuperscript}[1]{}%
155 \renewcommand{\textsubsuperscript}[2]{}%
156 \renewcommand{\textsupersubscript}[2]{}%
157 }

```

---

File 406 **lwarp-refcheck.sty**

§ 515 Package **refcheck**

Pkg refcheck **refcheck** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{refcheck}[2013/02/14]

```

2 \def\showrefnames{}
3 \def\norefnames{}
4 \def\showcitenames{}
5 \def\nocitenames{}
6 \def\setonmsgs{}
7 \def\setoffmsgs{}
8 \def\checkunlbd{}
9 \def\ignoreunlbd{}
10 \newcommand*\refcheckxrdoc[2][{}]{

```

File 407 **lwarp-register.sty**

§ 516 Package **register**

(Emulates or patches code by MATTHEW LOVELL.)

Pkg register **register** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{register}[2019/01/01]
2 \xpatchcmd{\register}
3 {\centering}
4 {%
5 \begin{center}%
6 \begin{lateximage}[-register~\PackageDiagramAltText]%
7 }
8 {}
9 {\LWR@patcherror{register}{register}}
10
11 \xpatchcmd{\endregister}
12 {\leftskip}
13 {%
14 \end{lateximage}\end{center}%
15 \leftskip%
16 }%
17 {}
18 {\LWR@patcherror{register}{endregister}}
19
20 \expandafter\xapptocmd\csname register*\endcsname
21 {%
22 \begin{center}%
23 \begin{lateximage}[-register~\PackageDiagramAltText]%
24 }
25 {}
26 {\LWR@patcherror{register}{register*}}
27
28 \expandafter\xpatchcmd\csname endregister*\endcsname
29 {\leftskip}
30 {%
31 \end{lateximage}\end{center}%
32 \leftskip%
33 }%
34 {}
35 {\LWR@patcherror{register}{endregister*}}
36
37 \setlength{\regWidth}{5in}

```

File 408 **lwarp-reysize.sty**

§ 517 Package **reysize**


(Emulates or patches code by DONALD ARSENEAU, BERNIE COSELL, MATT SWIFT.)

Pkg reysize reysize is patched for use by lwarp, and emulated for MATHJAX.

For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{reysize}[2013/03/29]
2 \let\LWR@origrelsize\relsize
3 \LetLtxMacro\LWR@origlarger\larger
4 \LetLtxMacro\LWR@origsmaller\smaller
5 \let\LWR@relscale\relscale
6 \LetLtxMacro\LWR@origtextlarger\textlarger
7 \LetLtxMacro\LWR@origtextsmaller\textsmaller
8 \let\LWR@textscale\textscale
9
10 \appto\LWR@restoreorigformatting{%
11 \let\relsize\LWR@origrelsize%
12 \LetLtxMacro\larger\LWR@origlarger%
13 \LetLtxMacro\smaller\LWR@origsmaller%
14 \let\relscale\LWR@relscale%
15 \LetLtxMacro\textlarger\LWR@origtextlarger%
16 \LetLtxMacro\textsmaller\LWR@origtextsmaller%
17 \let\textscale\LWR@textscale%
18 }
19
20 \newcounter{LWR@relsizetemp}
21
22 \renewcommand*\relsize}[1]{%
23 \renewcommand*\larger}[1][1]{%
24 \renewcommand*\smaller}[1][1]{%
25 \renewcommand*\relscale}[1]{%
26
27 \renewcommand*\textlarger}[2][1]{%
28 \setcounter{LWR@relsizetemp}{100+(#1*20)}%
29 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textlarger}{#2}%
30 }
31
```

```

32 \renewcommand*{\textsmaller}[2][1]{%
33 \setcounter{LWR@relsize}{100-(#1*20)}%
34 \InlineClass[font-size:\arabic{LWR@relsize}\%]{textsmaller}{#2}%
35 }
36
37 \renewcommand*{\textscale}[2]{%
38 \setcounter{LWR@relsize}{100*\real{#1}}%
39 \InlineClass[font-size:\arabic{LWR@relsize}\%]{textscale}{#2}%
40 }

```

For MATHJAX:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\mathlarger}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\mathsmaller}[1]{#1}}
44 \end{warpMathJax}


```

---

File 409 **lwarp-repeatindex.sty**

§ 518 Package **repeatindex**

Pkg repeatindex repeatindex is emulated for lwarp.

 **style file** lwarp must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={lwarp-repeatindex}]{lwarp}
```

where lwarp\_repeatindex.ist may be copied from the following modified version of lwarp.ist:

```

preamble
"\begin{theindex}
 \providecommand*\lettergroupDefault[1]{}
 \providecommand*\lettergroup[1]{%
 \par\textbf{#1}\par
 \nopagebreak
 }
"
headings_flag 1
heading_prefix "
 \lettergroup{"
heading_suffix "}
delim_0 "[", \hyperindexref{"
delim_1 " ", \hyperindexref{"
delim_2 " ", \hyperindexref{"
delim_n "}, \hyperindexref{"
delim_r "} -- \hyperindexref{"
delim_t "]"
item_0 "\n \item ["

```

(The modifications are the `delim_0` and `item_0` entries.)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repeatindex}[2001/10/13]

In the `lwarp` core, `\LWR@indexitem` is modified to accept the optional `\item` argument.

```
2 \RequirePackage{makeidx}
3 \def\entryprefix{\itshape}
4 \def\entrypostfix{\dots}
```

#### File 410 **lwarp-repltext.sty**

§ 519 Package **repltext**

Pkg repltext repltext is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repltext}[2020/09/25]

```
2 \newcommand{\repltext}[2]{#2}
3 \newcommand*\prevrepl{}
```

For MATHJAX:

```
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\repltext}[2]{#2}}
6 \end{warpMathJax}
```

#### File 411 **lwarp-resizegather.sty**

§ 520 Package **resizegather**

Pkg resizegather resizegather is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]

```
2 \newcommand*\resizegathersetup[1]{}
```

#### File 412 **lwarp-returntogrid.sty**

§ 521 Package **returntogrid**

Pkg returntogrid returntogrid is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{returntogrid}[2018/08/21]



```

2 \NewDocumentCommand\returntograd{ 0 {} }{}
3 \NewDocumentCommand\returntogradsetup { m } {}
4 \NewDocumentCommand\showdebugpagegrid {} {}

```


---

File 413 **lwarp-rlepszf.sty**

§ 522 Package **rlepszf**

(Emulates or patches code by MICHAEL GREENE, COLIN ROURKE.)

Pkg rlepszf rlepszf is patched for use by lwarp.

 **Rename the style file!** The file rlepszf.tex must be copied to rlepszf.sty for lwarp to detect and patch it.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rlepszf}% No date given.

```

2 \xpretocmd{\relabelbox}
3 {\begin{lateximage}}
4 {}
5 {\LWR@patcherror{rlepszf}{relabelbox}}
6
7 \xapptocmd{\endrelabelbox}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{rlepszf}{endrelabelbox}}

```

---

File 414 **lwarp-rmathbr.sty**

§ 523 Package **rmathbr**

(Emulates or patches code by DENIS RYABOV.)

Pkg rmathbr rmathbr is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rmathbr}[2020/12/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def*{~}}
4 \CustomizeMathJax{\newcommand{\cdott}{\cdot}}
5 \CustomizeMathJax{\newcommand{\nobr}{}}
6 \end{warpMathJax}

```

---

File 415 **lwarp-rmpage.sty**

§ 524 Package **rmpage**

Pkg rmpage rmpage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

---

File 416 **lwarp-romanbar.sty**

§ 525 Package **romanbar**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

Pkg romanbar romanbar is patched for use by lwarp.

An inline class with an overline and underline is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{romanbar}[2012/01/01]

2 \DeclareRobustCommand{\Roman@bar}[1]{% #1 is in Roman, i.e. MMXII
3 \InlineClass[%
4 text-decoration: overline underline ;
5]{romanbar}{#1}%
6 }
```

---

File 417 **lwarp-romanbarpagenumber.sty**

§ 526 Package **romanbarpagenumber**

Pkg romanbarpagenumber romanbarpagenumber is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

---

File 418 **lwarp-rotating.sty**

§ 527 Package **rotating**

*(Emulates or patches code by ROBIN FAIRBAIRNS, SEBASTIAN RAHTZ, LEONOR BARROCA.)*

Pkg rotating rotating is emulated.

All rotations are ignored in HTML output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{rotating}[2016/08/11]
2 \RequirePackage{graphicx}

3 \LetLtxMacro\LWR@HTML@sidewaystable\table
4 \let\endLWR@HTML@sidewaystable\endtable
5 \LWR@formattedenv{sidewaystable}
6
7 \LetLtxMacro\LWR@HTML@sidewaysfigure\figure
8 \let\endLWR@HTML@sidewaysfigure\endfigure
```

```

9 \LWR@formattedenv{sidewaysfigure}
10
11 \newenvironment*{LWR@HTML@sideways}{}{}
12 \LWR@formattedenv{sideways}
13
14 \newenvironment*{LWR@HTML@turn}[1]{}{}
15 \LWR@formattedenv{turn}
16
17 \newenvironment*{LWR@HTML@rotate}[1]{}{}
18 \LWR@formattedenv{rotate}
19
20 \NewDocumentCommand{\LWR@HTML@turnbox}{m +m}{#2}
21 \LWR@formatted{turnbox}
22
23 \let\LWR@HTML@rotcaption\caption
24 \LWR@formatted{rotcaption}
25
26 \let\LWR@HTML@makerotcaption\makecaption
27 \LWR@formatted{@makerotcaption}

```

---

File 419 **lwarp-rotfloat.sty**

§ 528 Package **rotfloat**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg rotfloat rotfloat is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{rotfloat}[2004/01/04]
2
3 \RequirePackage{float}
4 \RequirePackage{rotating}

```

`\newfloat`  $\{\langle 1: type \rangle\} \{\langle 2: placement \rangle\} \{\langle 3: ext \rangle\} [\langle 4: within \rangle]$

Emulates the `\newfloat` command from the `float` package. Sideways floats are `\let` to the same as regular floats.

“placement” is ignored.

```

5 \RenewDocumentCommand{\newfloat}{m m m o}{%
6 \IfValueTF{#4}%
7 {%
8 \DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}%
9 }%
10 {%
11 \DeclareFloatingEnvironment[fileext=#3]{#1}%
12 }%
13 \csletcs{sideways#1}{#1}%
14 \csletcs{endsideways#1}{end#1}%

```

Remember the float style:

```
15 \csedef{LWR@floatstyle@#1}{\LWR@floatstyle}%
16 \csedef{LWR@floatstyle@sideways#1}{\LWR@floatstyle}%
```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later:

```
17 \cslet{listof#1s}\relax%
18 \cslet{listof#1es}\relax%
19 \cslet{listofsideways#1s}\relax%
20 \cslet{listofsideways#1es}\relax%
21 }
```

File 420 **lwarp-rviewport.sty**

§ 529 Package **rviewport**

Pkg rviewport rviewport is honored inside a `lateximage`, and otherwise ignored for HTML output.

If `rviewport` is important for an image, enclose the image inside a `lateximage` environment.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{rviewport}[2011/08/27]
2 \define@key{igraph}{rviewport}{}
```

File 421 **lwarp-savetrees.sty**

§ 530 Package **savetrees**

Pkg savetrees savetrees is ignored.

**for HTML output:** Discard all options for `lwarp-savetrees`:

```
1 \LWR@ProvidesPackageDrop{savetrees}[2016/04/13]
```

File 422 **lwarp-scalefnt.sty**

§ 531 Package **scalefnt**

*(Emulates or patches code by D. CARLISLE.)*

Pkg scalefnt scalefnt is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{scalefnt}
```

---

```
2 \DeclareRobustCommand\scalefont[1]{}
```

---

File 423 **lwarp-scalerel.sty**

§ 532 Package **scalerel**

(Emulates or patches code by STEVEN B. SEGLETES.)

Pkg scalerel scalerel is used as-is for SVG math, and is emulated and ignored for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{scalerel}[2016/12/29]

For MATHJAX:

```
2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{scalerel}
4
5 \CustomizeMathJax{\newcommand{\scalerel}{\ifstar{\scalerelplain}{\scalerelplus}}}
6 \CustomizeMathJax{\newcommand{\scalerelplain}[3][\#2]}
7 \CustomizeMathJax{\newcommand{\scalerelplus}[3][\#2\#3]}
8 \CustomizeMathJax{\newcommand{\stretchrel}{\ifstar{\stretchrelplain}{\stretchrelplus}}}
9 \CustomizeMathJax{\newcommand{\stretchrelplain}[3][\#2]}
10 \CustomizeMathJax{\newcommand{\stretchrelplus}[3][\#2\#3]}
11 \CustomizeMathJax{\newcommand{\scaleto}[3][\#2]}
12 \CustomizeMathJax{\newcommand{\stretchto}[3][\#2]}
13 \CustomizeMathJax{\newcommand{\scaleleftright}[4][\#2\#3\#4]}
14 \CustomizeMathJax{\newcommand{\stretchleftright}[4][\#2\#3\#4]}
15 \CustomizeMathJax{\newcommand{\hstretch}[2]{\#2}}
16 \CustomizeMathJax{\newcommand{\vstretch}[2]{\#2}}
17 \CustomizeMathJax{\newcommand{\scaleobj}[2]{\#2}}
18 \CustomizeMathJax{\newcommand{\ThisStyle}[1]{\#1}}
19 \CustomizeMathJax{\newcommand{\SavedStyle}{}{}}
20 \CustomizeMathJax{\def\scriptstyleScaleFactor{.7}}
21 \CustomizeMathJax{\def\scriptscriptstyleScaleFactor{.5}}
22 \CustomizeMathJax{\newcommand{\discernmathstyle}{}{}}
23 \CustomizeMathJax{\newcommand{\ignoremathstyle}[1][T]{}}
24 \CustomizeMathJax{\newcommand{\Isnextbyte}[3][v]{}}
25 \end{warpMathJax}
```

---

File 424 **lwarp-schemata.sty**

§ 533 Package **schemata**

(Emulates or patches code by CHARLES P. SCHAUM.)

Pkg schemata schemata is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{schemata}[2020/11/23]

```

2 \LetLtxMacro\LWR@schemata@origschema\schema
3 \LetLtxMacro\LWR@schemata@origSchema\Schema
4
5 \renewcommand{\schema}[3][open]{%
6 \begin{lateximage}[-schemata-~\PackageDiagramAltText]%
7 \LWR@print@normalsize%
8 \LWR@schemata@origschema[#1]{#2}{#3}%
9 \end{lateximage}%
10 }
11
12 \renewcommand{\Schema}[5][open]{%
13 \begin{lateximage}[-schemata-~\PackageDiagramAltText]%
14 \LWR@print@normalsize%
15 \LWR@schemata@origSchema[#1]{#2}{#3}{#4}{#5}%
16 \end{lateximage}%
17 }

```

---

File 425 **lwarp-scrextend.sty**

§ 534 Package **scrextend**

Pkg scrextend scrextend is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{scrextend}[2020/01/24]
2 \DeclareDocumentCommand{\setkomafont}{m m}{}
3 \DeclareDocumentCommand{\addkomafont}{m m}{}
4 \DeclareDocumentCommand{\usekomafont}{m}{}
5
6 \DeclareDocumentCommand{\usefontofkomafont}{m}{}
7 \DeclareDocumentCommand{\useencodingofkomafont}{m}{}
8 \DeclareDocumentCommand{\usesizeofkomafont}{m}{}
9 \DeclareDocumentCommand{\usefamilyofkomafont}{m}{}
10 \DeclareDocumentCommand{\useseriesofkomafont}{m}{}
11 \DeclareDocumentCommand{\useshapeofkomafont}{m}{}
12
13 \providecommand*\coverpagetopmargin{}
14 \providecommand*\coverpagebottommargin{}
15 \providecommand*\coverpageleftmargin{}
16 \providecommand*\coverpagerightmargin{}
17

```

Title page:

```

18 \AtBeginDocument{
19 \let\LWR@koma@orig@maketitle\maketitle
20 \DeclareDocumentCommand{\maketitle}{o}{\LWR@koma@orig@maketitle}
21 }

```

```
22
23 \DeclareDocumentCommand{\@maketitle}{}{%
24 \ifdefvoid{\@titlehead}{}{%
25 \begin{BlockClass}{titlehead}%
26 \@titlehead%
27 \end{BlockClass}%
28 }%
29 \ifdefvoid{\@subject}{}{%
30 \begin{BlockClass}{subject}%
31 \@subject%
32 \end{BlockClass}%
33 }%
34 \LWR@stoppars%
35 \LWR@htmltag{\LWR@tagtitle}%
36 \@title%
37 \LWR@htmltag{\LWR@tagtitleend}%
38 \ifdefvoid{\@subtitle}{}{%
39 \begin{BlockClass}{subtitle}%
40 \@subtitle%
41 \end{BlockClass}%
42 }%
43 \LWR@startpars%
44 \begin{BlockClass}{author}%
45
46 \renewcommand*{\cr}{}%
47 \renewcommand*{\crcr}{}%
48 \renewcommand*{\noalign}{}%
49
50 \renewcommand{\and}{}%
51 \end{BlockClass}%
52 \begin{BlockClass}{oneauthor}%
53 \@author%
54 \end{BlockClass}%
55 \end{BlockClass}%
56 \begin{BlockClass}{titledate}%
57 \@date%
58 \end{BlockClass}%
59 \ifdefvoid{\@published}{}{%
60 \begin{BlockClass}{published}%
61 \@published%
62 \end{BlockClass}%
63 }%
64 }
65
66 \AddSubtitlePublished
67
68 \DeclareDocumentCommand{\extratitle}{m}{}
69 \DeclareDocumentCommand{\frontispiece}{m}{}
70
71 \def\@titlehead{}%
72 \DeclareDocumentCommand{\titlehead}{m}{\gdef\@titlehead{#1}}%
73
74 \def\@subject{}%
```

```

75 \DeclareDocumentCommand{\subject}{m}{\gdef\@subject{#1}}%
76
77 % \subtitle and \published are defined by \AddSubtitlePublished
78
79 \DeclareDocumentCommand{\publishers}{m}{\published{#1}}
80
81 \DeclareDocumentCommand{\uppertitleback}{m}{}
82 \DeclareDocumentCommand{\lowertitleback}{m}{}
83 \DeclareDocumentCommand{\dedication}{m}{}
84
85 \DeclareDocumentCommand{\ifthispageodd}{m m}{#1}
86
87 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}
88 \DeclareDocumentCommand{\cleardoubleemptypage}{}{}
89 \DeclareDocumentCommand{\cleardoubleplainpage}{}{}
90 \DeclareDocumentCommand{\cleardoublestandardpage}{}{}
91 \DeclareDocumentCommand{\cleardoubleoddpaper}{}{}
92 \DeclareDocumentCommand{\cleardoubleoddpaperusingstyle}{m}{}
93 \DeclareDocumentCommand{\cleardoubleoddpaperemptypage}{}{}
94 \DeclareDocumentCommand{\cleardoubleoddpaperplainpage}{}{}
95 \DeclareDocumentCommand{\cleardoubleoddpaperstandardpage}{}{}
96 \DeclareDocumentCommand{\cleardoubleevenpage}{}{}
97 \DeclareDocumentCommand{\cleardoubleevenpageusingstyle}{m}{}
98 \DeclareDocumentCommand{\cleardoubleevenpaperemptypage}{}{}
99 \DeclareDocumentCommand{\cleardoubleevenpaperplainpage}{}{}
100 \DeclareDocumentCommand{\cleardoubleevenpaperstandardpage}{}{}
101
102 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{}%
103 \begin{group}\let\thefootnotemark\multfootsep\@makefnmark\endgroup
104 }
105
106 \DeclareDocumentCommand{\multfootsep}{}{, }
107
108 \DeclareDocumentCommand{\footref}{m}{%
109 \begin{group}
110 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
111 \endgroup
112 \@footnotemark
113 }
114
115 \DeclareDocumentCommand{\deffootnote}{o m m m}{}
116 \DeclareDocumentCommand{\deffootnotemark}{m}{}
117 \DeclareDocumentCommand{\setfootnoterule}{o m}{}
118 \DeclareDocumentCommand{\raggedfootnote}{}{}

119 \DeclareDocumentCommand{\dictum}{o m}{
120 \begin{LWR@BlockClassWP}{\LWR@print@mbbox{text-align:right}}{}{\dictum}
121 #2
122 \IfValueT{#1}
123 {
124 \LWR@stoppars%
125 \ifbool{FormatWP}
126 {\begin{BlockClass}[\LWR@print@mbbox{border-top:} 1px solid gray]{dictumauthor}}
127 {\begin{BlockClass}{dictumauthor}}
128 \dictumauthorformat{#1}

```



```

129 \end{BlockClass}
130 }
131 \end{LWR@BlockClassWP}
132 }
133
134 \DeclareDocumentCommand{\dictumwidth}{}{}
135 \DeclareDocumentCommand{\dictumauthorformat}{m}{(#1)}
136 \DeclareDocumentCommand{\dictumrule}{}{}
137 \DeclareDocumentCommand{\raggeddictum}{}{}
138 \DeclareDocumentCommand{\raggeddictumtext}{}{}
139 \DeclareDocumentCommand{\raggeddictumauthor}{}{}
140
141 \DeclareDocumentEnvironment{labeling}{o m}
142 {%
143 \def\sc@septext{#1}%
144 \list{}{}%
145 \let\makeLabel\labelinglabel%
146 }
147 {
148 \endlist
149 }
150
151 \DeclareDocumentCommand{\labelingLabel}{m}{%
152 #1 \quad \sc@septext%
153 }
154
155 \let\addmargin\relax
156 \let\endaddmargin\relax
157 \cslet{addmargin*}{\relax}
158 \cslet{endaddmargin*}{\relax}

159 \NewDocumentEnvironment{addmargin}{s O{} m}
160 {
161 \LWR@stoppars%
162 \setlength{\LWR@templengthtwo}{#3}
163 \ifblank{#2}
164 {
165 \begin{BlockClass}[
166 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;
167 \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
168]{addmargin}
169 }
170 {
171 \setlength{\LWR@templengthone}{#2}
172 \begin{BlockClass}[
173 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthone}} ;
174 \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
175]{addmargin}
176 }
177 }
178 {\end{BlockClass}\LWR@startpars}

```

Ref to create a starred environment:

<https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>

```
179
180 \ExplSyntaxOn
181 \cs_new:cpn {addmargin*} {\addmargin*}
182 \cs_new_eq:cN {endaddmargin*} \endaddmargin
183 \ExplSyntaxOff
184
185 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}
```

---

File 426 **lwarp-scrhack.sty**

§ 535 Package **scrhack**

Pkg scrhack scrhack is ignored.

**for HTML output:** 1 \LWRE@ProvidesPackageDrop{scrhack}[2018/03/30]

---

File 427 **lwarp-scrlayer.sty**

§ 536 Package **scrlayer**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg scrlayer scrlayer is emulated.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWRE@ProvidesPackageDrop{scrlayer}[2018/03/30]

```
2 \newcommand*\DeclareSectionNumberDepth[2]{}
3 \newcommand*\DeclareLayer[2][{}]{
4 \newcommand*\DeclareNewLayer[2][{}]{
5 \newcommand*\ProvideLayer[2][{}]{
6 \newcommand*\RedeclareLayer[2][{}]{
7 \newcommand*\ModifyLayer[2][{}]{
8 \newcommand*\layerhalign{}
9 \newcommand*\layervalign{}
10 \newcommand*\layerxoffset{}
11 \newcommand*\layeryoffset{}
12 \newcommand*\layerwidth{}
13 \newcommand*\layerheight{}
14 \providecommand*\LenToUnit[1]{\strip@pt\dimexpr#1*\p@/\unitlength}
15 \newcommand*\putUL[1]{}
16 \newcommand*\putUR[1]{}
17 \newcommand*\putLL[1]{}
18 \newcommand*\putLR[1]{}
19 \newcommand*\putC[1]{}

```

```
20 \newcommand*{\GetLayerContents}[1]{}
21 \newcommand{\IfLayerExists}[3]{#3}
22 \newcommand*{\DestroyLayer}[1]{}
23 \newcommand*{\layercontentsmeasure}{}
24 \newcommand*{\currentpagestyle}{}
25 \newcommand*{\BeforeSelectAnyPageStyle}[1]{}
26 \newcommand*{\AfterSelectAnyPageStyle}[1]{}
27 \newcommand*{\DeclarePageStyleAlias}[2]{}
28 \newcommand*{\DeclareNewPageStyleAlias}[2]{}
29 \newcommand*{\ProvidePageStyleAlias}[2]{}
30 \newcommand*{\RedeclarePageStyleAlias}[2]{}
31 \newcommand*{\DestroyPageStyleAlias}[1]{}
32 \newcommand*{\GetRealPageStyle}[1]{}
33 \newcommand*{\DeclarePageStyleByLayers}[3]{}
34 \newcommand*{\DeclareNewPageStyleByLayers}[3]{}
35 \newcommand*{\ProvidePageStyleByLayers}[3]{}
36 \newcommand*{\RedeclarePageStyleByLayers}[3]{}
37 \NewDocumentCommand{\ForEachLayerOfPageStyle}{s m m}{}
38 \newcommand*{\AddLayersToPageStyle}[2]{}
39 \newcommand*{\AddLayersAtBeginOfPageStyle}[2]{}
40 \newcommand*{\AddLayersAtEndOfPageStyle}[2]{}
41 \newcommand*{\RemoveLayersFromPageStyle}[2]{}
42 \newcommand*{\AddLayersToPageStyleBeforeLayer}[3]{}
43 \newcommand*{\AddLayersToPageStyleAfterLayer}[3]{}
44 \newcommand*{\UnifyLayersAtPageStyle}[1]{}
45 \newcommand*{\ModifyLayerPageStyleOptions}[2]{}
46 \newcommand*{\AddToLayerPageStyleOptions}[2]{}
47 \newcommand{\IfLayerPageStyleExists}[3]{#3}
48 \newcommand{\IfRealLayerPageStyleExists}[3]{#3}
49 \newcommand{\IfLayerAtPageStyle}[4]{#4}
50 \newcommand{\IfSomeLayerAtPageStyle}[4]{#4}
51 \newcommand{\IfLayersAtPageStyle}[4]{#4}
52 \newcommand*{\DestroyRealLayerPageStyle}[1]{}
53 \@ifundefined{footheight}{\newlength\footheight}{}
54 \DeclareDocumentCommand{\automark}{s o m}{}
55 \DeclareDocumentCommand{\manualmark}{}{}
56 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

57 \newcommand{\partmarkformat}{}
58 \if@chapter
59 \newcommand{\chaptermarkformat}{}
60 \fi
61 \newcommand{\sectionmarkformat}{}
62 \DeclareDocumentCommand{\GenericMarkFormat}{m}{}

63 \newcommand*{\@mkleft}[1]{}
64 \newcommand*{\@mkright}[1]{}
65 \newcommand*{\@mkdouble}[1]{}
66 \newcommand*{\@mkboth}[2]{}
67 \newcommand*{\scrLayerInitInterface}[1]{}
68 \newcommand{\scrLayerAddToInterface}[3]{}
69 \newcommand{\scrLayerAddCsToInterface}[3]{}
70 \newcommand{\scrLayerOnAutoRemoveInterface}[2]{}

```

---

File 428 **lwarp-scrlayer-notecolumn.sty**

§ 537 Package **scrlayer-notecolumn**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer-notecolumn scrlayer-notecolumn is emulated.

 **Not fully tested!** Please send bug reports!

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer-notecolumn}[2018/02/02]

```

2 \newcommand*\DeclareNoteColumn}[2][]{ }
3 \newcommand*\DeclareNewNoteColumn}[2][]{ }
4 \newcommand*\ProvideNoteColumn}[2][]{ }
5 \newcommand*\RedeclareNoteColumn}[2][]{ }
6 \NewDocumentCommand{\makenote}{s o m}{\marginpar{#3}}
7 \newcommand*\syncwithnotecolumn}[1][]{ }
8 \newcommand*\syncwithnotecolumns}[1][]{ }
9 \newcommand*\clearnotecolumn}[1][]{ }
10 \newcommand*\clearnotecolumns}[1][]{ }

```

---

File 429 **lwarp-scrlayer-scrpage.sty**

§ 538 Package **scrlayer-scrpage**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer-scrpage scrlayer-scrpage is ignored.

 **Not fully tested!** Please send bug reports!

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer-scrpage}[2018/03/30]

```

2 \@ifundefined{footheight}{\newlength\footheight}{}
3 \NewDocumentCommand{\lehead}{s o m}{}
4 \NewDocumentCommand{\cehead}{s o m}{}
5 \NewDocumentCommand{\rehead}{s o m}{}
6 \NewDocumentCommand{\lohead}{s o m}{}
7 \NewDocumentCommand{\cohead}{s o m}{}
8 \NewDocumentCommand{\rohead}{s o m}{}
9 \NewDocumentCommand{\lefoot}{s o m}{}
10 \NewDocumentCommand{\cefoot}{s o m}{}
11 \NewDocumentCommand{\refoot}{s o m}{}
12 \NewDocumentCommand{\lofoot}{s o m}{}
13 \NewDocumentCommand{\cofoot}{s o m}{}
14 \NewDocumentCommand{\rofoot}{s o m}{}
15 \NewDocumentCommand{\ohead}{s o m}{}

```

```

16 \NewDocumentCommand{\thead}{s o m}{}
17 \NewDocumentCommand{\ihead}{s o m}{}
18 \NewDocumentCommand{\ofoot}{s o m}{}
19 \NewDocumentCommand{\cfoot}{s o m}{}
20 \NewDocumentCommand{\ifoot}{s o m}{}

21 \NewDocumentCommand{\automark}{som}{}
22 \newcommand*{\manualmark}{}

23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

24 \let\headmark\leftmark
25 \providecommand{\pnumfont}{\normalfont}%
26 \DeclareRobustCommand\pagemark{{\pnumfont{\thepage}}}%

27 \newcommand*\defpairofpagestyles}[3][{}]{
28 \newcommand*\newpairofpagestyles}[3][{}]{
29 \newcommand*\renewpairofpagestyles}[3][{}]{
30 \newcommand*\providepairofpagestyles}[3][{}]{

31 \newcommand*\clearmainofpairofpagestyles}{}
32 \newcommand*\clearplainofpairofpagestyles}{}
33 \newcommand*\clearpairofpagestyles}{}
34 \newcommand*\clearscrheadings}{}
35 \newcommand*\clearscrheadfoot}{}
36 \newcommand*\clearscrplain}{}

37 \NewDocumentCommand{\deftriplepagestyle}{m o m m m m m m}{}
38 \NewDocumentCommand{\newtriplepagestyle}{m o m m m m m m}{}
39 \NewDocumentCommand{\renewtriplepagestyle}{m o o m m m m m}{}
40 \NewDocumentCommand{\providetruplepagestyle}{m o o m m m m m}{}
41 \newcommand*\defpagestyle}[3]{}
42 \newcommand*\newpagestyle}[3]{}
43 \newcommand*\providepagestyle}[3]{}
44 \newcommand*\renewpagestyle}[3]{}

```

---

File 430 **lwarp-scrpage2.sty**

§ 539 Package **scrpage2**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrpage2 scrpage2 is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrpage2}[2018/03/30]

```

2 \@ifundefined{footheight}{\newlength\footheight}{}
3 \NewDocumentCommand{\lehead}{o m}{}

```

```

4 \NewDocumentCommand{\cehead}{o m}{}
5 \NewDocumentCommand{\rehead}{o m}{}
6 \NewDocumentCommand{\lohead}{o m}{}
7 \NewDocumentCommand{\cohead}{o m}{}
8 \NewDocumentCommand{\rohead}{o m}{}
9 \NewDocumentCommand{\lefoot}{o m}{}
10 \NewDocumentCommand{\cefoot}{o m}{}
11 \NewDocumentCommand{\refoot}{o m}{}
12 \NewDocumentCommand{\lofoot}{o m}{}
13 \NewDocumentCommand{\cofoot}{o m}{}
14 \NewDocumentCommand{\rofoot}{o m}{}
15 \NewDocumentCommand{\ohead}{o m}{}
16 \NewDocumentCommand{\chead}{o m}{}
17 \NewDocumentCommand{\ihead}{o m}{}
18 \NewDocumentCommand{\ofoot}{o m}{}
19 \NewDocumentCommand{\cfoot}{o m}{}
20 \NewDocumentCommand{\ifoot}{o m}{}
21 \DeclareDocumentCommand{\automark}{o m}{}
22 \DeclareDocumentCommand{\manualmark}{}{}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \NewDocumentCommand{\deftripstyle}{m o o m m m m m}{}
25 \NewDocumentCommand{\defpagestyle}{s m m}{}
26 \NewDocumentCommand{\newpagestyle}{s m m}{}
27 \NewDocumentCommand{\renewpagestyle}{s m m}{}
28 \NewDocumentCommand{\providepagestyle}{s m m}{}
29 \newcommand{\partmarkformat}{}
30 \if@chapter
31 \newcommand{\chaptermarkformat}{}
32 \fi
33 \newcommand{\sectionmarkformat}{}
34 \newcommand{\subsectionmarkformat}{}
35 \newcommand{\subsubsectionmarkformat}{}
36 \newcommand{\paragraphmarkformat}{}
37 \newcommand{\subparagraphmarkformat}{}
38
39 \newcommand*{\clearscrheadings}{}
40 \newcommand*{\clearscrheadfoot}{}
41 \newcommand*{\clearscrplain}{}

```

---

File 431 **lwarp-section.sty**

§ 540 Package **section**

Pkg section **section** is ignored.

(Emulates or patches code by OLIVER PRETZEL.)

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{section}

2 \ifx\chapter\undefined
3 \def\chsize{\Large}\def\hdsi{\huge}\else
4 \def\chsize{\huge}\def\hdsi{\Huge}
5 \fi

```

---

```

6 \let\ttsize\LARGE
7 \let\ausize\large
8 \let\dasize\large
9 \let\seclsize\Large
10 \let\subsize\large
11 \let\hdpos\raggedright
12 \newcounter{hddepth}
13 \let\fpind\relax
14 \def\ttfnt{}
15 \def\hdfnt{}
16 \def\fefnt{}
17 \def\thfnt{}
18 \def\pgfnt{}
19 \def\hmkfnt{}
20 \let\mkcse\uppercase
21 \def\hddot{}
22 \def\cpdot{:}
23 \def\nmdot{}
24 \ifx\secindent\undefined
25 \newdimen\secindent
26 \newskip\secpreskp
27 \newskip\secpstskp
28 \newdimen\subindent
29 \newskip\subpreskp
30 \newskip\subpstskp
31 \newskip\parpstskp
32 \newcount\c@hddepth
33 \fi

```

---

File 432 **lwarp-sectionbreak.sty**

§ 541 Package **sectionbreak**

(Emulates or patches code by MICHAL HOFTICH.)

Pkg sectionbreak **sectionbreak** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{sectionbreak}[2018-01-03]

```

2 \renewcommand\asterism{\HTMLunicode{2042}}
3
4 \renewcommand\pre@sectionbreak{}
5 \renewcommand\post@sectionbreak{}
6
7 \renewcommand\print@sectionbreak[1]{%
8 \begin{center}
9 #1
10 \end{center}
11 }
12

```

---

File 433 **lwarp-sectsty.sty**

§ 542 Package **sectsty**

(Emulates or patches code by ROWLAND McDONNELL.)

Pkg sectsty sectsty is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{sectsty}[2002/02/25]

```

2 \newcommand*{\partfont} [1] {}
3 \newcommand*{\partnumberfont} [1] {}
4 \newcommand*{\parttitlefont} [1] {}
5 \newcommand*{\chapterfont} [1] {}
6 \newcommand*{\chapternumberfont} [1] {}
7 \newcommand*{\chaptertitlefont} [1] {}
8 \newcommand*{\sectionfont} [1] {}
9 \newcommand*{\subsectionfont} [1] {}
10 \newcommand*{\subsubsectionfont} [1] {}
11 \newcommand*{\paragraphfont} [1] {}
12 \newcommand*{\subparagraphfont} [1] {}
13 \newcommand*{\minisecfont} [1] {}
14 \newcommand*{\allsectionsfont}[1] {}
15 \newcommand{\nohang}{}

```

\sectionrule is only to be used in \*font commands, thus it is ignored.

```

16 \newcommand*{\sectionrule}[5]{}
17
18 \def\ulemheading#1#2{}

```

---

File 434 **lwarp-selectp.sty**

§ 543 Package **selectp**

Pkg selectp selectp is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{selectp}% no date given

```

2 \newcommand*{\outputonly}[1]{}

```

---

File 435 **lwarp-semantic-markup.sty**

§ 544 Package **semantic-markup**

(Emulates or patches code by ANDREW A. CASHNER.)



Pkg semantic-markup **semantic-markup** is patched for use by **lwarp**.



If using the `endnotes` option, add `\theendnotes` where desired.

**for HTML output:** `1 \LWR@ProvidesPackagePass{semantic-markup}[2018/05/21]`

The endnotes must be printed by the user before the end of the document, since the end is after the HTML footer, etc.

```
2 \ifendnotes
3 \RenewDocumentCommand{\SetupEndnotes}{}{%
4 \let\footnote=\endnote
5 % \AtEndDocument{\DoBeforeEndnotes{\EndnoteFont\theendnotes}}%
6 }
7 \fi
```

HTML unicode characters from **musicography** are used.

```
8 \RequirePackage{musicography}
9
10 \let\fl\musFlat
11 \let\sh\musSharp
12 \let\na\musNatural
```

The `\musfig` is placed inside a hashed image, with a simple `alt` tag.

```
13 \RequirePackage{amsmath}
14
15 \RenewDocumentCommand{\musfig}{ m m }{%
16 \LWR@subsingledollar*%
17 {#1/#2}% alt tag
18 {musfig}% addl' hashing
19 {% contents
20 \LWR@origensuredmath{%
21 \genfrac{}{}{0pt}{1}{\text{#1}}{\text{#2}}%
22 }%
23 }%
24 }
```

The `\meter` is taken from **musicography**, and becomes a hashed image with a simple `alt` tag.

```
25 \RenewDocumentCommand{\meter}{ m m }{%
26 \musMeter{#1}{#2}%
27 }
```

---


File 436 **lwarp-seqspl.it.sty**

§ 545 Package **seqsplit**

(Emulates or patches code by BORIS VEYTSMAN.)

Pkg seqsplit seqsplit is patched for use by lwarp.

For HTML output, the results are similar to print mode, and respond to window size.

 **svg math results** For SVG math, the output differs from print mode in that the contents are formatted in a minipage, which is then inline with the surrounding math.

For MATHJAX, the contents are used as-is.

**for HTML output:** 1 \LWR@ProvidesPackagePass{seqsplit}[2006/08/07]

Special handling because lwarp uses a box for svg math, which does not normally allow line breaks, so a print-mode minipage must be used to allow line breaks. The minipage will not be wrapped inline with any surrounding math.

```

2 \begin{warpHTML}
3 \LetLtxMacro\LWR@orig@seqsplit\seqsplit
4
5 \renewcommand*\seqsplit[1]{%
6 \ifmode%
7 \begin{LWR@print@minipage}{6in}%
8 \LWR@orig@seqsplit{#1}%
9 \end{LWR@print@minipage}%
10 \else%
11 \InlineClass[word-wrap:break-word]{seqsplit}{\LWR@orig@seqsplit{#1}}%
12 \fi
13 }
```

Between characters, an empty HTML comment is placed to allow a line wrap in the HTML source, without adding spaces in the output.

```

14 \AtBeginDocument{
15 \newcommand*\LWR@HTML@seqinsert{%
16 \LWR@htmlcomment{ }%
17 }
18 \LWR@formatted{seqinsert}
19 }
20 \end{warpHTML}
21
22 \begin{warpMathJax}
23 \CustomizeMathJax{\newcommand{\seqsplit}[1]{#1}}
24 \end{warpMathJax}
```

---

File 437 **lwarp-setspace.sty**

§ 546 Package **setspace**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg setspace setspace is emulated.

Discard all options for lwarp-setspace:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{setSPACE}[2011/12/19]
2
3 \newcommand*\setstretch[1]{}
4 \newcommand*\SetSingleSpace[1]{}
5 \newcommand*\singleSpacing{}
6 \newcommand*\onehalfSpacing{}
7 \newcommand*\doubleSpacing{}
8
9 \newenvironment{singleSpace}
10 {
11 \LWR@forcenewpage
12 \BlockClass{singleSpace}
13 }
14 {\endBlockClass}
15
16 \newenvironment{singleSpace*}
17 {
18 \LWR@forcenewpage
19 \BlockClass{singleSpace}
20 }
21 {\endBlockClass}
22
23 \newenvironment{spacing}[1]{
24
25 }{
26
27 }
28
29 \newenvironment{onehalfSpace}
30 {
31 \LWR@forcenewpage
32 \BlockClass{onehalfSpace}
33 }
34 {\endBlockClass}
35
36 \newenvironment{doubleSpace}
37 {
38 \LWR@forcenewpage
39 \BlockClass{doubleSpace}
40 }
41 {\endBlockClass}

```

---

File 438 **lwarp-shadethm.sty**

§ 547 Package **shadethm**

*(Emulates or patches code by JIM HEFFERON.)*

Pkg shadethm shadethm is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{shadethm}[1999/11/23]
2 \newenvironment{LWR@HTML@shadebox}

```

---

```

3 {%
4 \convertcolorspec{named}{shadethmcolor}{HTML}\LWR@tempcolor%
5 \convertcolorspec{named}{shaderulecolor}{HTML}\LWR@tempcolortwo%
6 \begin{BlockClass}[%
7 background: \LWR@origpound\LWR@tempcolor ;
8 border: 1px solid \LWR@origpound\LWR@tempcolortwo ;
9]{shadebox}
10 }%
11 {\end{BlockClass}}
12 \LWR@formattedenv{shadebox}

```

---

File 439 **lwarp-shadow.sty**

§ 548 Package **shadow**

*(Emulates or patches code by MAURO ORLANDINI.)*

Pkg shadow **shadow** is emulated.

**for HTML output:** Discard all options for lwarp-shadow:

```

1 \LWR@ProvidesPackageDrop{shadow}[2003/02/19]

2 \newdimen\sboxsep
3 \newdimen\sboxrule
4 \newdimen\sdim
5
6 \newcommand{\shabox}[1]{%
7 \InlineClass{shabox}{#1}%
8 }

```

---

File 440 **lwarp-shapepar.sty**

§ 549 Package **shapepar**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg shapepar **shapepar** is patched for use by lwarp. Shapes appear in print mode, as well as inside a lateximage, but are ignored for HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{shapepar}[2013/03/26]

```

2 \newcommand*{\LWR@HTML@shapepar}[2][{}]{
3 \LWR@formatted{shapepar}
4
5 \NewDocumentCommand{\LWR@HTML@cutout}{m d()}{}
6 \LWR@formatted{cutout}

```

---

File 441 **lwarp-showidx.sty**

§ 550 Package **showidx**

Pkg showidx showidx is ignored.

**for HTML output:** Discard all options for lwarp-showidx:

```
1 \LWR@ProvidesPackageDrop{showidx}[2014/09/29]
```

\@wrindex is redefined \@AtBeginDocument by the lwarp core.

---

File 442 **lwarp-showkeys.sty**

§ 551 Package **showkeys**

*(Emulates or patches code by DAVID CARLISLE, MORTEN HØGHOLM.)*

Pkg showkeys showkeys is ignored.

**for HTML output:** Discard all options for lwarp-showkeys:

```
1 \LWR@ProvidesPackageDrop{showkeys}[2014/10/28]
```

```
2 \NewDocumentCommand{\showkeys}{s}{}

```

---

File 443 **lwarp-showtags.sty**

§ 552 Package **showtags**

Pkg showtags showtags is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{showtags}% no version is given

```
2 \newcommand{\thecitetag}[1]{}

```

---

File 444 **lwarp-shuffle.sty**

§ 553 Package **shuffle**

*(Emulates or patches code by JULIAN GILBEY AND ANTOINE LEJAY.)*

Pkg shuffle shuffle is emulated for SVG math, and also emulated for MATHJAX.

The font used for `shuffle` may not render correctly when converted to SVG math, so a picture environment drawing is used instead.

For MATHJAX, the Unicode character is used, and for `\cshuffle` a `\bar` is added.

```

for HTML output: 1 \LWR@ProvidesPackageDrop{shuffle}[2008/10/27]
2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}

3 \newcommand*\LWR@shuffle@start{%
4 \hspace*{.2em}
5 \begin{picture}(.75,0.65)
6 \setlength{\unitlength}{1em}
7 \put(0,0){\line(1,0){.75}}
8 \put(0,0){\line(0,1){.5}}
9 \put(.375,0){\line(0,1){.5}}
10 \put(.75,0){\line(0,1){.5}}
11 }
12
13 \newcommand*\LWR@shuffle@finish{%
14 \end{picture}
15 \hspace*{.75em}
16 \hspace*{.2em}
17 }
18
19 \newcommand*\shuffle{%
20 \LWR@shuffle@start%
21 \LWR@shuffle@finish%
22 }
23
24 \newcommand*\cshuffle{%
25 \LWR@shuffle@start%
26 \put(.05,.65){\line(1,0){.65}}%
27 \LWR@shuffle@finish%
28 }

29 \begin{warpMathJax}
30 \CustomizeMathJax{\newcommand{\shuffle}{\mathbin{\unicode{0x29E2}}}}
31 \CustomizeMathJax{\newcommand{\cshuffle}{%
32 \mathbin{\LWRoverlaysymbols{\raise{.6ex}{-}}{\unicode{0x29E2}}}}%
33 }}
34 \end{warpMathJax}

```

---

File 445 **lwarp-sidecap.sty**

§ 554 Package **sidecap**

(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSLEIN.)

Pkg sidecap sidecap is emulated.

**for HTML output:** Discard all options for lwarp-sidecap.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```

See:

<http://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment> regarding the creation of starred environments with xparse.

```

2 \NewDocumentEnvironment{SCTable}{soo}
3 {\IfValueTF{#3}{\table[#3]}{\table}}
4 {\endtable}
5
6 \ExplSyntaxOn
7 \cs_new:cpn {SCTable*} {\SCTable*}
8 \cs_new_eq:cN {endSCTable*} \endSCTable
9 \ExplSyntaxOff
10
11
12 \NewDocumentEnvironment{SCfigure}{soo}
13 {\IfValueTF{#3}{\figure[#3]}{\figure}}
14 {\endfigure}
15
16 \ExplSyntaxOn
17 \cs_new:cpn {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cN {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff
20
21
22 \newenvironment*{wide}{}{}

```

---

File 446 **lwarp-sidenotes.sty**

§ 555 Package **sidenotes**

(Emulates or patches code by ANDY THOMAS, OLIVER SCHEBAUM.)

Pkg sidenotes Patched for lwarp.

for HTML output: Load the original package:

```
1 \LWR@ProvidesPackagePass{sidenotes}
```

The following patch sidenotes for use with lwarp.

An ARIA note role is not assigned since the caption is an important part of the figure.

```

\sidecaption * [⟨entry⟩] [⟨offset⟩] {⟨text⟩}
2 \RenewDocumentCommand \sidecaption {s o o m}
3 {
4 \LWR@stoppars
5 \begingroup
6 \captionsetup{style=sidecaption}%
7 \IfBooleanTF{#1}
8 { % starred
9 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%

```

```

10 \caption*{#4}%
11 \end{BlockClass}
12 }
13 { % unstarred
14 \IfNoValueOrEmptyTF{#2}
15 {\def\@sidenotes@sidecaption@tof{#4}}
16 {\def\@sidenotes@sidecaption@tof{#2}}
17 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
18 \caption[\@sidenotes@sidecaption@tof]{#4}
19 \end{BlockClass}
20 }
21 \endgroup
22 \LWR@startpars
23 }

```

Borrowed from the lwarp version of keyfloat:

```

24 \NewDocumentEnvironment{KFLT@marginfloat}{0{-1.2ex} m}
25 {% start
26 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}}{marginblock}%
27 \renewcommand*\@capttype{#2}%
28 }
29 {%
30 \endLWR@BlockClassWP%
31 }
32
33 \RenewDocumentEnvironment{marginfigure}{0}
34 {\begin{KFLT@marginfloat}{figure}}
35 {\end{KFLT@marginfloat}}
36
37 \RenewDocumentEnvironment{margintable}{0}
38 {\begin{KFLT@marginfloat}{table}}
39 {\end{KFLT@marginfloat}}

```

The following were changed by sidenotes, and now are reset back to their lwarp-supported originals:

Restoring the definition from the L<sup>A</sup>T<sub>E</sub>X<sub>2<sub>ε</sub></sub> article.cls source:

```

40 \renewenvironment{figure*}
41 {\@dblfloat{figure}}
42 {\enddblfloat}
43
44 \renewenvironment{table*}
45 {\@dblfloat{table}}
46 {\enddblfloat}

```

For MATHJAX:



Note that `sidenotes` does not support `\sidenote` inside math in print mode. Use `\sidenotemark` and `\sidenotetext` instead.

```

47 \begin{warpMathJax}
48 \providecommand{\sidenotename}{sidenote}
49 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{\LWR@sidenote}{\thesidenote}}

```



```

50 \appto\LWR@syncnotenames{\LWR@synconenotename{LWRsidenote}{\sidenotename}}
51 \CustomizeMathJax{\def\LWRsidenote{1}}
52 \CustomizeMathJax{\newcommand{\sidenotemark}[1][\LWRsidenote]{\mathrm{#1}}}
53 \end{warpMathJax}

```

The following is not defined since is not allowed inside math in print mode, and also would have to be modified to parse the optional offset argument:

```
\CustomizeMathJax{\newcommand{\sidenote}[2][\LWRsidenote]{\mathrm{#1}}}
```

---

File 447 **lwarp-simplebnf.sty**

§ 556 Package **simplebnf**

(Emulates or patches code by JAY LEE.)

Pkg simplebnf simplebnf is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{simplebnf}[2020/09/01]

The entire object is placed inside a `lateximage` whose alt text is the  $\LaTeX$  source BNF expression.

```

2 \ExplSyntaxOn
3
4 \RenewDocumentEnvironment { bnfgrammar } { +b }
5 {
6 %% \l__input_seq is a list of term definitions.
7 \regex_split:nnN { ; ; } { #1 } \l__input_seq
8 \begin{center}
9 \begin{lateximage}[#1]% lwarp
10 \tl_set:Nn \l__table_tl
11 {
12 \begin{tabular}{lcll}
13 }
14 \bool_set_true:N \l_tmp_first_term % Is this the first term in this grammar?
15 \seq_map_inline:Nn \l__input_seq
16 {
17 %% \l__term_seq - (term, rheses)...
18 %% \l__term_tl - term
19 %% \l__keypairs_tl - rheses
20 \regex_split:nnN { ::= } { #1 } \l__term_seq
21 \seq_pop_left:NN \l__term_seq \l__term_tl
22 \seq_pop_left:NN \l__term_seq \l__keypairs_tl
23
24 \regex_replace_once:nnN { ^\s+ } {} \l__term_tl
25
26 \bool_if:NTF \l_tmp_first_term
27 {
28 \bool_set_false:N \l_tmp_first_term
29 }
30 {

```

```

31 \tl_put_right:Nn \l__table_tl { \ }
32 }
33 \tl_put_right:Nx \l__table_tl
34 {
35 \bnfexpr { \l__term_tl } & \g__simplebnf_defeq_tl &
36 }
37 %% \l__keypairs_seq - (rhs:annot | rhs)...
38 \seq_set_split:NnV \l__keypairs_seq { | } \l__keypairs_tl
39
40 \bool_set_true:N \l__first_rhs
41 \seq_map_function:NN \l__keypairs_seq \simplebnf_typeset_rhs:n
42 }
43
44 \tl_put_right:Nn \l__table_tl { \end{tabular} }
45 \tl_use:N \l__table_tl
46 \end{lateximage}% lwarp
47 \end{center}
48 }
49 { }
50
51 \ExplSyntaxOff

```

---

File 448 **lwarp-SIunits.sty**

§ 557 Package **Slunits**

*(Emulates or patches code by MARCEL HELDOORN.)*

Pkg SIunits **Slunits** is patched for use by **lwarp**.

For SVG math, it is recommended to use `\unit` where possible, which combines the entire expression into a single `lateximage`, and adds the `alt` tag containing the  $\LaTeX$  code, allowing for copy/paste. When units are used outside of the `\unit` macro, each unit macro will have its own `lateximage`, and each will have the `alt` tag set according to `\MathImageAltText`, which defaults to `(math image)`.

For **MATHJAX**, individual units used in text will appear as SVG images, since `\ensuremath` is used in the original definitions, and `\ensuremath` often has expressions which do not work well in **MATHJAX**, so it is always forced to an SVG image. If, however, `\unit` is used, the result is expressed with **MATHJAX** instead of an SVG image.

**for HTML output:** `1 \LWR@ProvidesPackagePass{SIunits}[2007/12/02]`

Patched for copy/paste with the **HTML alt tag**:

```

2 \ifbool{mathjax}{
3 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
4 \LWR@subsingledollar*% lwarp
5 {% alt tag
6 \textbackslash{}unit\{\LWR@HTMLsanitize{#1}\}%
7 \{\LWR@HTMLsanitize{#2}\}% extra space
8 }%

```

```

9 {SIunits}% add'l hashing
10 {%
11 #1\,{#2}%
12 }% contents
13 }
14 }{% not MathJax
15 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
16 \@inunitcommandtrue% original
17 \LWR@subsingledollar*% lwarp
18 {% alt tag
19 \textbackslash{}unit\{\LWR@HTMLsanitize{#1}\}%
20 \{ \LWR@HTMLsanitize{#2}\}% extra space
21 }%
22 {SIunits}% add'l hashing
23 {%
24 \LWR@origensuredmath{% lwarp modification
25 \SI@fstyle{%
26 {#1}\@qsk\period@active{#2}%
27 }% original
28 }%
29 }% contents
30 \@inunitcommandfalse% original
31 }
32 }% not MathJax
33 \LWR@formatted{unit}

```

#### For MATHJAX:

```

34 \begin{warpMathJax}
35 \LWR@infoprocessingmathjax{SIunits}
36
37 \CustomizeMathJax{\newcommand{\one}{}{}}
38 \CustomizeMathJax{\newcommand{\meter}{\metre}}
39 \CustomizeMathJax{\newcommand{\deka}{\deca}}
40 \CustomizeMathJax{\newcommand{\dekad}{\decad}}
41 \CustomizeMathJax{\newcommand{\per}{/}}
42 \CustomizeMathJax{\newcommand{\usk}{\;}}
43 \CustomizeMathJax{\newcommand{\unit}[2]{#1\,{#2}}}
44 \CustomizeMathJax{\newcommand{\power}[2]{#1^{#2}}}
45
46 \AtBeginDocument{%
47 \if@redefsquare
48 \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
49 \else
50 \if@defsquaren
51 \CustomizeMathJax{\newcommand{\square}[1]{\power{#1}{2}}}
52 \else
53 \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
54 \fi %\if@defsquaren
55 \fi %\if@redefsquare
56 } %\AtBeginDocument
57
58 \CustomizeMathJax{\newcommand{\squared}{^2}}
59 \CustomizeMathJax{\newcommand{\cubic}[1]{\power{#1}{3}}}
60 \CustomizeMathJax{\newcommand{\cubed}{^3}}

```

```

61 \CustomizeMathJax{\newcommand{\fourth}[1]{\power{#1}{4}}}
62 \CustomizeMathJax{\newcommand{\reciprocal}[1]{\power{#1}{-1}}}
63 \CustomizeMathJax{\newcommand{\rp}{\reciprocal}}
64 \CustomizeMathJax{\newcommand{\rpsquare}[1]{\power{#1}{-2}}}
65 \CustomizeMathJax{\newcommand{\rpsquared}{^{\{-2\}}}
66 \CustomizeMathJax{\newcommand{\rpcubic}[1]{\power{#1}{-3}}}
67 \CustomizeMathJax{\newcommand{\rpcubed}{^{\{-3\}}}
68 \CustomizeMathJax{\newcommand{\rpfourth}[1]{\power{#1}{-4}}}
69 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
70 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
71 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
72 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
73 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
74 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
75 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
76 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
77 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
78 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
79 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
80 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
81 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
82 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
83 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
84 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
85 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
86 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
87 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
88 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
89 \CustomizeMathJax{\newcommand{\yoctod}{\power{10}{-24}}}
90 \CustomizeMathJax{\newcommand{\zeptod}{\power{10}{-21}}}
91 \CustomizeMathJax{\newcommand{\attod}{\power{10}{-18}}}
92 \CustomizeMathJax{\newcommand{\femtod}{\power{10}{-15}}}
93 \CustomizeMathJax{\newcommand{\picod}{\power{10}{-12}}}
94 \CustomizeMathJax{\newcommand{\nanod}{\power{10}{-9}}}
95 \CustomizeMathJax{\newcommand{\microd}{\power{10}{-6}}}
96 \CustomizeMathJax{\newcommand{\millid}{\power{10}{-3}}}
97 \CustomizeMathJax{\newcommand{\centid}{\power{10}{-2}}}
98 \CustomizeMathJax{\newcommand{\decid}{\power{10}{-1}}}
99 \CustomizeMathJax{\newcommand{\decad}{\power{10}{1}}}
100 \CustomizeMathJax{\newcommand{\hectod}{\power{10}{2}}}
101 \CustomizeMathJax{\newcommand{\kilod}{\power{10}{3}}}
102 \CustomizeMathJax{\newcommand{\megad}{\power{10}{6}}}
103 \CustomizeMathJax{\newcommand{\gigad}{\power{10}{9}}}
104 \CustomizeMathJax{\newcommand{\terad}{\power{10}{12}}}
105 \CustomizeMathJax{\newcommand{\petad}{\power{10}{15}}}
106 \CustomizeMathJax{\newcommand{\exad}{\power{10}{18}}}
107 \CustomizeMathJax{\newcommand{\zettad}{\power{10}{21}}}
108 \CustomizeMathJax{\newcommand{\yottad}{\power{10}{24}}}
109 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
110 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
111 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kilo\gram}}}
112 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
113 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
114 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
115 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}

```

```

116 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
117 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
118 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
119 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
120 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
121 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
122 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
123 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
124 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
125 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
126 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
127 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
128 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
129 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
130 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
131 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
132 \CustomizeMathJax{\newcommand{\degreecelsius}{\mathrm{\unicode{x2103}}}}
133 \CustomizeMathJax{\newcommand{\celsius}{\degreecelsius}}
134 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
135 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
136 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
137 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
138 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
139
140 \ifdef{\radianbase}{
141 \CustomizeMathJax{\newcommand{\radianbase}%
142 {\metre\usk\reciprocal\metre}}
143 \CustomizeMathJax{\newcommand{\steradianbase}%
144 {\squaremetre\usk\rpsquare\metre}}
145 \CustomizeMathJax{\newcommand{\hertzbase}%
146 {\reciprocal\second}}
147 \CustomizeMathJax{\newcommand{\newtonbase}%
148 {\metre\usk\kilogram\usk\second\rpsquared}}
149 \CustomizeMathJax{\newcommand{\pascalbase}%
150 {\reciprocal\metre\usk\kilogram\usk\second\rpsquared}}
151 \CustomizeMathJax{\newcommand{\joulebase}%
152 {\squaremetre\usk\kilogram\usk\second\rpsquared}}
153 \CustomizeMathJax{\newcommand{\wattbase}%
154 {\squaremetre\usk\kilogram\usk\rpcubic\second}}
155 \CustomizeMathJax{\newcommand{\coulombbase}%
156 {\ampere\usk\second}}
157 \CustomizeMathJax{\newcommand{\voltbase}%
158 {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\reciprocal\ampere}}
159 \CustomizeMathJax{\newcommand{\faradbase}%
160 {\rpsquare\metre\usk\reciprocal\kilogram\usk\fourth\second\usk\ampere\squared}}
161 \CustomizeMathJax{\newcommand{\ohmbase}%
162 {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\rpsquare\ampere}}
163 \CustomizeMathJax{\newcommand{\siemensbase}%
164 {\rpsquare\metre\usk\reciprocal\kilogram\usk\cubic\second\usk\ampere\squared}}
165 \CustomizeMathJax{\newcommand{\weberbase}%
166 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
167 \CustomizeMathJax{\newcommand{\teslabase}%
168 {\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
169 \CustomizeMathJax{\newcommand{\henrybase}%
170 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\rpsquare\ampere}}

```

```
171 \CustomizeMathJax{\newcommand{\celsiusbase}%
172 {\kelvin}}
173 \CustomizeMathJax{\newcommand{\lumenbase}%
174 {\candela\usk\squaremetre\usk\rpsquare\metre}}
175 \CustomizeMathJax{\newcommand{\luxbase}%
176 {\candela\usk\squaremetre\usk\rpfourth\metre}}
177 \CustomizeMathJax{\newcommand{\becquerelbase}%
178 {\hertzbase}}
179 \CustomizeMathJax{\newcommand{\graybase}%
180 {\squaremetre\usk\second\rpsquared}}
181 \CustomizeMathJax{\newcommand{\sievertbase}%
182 {\graybase}}
183 \CustomizeMathJax{\newcommand{\katalbase}%
184 {\rp\second\usk\mole }}
185 }{}
186
187 \ifdef{\derradian}{
188 \CustomizeMathJax{\newcommand{\derradian}%
189 {\metre\usk\reciprocal\metre}}
190 \CustomizeMathJax{\newcommand{\dersteradian}%
191 {\squaremetre\usk\rpsquare\metre}}
192 \CustomizeMathJax{\newcommand{\derhertz}%
193 {\reciprocal\second}}
194 \CustomizeMathJax{\newcommand{\dernewton}%
195 {\metre\usk\kilogram\usk\second\rpsquared}}
196 \CustomizeMathJax{\newcommand{\derpascal}%
197 {\newton\usk\rpsquare\metre}}
198 \CustomizeMathJax{\newcommand{\derjoule}%
199 {\newton\usk\metre}}
200 \CustomizeMathJax{\newcommand{\derwatt}%
201 {\joule\usk\reciprocal\second}}
202 \CustomizeMathJax{\newcommand{\dercoulomb}%
203 {\ampere\usk\second}}
204 \CustomizeMathJax{\newcommand{\dervolt}%
205 {\watt\usk\reciprocal\ampere}}
206 \CustomizeMathJax{\newcommand{\derfarad}%
207 {\coulomb\usk\reciprocal\volt}}
208 \CustomizeMathJax{\newcommand{\derohm}%
209 {\volt\usk\reciprocal\ampere}}
210 \CustomizeMathJax{\newcommand{\dersiemens}%
211 {\ampere\usk\reciprocal\volt}}
212 \CustomizeMathJax{\newcommand{\derweber}%
213 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
214 \CustomizeMathJax{\newcommand{\dertesla}%
215 {\weber\usk\rpsquare\metre}}
216 \CustomizeMathJax{\newcommand{\derhenry}%
217 {\weber\usk\reciprocal\ampere}}
218 \CustomizeMathJax{\newcommand{\dercelsius}%
219 {\kelvin}}
220 \CustomizeMathJax{\newcommand{\derlumen}%
221 {\candela\usk\steradian}}
222 \CustomizeMathJax{\newcommand{\derlux}%
223 {\lumen\usk\rpsquare\metre}}
224 \CustomizeMathJax{\newcommand{\derbecquerel}%
225 {\derhertz}}
```

```

226 \CustomizeMathJax{\newcommand{\dergray}%
227 {\joule\usk\reciprocal\kilogram}}
228 \CustomizeMathJax{\newcommand{\dersievert}%
229 {\dergray}}
230 \CustomizeMathJax{\newcommand{\derkatal}%
231 {\katalbase}}
232 }{}
233
234 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
235 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
236 \CustomizeMathJax{\newcommand{\dday}{\mathrm{d}}}
237 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
238 \CustomizeMathJax{\newcommand{\pminute}{\mathrm{^\prime}}}
239 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^\prime}}}
240 \CustomizeMathJax{\newcommand{\pasecond}{\mathrm{^\prime\prime}}}
241 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^\prime\prime}}}
242 \CustomizeMathJax{\newcommand{\ton}{\mathrm{t}}}
243 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
244 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
245 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
246 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
247 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
248 \CustomizeMathJax{\newcommand{\curie}{\mathrm{Ci}}}
249 \CustomizeMathJax{\newcommand{\rad}{\mathrm{rad}}}
250 \CustomizeMathJax{\newcommand{\arad}{\mathrm{rd}}}
251 \CustomizeMathJax{\newcommand{\rem}{\mathrm{rem}}}
252 \CustomizeMathJax{\newcommand{\roentgen}{\mathrm{R}}}
253 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{\mathrm{eV}}}}
254 \CustomizeMathJax{\newcommand{\atomicmass}{\mathrm{u}}}
255 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
256 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{Da}}}
257 \CustomizeMathJax{\newcommand{\are}{\mathrm{a}}}
258 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{\hecto\are}}}
259 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
260 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{\bar{b}}}}
261 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
262 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
263 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r\per\minute}}}
264 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r\per\second}}}
265 \CustomizeMathJax{\newcommand{\squaremetre}{\power{\metre}{2}}}
266 \CustomizeMathJax{\newcommand{\cubicmetre}{\cubic\metre}}
267 \CustomizeMathJax{\newcommand{\graypersecond}{\gray\per\second}}
268 \CustomizeMathJax{\newcommand{\graypersecondnp}{\gray\usk\reciprocal\second}}
269 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\metre\per\second\squared}}
270 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\metre\usk\second\rpsquared}}
271 \CustomizeMathJax{\newcommand{\joulepermole}{\joule\per\mole}}
272 \CustomizeMathJax{\newcommand{\joulepermolenp}{\joule\usk\reciprocal\mole}}
273 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mole\per\cubic\metre}}
274 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mole\usk\rpcubic\metre}}
275 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\radian\per\second\squared}}
276 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\radian\usk\second\rpsquared}}
277 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{%
278 \kilogram\usk\squaremetre\per\second%
279 }}
280 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{%

```

```
281 \kilogram\usk\squaremetre\usk\reciprocal\second%
282 }}
283 \CustomizeMathJax{\newcommand{\radianpersecond}{\radian\per\second}}
284 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\radian\usk\reciprocal\second}}
285 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\squaremetre\per\cubic\metre}}
286 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{%
287 \squaremetre\usk\rpcubic\metre%
288 }}
289 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\katal\per\cubic\metre}}
290 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\katal\usk\rpcubic\metre}}
291 \CustomizeMathJax{\newcommand{\coulombpermol}{\coulomb\per\mole}}
292 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\coulomb\usk\reciprocal\mole}}
293 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\ampere\per\squaremetre}}
294 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\ampere\usk\rpsquare\metre}}
295 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\kilogram\per\cubic\metre}}
296 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\kilogram\usk\rpcubic\metre}}
297 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{%
298 \squaremetre\per\newton\usk\second%
299 }}
300 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{%
301 \squaremetre\usk\reciprocal\newton\usk\reciprocal\second%
302 }}
303 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}
304 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}
305 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\coulomb\usk\rpcubic\metre}}
306 \CustomizeMathJax{\newcommand{\ampere metre second}{\ampere\usk\metre\usk\second}}
307 \CustomizeMathJax{\newcommand{\voltpermetre}{\volt\per\metre}}
308 \CustomizeMathJax{\newcommand{\voltpermetrenp}{\volt\usk\reciprocal\metre}}
309 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}
310 \CustomizeMathJax{\newcommand{\coulombpersquaremetrenp}{\coulomb\usk\rpsquare\metre}}
311 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}
312 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}
313 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}
314 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}
315 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}
316 \CustomizeMathJax{\newcommand{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}
317 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}
318 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}
319 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}
320 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\newton\usk\rpcubic\metre}}
321 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}
322 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}
323 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}
324 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}
325 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}
326 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}
327 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}
328 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}
329 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}
330 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{%
331 \squaremetre\usk\reciprocal\second%
332 }}
333 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{%
334 \squaremetre\per\second\squared%
335 }}
```



```

336 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{%
337 \squaremetre\usk\second\rpsquared%
338 }}
339 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{%
340 \kilogram\usk\metre\per\second%
341 }}
342 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{%
343 \kilogram\usk\metre\usk\reciprocal\second%
344 }}
345 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}
346 \CustomizeMathJax{\newcommand{\candelapersquaremetrenp}{\candela\usk\rpsquare\metre}}
347 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}
348 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}
349 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}
350 \CustomizeMathJax{\newcommand{\jouleperteslanp}{\joule\usk\reciprocal\tesla}}
351 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}
352 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}
353 \CustomizeMathJax{\newcommand{\kilogrampersecond}{\kilogram\per\second}}
354 \CustomizeMathJax{\newcommand{\kilogrampersecondnp}{\kilogram\usk\reciprocal\second}}
355 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecond}{%
356 \kilogram\per\squaremetre\usk\second%
357 }}
358 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecondnp}{%
359 \kilogram\usk\rpsquare\metre\usk\reciprocal\second%
360 }}
361 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre}{\kilogram\per\squaremetre}}
362 \CustomizeMathJax{\newcommand{\kilogrampersquaremetrenp}{\kilogram\usk\rpsquare\metre}}
363 \CustomizeMathJax{\newcommand{\kilogrampermetre}{\kilogram\per\metre}}
364 \CustomizeMathJax{\newcommand{\kilogrampermetrenp}{\kilogram\usk\reciprocal\metre}}
365 \CustomizeMathJax{\newcommand{\joulepermolekelvin}{\joule\per\mole\usk\kelvin}}
366 \CustomizeMathJax{\newcommand{\joulepermolekelvinnp}{%
367 \joule\usk\reciprocal\mole\usk\reciprocal\kelvin%
368 }}
369 \CustomizeMathJax{\newcommand{\kilogramperkilomole}{\kilogram\per\kilo\mole}}
370 \CustomizeMathJax{\newcommand{\kilogramperkilomolenp}{%
371 \kilogram\usk\kilo\reciprocal\mole%
372 }}
373 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}
374 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}
375 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecond}{%
376 \kilogram\usk\metre\per\second\squared%
377 }}
378 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecondnp}{%
379 \kilogram\usk\metre\usk\second\rpsquared%
380 }}
381 \CustomizeMathJax{\newcommand{\newtonpersquaremetre}{\newton\per\squaremetre}}
382 \CustomizeMathJax{\newcommand{\newtonpersquaremetrenp}{\newton\usk\rpsquare\metre}}
383 \CustomizeMathJax{\newcommand{\persquaremetresecond}{1\per\squaremetre\usk\second}}
384 \CustomizeMathJax{\newcommand{\persquaremetresecondnp}{%
385 \rpsquare\metre\usk\reciprocal\second%
386 }}
387 \CustomizeMathJax{\newcommand{\wattperkilogram}{\watt\per\kilogram}}
388 \CustomizeMathJax{\newcommand{\wattperkilogramnp}{\watt\usk\reciprocal\kilogram}}
389 \CustomizeMathJax{\newcommand{\wattpercubicmetre}{\watt\per\cubic\metre}}
390 \CustomizeMathJax{\newcommand{\wattpercubicmetrenp}{\watt\usk\rpcubic\metre}}

```

```

391 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradian}{%
392 \watt\per\squaremetre\usk\steradian%
393 }}
394 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradiannp}{%
395 \watt\usk\rpsquare\metre\usk\rp\steradian%
396 }}
397 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvin}{\joule\per\kilogram\usk\kelvin}}
398 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvinnp}{%
399 \joule\usk\reciprocal\kilogram\usk\reciprocal\kelvin%
400 }}
401 \CustomizeMathJax{\newcommand{\squaremetreperkilogram}{\squaremetre\per\kilogram}}
402 \CustomizeMathJax{\newcommand{\rpsquaremetreperkilogram}{%
403 \squaremetre\usk\reciprocal\kilogram%
404 }}
405 \CustomizeMathJax{\newcommand{\cubicmetreperkilogram}{\cubic\metre\per\kilogram}}
406 \CustomizeMathJax{\newcommand{\rpcubicmetreperkilogram}{%
407 \cubic\metre\usk\reciprocal\kilogram%
408 }}
409 \CustomizeMathJax{\newcommand{\newtonpermetre}{\newton\per\metre}}
410 \CustomizeMathJax{\newcommand{\newtonpermetrenp}{\newton\usk\reciprocal\metre}}
411 \CustomizeMathJax{\newcommand{\Celsius}{\unicode{x2103}}}
412 \CustomizeMathJax{\newcommand{\wattpermetrekelvin}{\watt\per\metre\usk\kelvin}}
413 \CustomizeMathJax{\newcommand{\wattpermetrekelvinnp}{%
414 \watt\usk\reciprocal\metre\usk\reciprocal\kelvin%
415 }}
416 \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre}}
417 \CustomizeMathJax{\newcommand{\newtonmetrenp}{\newtonmetre}}
418 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecond}{%
419 \squaremetre\per\cubic\second%
420 }}
421 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecondnp}{%
422 \squaremetre\usk\rpcubic\second%
423 }}
424 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second}}
425 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\reciprocal\second}}
426 \CustomizeMathJax{\newcommand{\joulepercubicmetre}{\joule\per\cubicmetre}}
427 \CustomizeMathJax{\newcommand{\joulepercubicmetrenp}{\joule\usk\rpcubic\metre}}
428 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{%
429 \kilogram\per\cubic\metre\usk\coulomb%
430 }}
431 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{%
432 \kilogram\usk\rpcubic\metre\usk\reciprocal\coulomb%
433 }}
434 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubicmetre\per\second}}
435 \CustomizeMathJax{\newcommand{\rpcubicmetrepersecond}{\cubicmetre\usk\reciprocal\second}}
436 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{%
437 \kilogram\per\second\usk\cubicmetre%
438 }}
439 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrenp}{%
440 \kilogram\usk\reciprocal\second\usk\rpcubic\metre%
441 }}
442 \end{warpMathJax}

```

---

File 449 **lwarp-siunitx.sty**

§ 558 Package **siunitx**

*(Emulates or patches code by JOSEPH WRIGHT.)*

Pkg siunitx siunitx-v2 is patched for use by lwarp, and is emulated for MATHJAX. Use as:

```
\usepackage{siunitx}[=v2]
```

siunitx v3 is not yet supported.

**for HTML output:**

```
1 \providecommand\DeclareRelease[3]{}
2 \providecommand\DeclareCurrentRelease[2]{}
3
4 \DeclareRelease{2}{2010-05-23}{lwarp-siunitx-v2.sty}
5 \DeclareRelease{v2}{2010-05-23}{lwarp-siunitx-v2.sty}
6 \DeclareCurrentRelease{}{2021-05-17}
7
8 \PackageWarningNoLine{lwarp}
9 {%
10 *****\MessageBreak
11 Siunitx version 3 is not yet supported by Lwarp.\MessageBreak
12 V2 emulation is used here.\MessageBreak
13 *****
14 }
15
16 \RequirePackage{xcolor}% for \convertcolorspec
17
18 % \LWR@ProvidesPackagePass{siunitx}[2021-05-21]
19
20 \RequirePackage{siunitx-v2}
```


---

File 450 **lwarp-siunitx-v2.sty**

§ 559 Package **siunitx-v2**

*(Emulates or patches code by JOSEPH WRIGHT.)*

Pkg siunitx-v2 siunitx-v2 is patched for use by lwarp, and is emulated for MATHJAX.

 **v3 not yet!** siunitx v3 is not yet supported. For now, specify version 2:

```
\usepackage{siunitx}[=v2]
```

This may be also be necessary before loading other packages which also use siunitx, such as chemmacros.

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

⚠ **math mode required** Some units will require that the expression be placed inside math mode.

⚠ **tabular** Tabular S and s columns are rendered as simple c columns. These may be replaced by c columns with each cell contained in `\num` or `\si`.

⚠ **MathJax** For math mode with SVG display, the original `siunitx` code is used while generating the SVG image. For text mode, `lwarp` uses an emulation which provides a very effective HTML interpretation of `siunitx`. For math expressions while using `MATHJAX`, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. Complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

Document modifications required for `MATHJAX`:

**custom units**

- Custom units may be added with `\CustomizeMathJax`. See the `lwarp-siunitx` code for examples.

⚠ **unit spacing**

- Units work better using `~` between units instead of using periods.

⚠ **`\square`, `\cubic`**

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

Also see **`MATHJAX` option**, section 8.7.4.

**for HTML output:**

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{siunitx-v2}[2021-04-17]
4 \AtBeginDocument{% in case textcomp was not loaded
5 \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
6 \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
7 \DeclareSIUnit\elementarycharge{\textit{e}}
8 \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
9 \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
10 \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
11}% AtBeginDocument
```

Support the S and s column types:

```
12 \AtBeginDocument{
13 \HTMLnewcolumnntype{S}{c}
14 \HTMLnewcolumnntype{s}{c}
15 }
```

`\@ensuredmath` is not supported inside an `\hbox`, so it must temporarily be restored to its original. Similar for `\mbox`. SVG math is created explicitly when necessary, using `\LWR@subsingledollar`.

```

16
17 \ExplSyntaxOn
18 %

```

Modified to set set HTML \textcolor if not black:

```

19 \cs_set_protected:Npn __siunitx_print_aux:
20 {
21 \text
22 {
23 __siunitx_ensure_ltr:n
24 {

```

\color@endgroup was adding a paragraph break, so use a regular group instead.

```

25 % \color@begingroup
26 \begingroup% lwarp
27 %
28 __siunitx_print_color:
29 __siunitx_font_shape:
30 __siunitx_font_weight:
31 \use:c
32 {
33 __siunitx_ \l__siunitx_print_type_tl _
34 text \l__siunitx_font_family_tl :
35 }

36 % \bool_if:NTF \l__siunitx_font_math_mode_bool
37 % {
38 % __siunitx_print_math:
39 % }
40 {
41 \LWR@findcurrenttextcolor% lwarp
42 \ifdefstring{\LWR@tempcolor}{000000}% lwarp
43 {__siunitx_print_text:}% lwarp
44 {% lwarp
45 \LWR@textcurrentcolor{% lwarp
46 __siunitx_print_text:
47 }% lwarp
48 }% lwarp
49 }
50 % \color@endgroup
51 \endgroup% lwarp
52 %
53 }
54 }
55 }
56
57 \cs_set_protected:Npn __siunitx_set_math_fam:n #1 {
58 \group_begin:
59 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
60 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
61 \hbox_set:Nn \l__siunitx_tmp_box
62 {
63 \ensuremath

```

```

64 {
65 \use:c { math #1 }
66 {
67 \int_const:cn { c__siunitx_math #1 _int } { \fam }
68 }
69 }
70 }
71 \group_end:
72 }
73
74 \cs_set_protected:Npn __siunitx_combined_output:n #1 {
75 %
76 \group_begin:% lwarp
77 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
78 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
79 \bool_if:NTF \l__siunitx_number_parse_bool
80 {
81 \tl_clear:N \l__siunitx_number_out_tl
82 \bool_set_false:N \l__siunitx_number_compound_bool
83 __siunitx_number_output_parse:n {#1}
84 }
85 {

```

For parse-numbers=false:

```

86 __siunitx_unit_output_pre_print:
87 \begingroup% lwarp
88 \boolfalse{mathjax}% lwarp
89 % __siunitx_print:nn { number } { \ensuremath {#1} }
90 \LWR@subsingledollar{% lwarp
91 \textbackslash(\LWR@HTMLsanitize{#1} \textbackslash)% lwarp
92 }{siunitx}{%
93 __siunitx_print:nn { number } {%
94 \LWR@origensuredmath{#1}%
95 }%
96 }% lwarp
97 \endgroup% lwarp
98 __siunitx_unit_output_print:
99 }
100 \group_end:% lwarp
101 %
102 }

```

For parse-numbers=false:

```

103 \cs_set_protected:Npn __siunitx_range_numbers_aux:n #1
104 {
105 \bool_if:NTF \l__siunitx_number_parse_bool
106 {
107 \tl_clear:N \l__siunitx_number_out_tl
108 \tl_clear:N \l__siunitx_number_out_saved_tl
109 \bool_set_false:N \l__siunitx_number_compound_bool
110 __siunitx_number_output_parse:n {#1}
111 \bool_if:NT \l__siunitx_number_compound_bool
112 { \msg_error:nx { siunitx } { multi-part-range } {#1} }

```

```

113 }
114 {
115 __siunitx_unit_output_pre_print:
116 \begingroup% lwarp
117 \boolfalse{mathjax}% lwarp
118 % __siunitx_print:nn { number } {#1}
119 \LWR@subsingledollar{% lwarp
120 \textbackslash(\LWR@HTMLsanitize{#1} \textbackslash)% lwarp
121){siunitx}{%
122 __siunitx_print:nn { number } {%
123 \LWR@origensuredmath{#1}%
124 } % lwarp
125 }% lwarp
126 \endgroup% lwarp
127 __siunitx_unit_output_print:
128 }
129 }

```

For `parse-numbers=false`:

```

130 \cs_set_protected:Npn __siunitx_angle_print_direct_aux:nn #1#2 {
131 \tl_if_empty:nF {#1}
132 {
133 \tl_set:Nn \l__siunitx_unit_tl {#2}
134 \begingroup% lwarp
135 \boolfalse{mathjax}% lwarp
136 % __siunitx_print:nn { number } {#1}
137 \LWR@subsingledollar{% lwarp
138 \textbackslash(\LWR@HTMLsanitize{#1} \textbackslash)% lwarp
139){siunitx}{%
140 __siunitx_print:nn { number } {
141 \LWR@origensuredmath{#1}%
142 }% lwarp
143 }% lwarp
144 \endgroup% lwarp
145 __siunitx_unit_output_print:
146 }
147 }
148 %

```

For quotients, the fraction code is replaced by the symbol code:

```

149 \cs_set_protected:Npn __siunitx_number_output_quotient_fraction: {
150 \bool_set_true:N \l__siunitx_number_compound_bool
151 __siunitx_number_output_quotient_aux_i:
152 \tl_set_eq:NN \l__siunitx_number_out_tl
153 \l__siunitx_number_numerator_tl
154 \tl_put_right:NV \l__siunitx_number_out_tl \l__siunitx_output_quotient_tl
155 \tl_put_right:NV \l__siunitx_number_out_tl
156 \l__siunitx_number_denominator_tl
157 __siunitx_number_output_single_aux:
158 }

```

For units, the fraction code is replaced by the symbol code:

```

159 \cs_set_protected:Npn __siunitx_unit_format_fraction_fraction: {
160 __siunitx_unit_format_fraction_symbol_aux:
161 \int_compare:nNnT { \l__siunitx_unit_denominator_int } > { 1 }
162 {
163 \bool_if:NT \l__siunitx_unit_denominator_bracket_bool
164 {
165 \tl_put_left:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_open_tl
166 \tl_put_right:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_close_tl
167 }
168 }
169 \tl_set_eq:NN \l__siunitx_unit_tl \l__siunitx_unit_numerator_tl
170 \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_per_symbol_tl
171 \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_unit_denominator_tl
172 }

173 \cs_set_protected:Npn __siunitx_angle_print_astronomy_aux: {
174 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-integer }
175 \l__siunitx_tmpa_tl
176 { __siunitx_print:nV { number } \l__siunitx_tmpa_tl }
177 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{0}% lwarp
178 {% lateximage
179 \hbox_set:Nn \l__siunitx_angle_marker_box
180 {
181 __siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
182 }
183 \hbox_set:Nn \l__siunitx_angle_unit_box
184 {
185 __siunitx_print:nV { unit } \l__siunitx_unit_tl
186 \skip_horizontal:n { -\scriptspace }
187 }
188 __siunitx_angle_print_astronomy_aux:n { marker }
189 __siunitx_angle_print_astronomy_aux:n { unit }
190 \hbox_set:Nn \l__siunitx_angle_marker_box
191 {
192 \box_use:N \l__siunitx_angle_marker_box
193 \box_use:N \l__siunitx_angle_unit_box
194 }
195 \dim_compare:nNnTF
196 { \l__siunitx_angle_marker_dim } > { \l__siunitx_angle_unit_dim }
197 { __siunitx_angle_print_astronomy_marker: }
198 { __siunitx_angle_print_astronomy_unit: }
199 }% lateximage
200 {% not a lateximage
201 __siunitx_print:nV { unit } \l__siunitx_unit_tl
202 __siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
203 }% not a lateximage
204 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-decimal }
205 \l__siunitx_tmpa_tl
206 { __siunitx_print:nV { number } \l__siunitx_tmpa_tl }
207 }

208 \cs_set_protected:Npn __siunitx_textsuperscript:n #1 {#1}

```

\num [*<options>*] {*<value>*}



```

209 \RenewDocumentCommand \num { o m } {
210 \leavevmode
211 \group_begin:% lwarp
212 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
213 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
214 \bool_set_false:N \l__siunitx_font_set_bool
215 \IfNoValueF {#1}
216 { \keys_set:nn { siunitx } {#1} }
217 __siunitx_number_output:n {#2}
218 \group_end:% lwarp
219 }

```

`\numrange` [*options*] {*value1*} {*value2*}

```

220 \RenewDocumentCommand \numrange { o m m } {
221 \leavevmode
222 \group_begin:% lwarp
223 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
224 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
225 \bool_set_false:N \l__siunitx_font_set_bool
226 \IfNoValueF {#1}
227 { \keys_set:nn { siunitx } {#1} }
228 __siunitx_range_numbers:nn {#2} {#3}
229 \group_end:% lwarp
230 }

```

`\ang` {*options*} {*angle*}

```

231 \RenewDocumentCommand \ang { o > { \SplitArgument { 2 } { ; } } m } {
232 \group_begin:% lwarp
233 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
234 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
235 \IfNoValueF {#1}
236 { \keys_set:nn { siunitx } {#1} }
237 __siunitx_angle_output:nnn #2
238 \group_end:% lwarp
239 }

```

`\si` {*options*} {*unit*}

```

240 \RenewDocumentCommand \si { o m } {
241 \leavevmode
242 \group_begin:% lwarp
243 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
244 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
245 \bool_set_false:N \l__siunitx_font_set_bool
246 \IfNoValueTF {#1}
247 { __siunitx_unit_output:nn {#2} { } }
248 {
249 \keys_set:nn { siunitx } {#1}
250 __siunitx_unit_output:nn {#2} {#1}
251 }
252 \group_end:% lwarp
253 }

```

```

\SIrange [⟨options⟩] {⟨value1⟩} {⟨value2⟩} {⟨unit⟩}

254 \RenewDocumentCommand{\SIrange}{o m m}
255 {%
256 \leavevmode
257 \group_begin:% lwarp
258 \LetLtxMacro\ensuredmath\LWR@origensuredmath% lwarp
259 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
260 \bool_set_false:N \l__siunitx_font_set_bool
261 \IfNoValueTF {#1}
262 { __siunitx_range_unit:nnnn {#4} { } {#2} {#3} }
263 {
264 \keys_set:nn { siunitx } {#1}
265 __siunitx_range_unit:nnnn {#4} {#1} {#2} {#3}
266 }
267 \group_end:% lwarp
268 }

269 \ExplSyntaxOff

```

For MATHJAX. (The following runs much faster as separate `\CusomizeMathJax` calls instead of one single call.)

```

270 \begin{warpMathJax}
271 \LWR@infoprocessingmathjax{siunitx}

272 \CustomizeMathJax{\newcommand{\tothe}[1]{^{\#1}}}
273 \CustomizeMathJax{\newcommand{\raiseto}[2]{{\#2}^{\#1}}}

```

Used as an end marker when parsing values:

```

274 \CustomizeMathJax{\newcommand{\LWRsiunitxEND}{}}

```

```

\ang [⟨options⟩] {⟨value⟩}

275 \CustomizeMathJax{\def\LWRsiunitxang#1;#2;#3;#4\LWRsiunitxEND{%
276 \ifblank{#1}{ }\num{#1}\degree}%
277 \ifblank{#2}{ }\num{#2}^{\unicode{x2032}}% \prime
278 \ifblank{#3}{ }\num{#3}^{\unicode{x2033}}% \dblprime
279 }}
280 \CustomizeMathJax{\newcommand{\ang}[2][]{\LWRsiunitxang#2;;;\LWRsiunitxEND}}

```

Processes scientific notation. Special handling for a mantissa which is either empty or only a minus sign.

```

281 \CustomizeMathJax{\newcommand{\LWRsiunitxnumscientific}[2]{%
282 \ifblank{#1}%
283 {}%
284 {%
285 \ifstrequal{#1}{-}%
286 {-}%
287 {\LWRsiunitxprintdecimal{#1}\times}%

```

```

288 }%
289 10^{\LWRsiunitxprintdecimal{#2}}
290 }}

```

`\num` handles optional powers (e, E, d, D), multiples (x), plus and minus, and period or comma decimal output.

To split the string, `\def` is used with parameter delimiters. When each of the following macro is used, extra delimiters are padded to the end of the arguments of each macro when used, and the final argument of each collects any extra unused delimiters.

```

291 \ExplSyntaxOn
292 \AtBeginDocument{
293 \ifdefstring{\l__siunitx_output_decimal_tl}{,}
294 {% Use decimal comma
295 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsub#1.#2.#3\LWRsiunitxEND{%
296 \mathrm{#1}%
297 \ifblank{#2}
298 {}%
299 {,\mathrm{#2}}
300 }}
301
302 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
303 \LWRsiunitxprintdecimalsub#1...\LWRsiunitxEND%
304 }}
305 }
306 {% Use decimal point
307 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsub#1,#2,#3\LWRsiunitxEND{%
308 \mathrm{#1}%
309 \ifblank{#2}
310 {}%
311 {.\mathrm{#2}}
312 }}
313
314 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
315 \LWRsiunitxprintdecimalsub#1,,,\LWRsiunitxEND%
316 }}
317 }
318 }
319 \ExplSyntaxOff

```

`\num` [*(options)*] {*(value)*}

```

320 \CustomizeMathJax{\def\LWRsiunitxnumplus#1+#2+#3\LWRsiunitxEND{%
321 \ifblank{#2}
322 {\LWRsiunitxprintdecimal{#1}}% no plus
323 {%
324 \ifblank{#1}%
325 {\LWRsiunitxprintdecimal{#2}}% leading plus, ignore
326 {% a+b
327 \LWRsiunitxprintdecimal{#1}%
328 \unicode{x02B}% plus sign
329 \LWRsiunitxprintdecimal{#2}%
330 }%

```

```

331 }%
332 }}
333
334 \CustomizeMathJax{\def\LWRsiunitxnumminus#1-#2-#3\LWRsiunitxEND{%
335 \ifblank{#2}%
336 {\LWRsiunitxnumplus#1+++ \LWRsiunitxEND}%
337 {%
338 \LWRsiunitxprintdecimal{#1}%
339 \unicode{x02212}% mathematical minus sign
340 \LWRsiunitxprintdecimal{#2}%
341 }%
342 }}
343
344 \CustomizeMathJax{\def\LWRsiunitxnumpm#1+-#2+-#3\LWRsiunitxEND{%
345 \ifblank{#2}%
346 {\LWRsiunitxnumminus#1--- \LWRsiunitxEND}%
347 {%
348 \LWRsiunitxprintdecimal{#1}%
349 \unicode{x0B1}% \pm
350 \LWRsiunitxprintdecimal{#2}%
351 }%
352 }}
353
354 \CustomizeMathJax{\def\LWRsiunitxnumx#1x#2x#3x#4\LWRsiunitxEND{%
355 \ifblank{#2}%
356 {\LWRsiunitxnumpm#1+-- \LWRsiunitxEND}%
357 {%
358 \ifblank{#3}%
359 {%
360 \LWRsiunitxprintdecimal{#1}%
361 \times%
362 \LWRsiunitxprintdecimal{#2}%
363 }%
364 {%
365 \LWRsiunitxprintdecimal{#1}%
366 \times%
367 \LWRsiunitxprintdecimal{#2}%
368 \times%
369 \LWRsiunitxprintdecimal{#3}%
370 }%
371 }%
372 }}
373
374 \CustomizeMathJax{\def\LWRsiunitxnumD#1D#2D#3\LWRsiunitxEND{%
375 \ifblank{#2}%
376 {\LWRsiunitxnumx#1xxxxx \LWRsiunitxEND}%
377 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
378 }}
379
380 \CustomizeMathJax{\def\LWRsiunitxnumd#1d#2d#3\LWRsiunitxEND{%
381 \ifblank{#2}%
382 {\LWRsiunitxnumD#1DDD \LWRsiunitxEND}%
383 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
384 }}
385

```

```

386 \CustomizeMathJax{\def\LWRsiunitxnumE#1E#2E#3\LWRsiunitxEND{%
387 \ifblank{#2}%
388 {\LWRsiunitxnumd#1ddd\LWRsiunitxEND}%
389 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
390 }}
391
392 \CustomizeMathJax{\def\LWRsiunitxnume#1e#2e#3\LWRsiunitxEND{%
393 \ifblank{#2}%
394 {\LWRsiunitxnumE#1EEE\LWRsiunitxEND}%
395 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
396 }}
397
398 \CustomizeMathJax{\def\LWRsiunitxnumcomma#1,#2,#3\LWRsiunitxEND{%
399 \ifblank{#2}
400 {\LWRsiunitxnume#1eee\LWRsiunitxEND}
401 {\LWRsiunitxnume#1.#2eee\LWRsiunitxEND}
402 }}
403
404 \CustomizeMathJax{\newcommand{\num}[2][\LWRsiunitxnumcomma#2,,\LWRsiunitxEND]}

```

`\si` [*options*] {*unit*}

```
405 \CustomizeMathJax{\newcommand{\si}[2][\mathrm{#2}]}
```

`\SI` [*options*] {*value*} [*prefix*] {*unit*}

`\SI` has a second optional arg, which is parsed using `\ifnextchar`.

```

406 \CustomizeMathJax{\def\LWRsiunitxSIopt#1[#2]#3{%
407 {#2}\num{#1}{#3}%
408 }}
409
410 \CustomizeMathJax{\newcommand{\LWRsiunitxSI}[2]{%
411 \num{#1}\, {#2}%
412 }}
413
414 \CustomizeMathJax{\newcommand{\SI}[2][\ifnextchar[%
415 {\LWRsiunitxSIopt{#2}}%
416 {\LWRsiunitxSI{#2}}}%
417 }}

```

`\numlist` [*options*] {*list*}

`\numlist` should only be used in text mode. If used in `MATHJAX`, it is merely printed as input.

```
418 \CustomizeMathJax{\newcommand{\numlist}[2][\mathrm{#2}]}
```

`\numrange` [*options*] {*value1*} {*value2*}

`\numrange` should only be used in text mode. If used in `MATHJAX` math, an en-dash is used instead of the range-phase.

```
419 \CustomizeMathJax{\newcommand{\numrange}[3][\num{#2}\, \unicode{x2013}\, \num{#3}]}
```

`\SIlist` [*options*] {*list*}

`\SIlist` and `\SIrange` should only be used in text mode. If used in `MATHJAX`, a simple emulation is provided.

```
420 \CustomizeMathJax{\newcommand{\SIlist}[3][\mathrm{#2},#3]}
```

`\SIrange` [*options*] {*value1*} {*value2*} {*unit*}

```
421 \CustomizeMathJax{\newcommand{\SIrange}[4][\num{#2}\,#4\,\unicode{x2013}\,\num{#3}\,#4]}
```

`\tablenum` [*options*] {*value*}

```
422 \CustomizeMathJax{\newcommand{\tablenum}[2][\mathrm{#2}]}
```

```
423 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
424 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
425 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
426 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
427 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
428 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
429 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
430 %
431 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
432 \CustomizeMathJax{\newcommand{\degreeCelsius}{\unicode{x2103}}}
433 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
434 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
435 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
436 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
437 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
438 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
439 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
440 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
441 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
442 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
443 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
444 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
445 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
446 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
447 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
448 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
449 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
450 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
451 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
452 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
453 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
454 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^{\circ}}}}
455 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
456 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
457 \CustomizeMathJax{\newcommand{\litre}{\mathrm{L}}}
458 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
459 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^{\prime}}}}
460 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
461 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^{\prime\prime}}}}
462 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
463 \CustomizeMathJax{\newcommand{\astronomicalunit}{\mathrm{au}}}
```

```

464 \CustomizeMathJax{\newcommand{\atomicmassunit}{u}}
465 \CustomizeMathJax{\newcommand{\bohr}{\mathit{a}_0}}
466 \CustomizeMathJax{\newcommand{\clight}{\mathit{c}_0}}
467 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D}_\mathrm{a}}}
468 \CustomizeMathJax{\newcommand{\electronmass}{\mathit{m}_\mathrm{e}}}
469 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
470 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathit{e}}}
471 \CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_\mathrm{h}}}
472 \CustomizeMathJax{\newcommand{\planckbar}{\mathit{\unicode{x210F}}}}
473 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
474 \CustomizeMathJax{\let\LWRorigbar\bar}
475 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
476 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
477 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
478 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
479 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
480 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
481 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
482 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
483 %
484 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
485 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
486 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
487 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
488 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
489 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
490 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
491 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
492 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
493 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
494 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
495 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
496 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
497 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
498 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
499 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
500 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
501 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
502 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
503 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
504 %
505 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
506 %
507 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
508 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
509 %
510 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
511 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
512 \CustomizeMathJax{\newcommand{\of}[1]{_\mathrm{\#1}}}
513 \CustomizeMathJax{\newcommand{\squared}{^2}}
514 \CustomizeMathJax{\newcommand{\square}[1]{\mathrm{\#1}^2}}
515 \CustomizeMathJax{\newcommand{\cubed}{^3}}
516 \CustomizeMathJax{\newcommand{\cubic}[1]{\mathrm{\#1}^3}}
517 \CustomizeMathJax{\newcommand{\per}{/}}
518 \CustomizeMathJax{\newcommand{\celsius}{\unicode{x2103}}}

```

```
519 %
520 \CustomizeMathJax{\newcommand{\fg}{\femto\gram}}
521 \CustomizeMathJax{\newcommand{\pg}{\pico\gram}}
522 \CustomizeMathJax{\newcommand{\ng}{\nano\gram}}
523 \CustomizeMathJax{\newcommand{\ug}{\micro\gram}}
524 \CustomizeMathJax{\newcommand{\mg}{\milli\gram}}
525 \CustomizeMathJax{\newcommand{\g}{\gram}}
526 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
527 %
528 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
529 %
530 \CustomizeMathJax{\newcommand{\pm}{\pico\metre}}
531 \CustomizeMathJax{\newcommand{\nm}{\nano\metre}}
532 \CustomizeMathJax{\newcommand{\um}{\micro\metre}}
533 \CustomizeMathJax{\newcommand{\mm}{\milli\metre}}
534 \CustomizeMathJax{\newcommand{\cm}{\centi\metre}}
535 \CustomizeMathJax{\newcommand{\dm}{\deci\metre}}
536 \CustomizeMathJax{\newcommand{\m}{\metre}}
537 \CustomizeMathJax{\newcommand{\km}{\kilo\metre}}
538 %
539 \CustomizeMathJax{\newcommand{\as}{\atto\second}}
540 \CustomizeMathJax{\newcommand{\fs}{\femto\second}}
541 \CustomizeMathJax{\newcommand{\ps}{\pico\second}}
542 \CustomizeMathJax{\newcommand{\ns}{\nano\second}}
543 \CustomizeMathJax{\newcommand{\us}{\micro\second}}
544 \CustomizeMathJax{\newcommand{\ms}{\milli\second}}
545 \CustomizeMathJax{\newcommand{\s}{\second}}
546 %
547 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
548 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}
549 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}
550 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
551 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
552 \CustomizeMathJax{\newcommand{\mol}{\mol}}
553 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
554 %
555 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
556 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
557 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
558 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
559 \CustomizeMathJax{\newcommand{\A}{\ampere}}
560 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
561 %
562 \CustomizeMathJax{\newcommand{\uL}{\micro\litre}}
563 \CustomizeMathJax{\newcommand{\mL}{\milli\litre}}
564 \CustomizeMathJax{\newcommand{\L}{\litre}}
565 \CustomizeMathJax{\newcommand{\hL}{\hecto\litre}}
566 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
567 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
568 \CustomizeMathJax{\newcommand{\L}{\liter}}
569 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
570 %
571 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
572 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
573 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
```



```

574 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
575 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
576 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
577 %
578 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
579 \CustomizeMathJax{\newcommand{\N}{\newton}}
580 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
581 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
582 %
583 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
584 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
585 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
586 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
587 %
588 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
589 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
590 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
591 %
592 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
593 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
594 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
595 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
596 \CustomizeMathJax{\newcommand{\V}{\volt}}
597 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
598 %
599 \CustomizeMathJax{\newcommand{\W}{\watt}}
600 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
601 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
602 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
603 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
604 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
605 %
606 \CustomizeMathJax{\newcommand{\J}{\joule}}
607 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
608 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
609 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
610 %
611 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
612 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
613 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
614 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
615 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
616 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
617 %
618 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
619 %
620 \CustomizeMathJax{\newcommand{\F}{\farad}}
621 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
622 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
623 %
624 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
625 %
626 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
627 %
628 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}

```

```

629 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
630 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
631 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
632 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
633 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
634 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
635 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
636 \end{warpMathJax}

```

---

File 451 **lwarp-skmath.sty**

§ 560 Package **skmath**

*(Emulates or patches code by SIMON SIGURDHSSON.)*

Pkg skmath skmath is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{skmath}[2019/10/15]

Only defined if package option requested:

```

2 \begin{warpMathJax}
3 \ExplSyntaxOn
4 \bool_if:NT\g__skmath_define_common_sets_bool{
5 \CustomizeMathJax{\newcommand{\N}{\mathbb{N}}}
6 \CustomizeMathJax{\newcommand{\Z}{\mathbb{Z}}}
7 \CustomizeMathJax{\newcommand{\Q}{\mathbb{Q}}}
8 \CustomizeMathJax{\newcommand{\R}{\mathbb{R}}}
9 \CustomizeMathJax{\newcommand{\C}{\mathbb{C}}}
10 }

```

skmath is using l3keys, which does not seem to have an equivalent to \@ifpackagewith. To detect package options, comparisons with the following are made to see if various macros have been defined as follows:

```

11 \cs_gset_nopar:Npn\LWR__skmath_imaginary_unit:n#1{#1}
12 \cs_gset_nopar:Npn\LWR__skmath_natural_log_e:{e}
13 \cs_gset_nopar:Npn\LWR__skmath_integral_d:{d}
14 \cs_gset_nopar:Npn\LWR__skmath_total_derivative_d:{d}

```

If notation=iso, use upright, else italic:

```

15 \cs_if_eq:NNTF __skmath_imaginary_unit:n \LWR__skmath_imaginary_unit:n
16 {
17 \CustomizeMathJax{\newcommand{ii}{\mathit{i}}}
18 \CustomizeMathJax{\newcommand{jj}{\mathit{j}}}
19 }
20 {
21 \CustomizeMathJax{\newcommand{ii}{\mathrm{i}}}
22 \CustomizeMathJax{\newcommand{jj}{\mathrm{j}}}
23 }

```

If notation=iso, use upright, else italic:

```
24 \cs_if_eq:NNTF __skmath_natural_log_e: \LWR__skmath_natural_log_e:
25 { \CustomizeMathJax{\newcommand{\ee}{\mathit{e}}} }
26 { \CustomizeMathJax{\newcommand{\ee}{\mathrm{e}}} }
```

`skmath` uses `\DeclarePairedDelimiter` from `mathtools` for `\abs` and `\norm`, and `lwarp` uses this to automatically define MATHJAX definitions for each.

If notation=english, use slanted, else upright:

```
27 \cs_if_eq:NNTF __skmath_integral_d: \LWR__skmath_integral_d:
28 { \CustomizeMathJax{\newcommand{\d}{\mathit{d}}} }
29 { \CustomizeMathJax{\newcommand{\d}{\mathrm{d}}} }
```

Used to parse comma and caret arguments for `\pd` and `\td`:

```
30 \CustomizeMathJax{\def\LWRskmathEND{}}
```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```
31 \CustomizeMathJax{\def\LWRskmathpdstarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
32 #1_{#2#3#4#5}%
33 }}
34
35 \CustomizeMathJax{\newcommand{\LWRskmathpdstar}[2]{%
36 \LWRskmathpdstarsub{#1}#2,,,\LWRskmathEND%
37 }}
```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term. `\LWRskmathpdone` is used to only place a 1 digit if a second or later term does not have a power.

```
38 \CustomizeMathJax{\def\LWRskmathpdnumerator#1^#2^#3\LWRskmathEND{%
39 \ifblank{#1}{%
40 \ifblank{#2}{\LWRskmathpdplus\LWRskmathpdone}{\LWRskmathpdplus#2}
41 }
42 }}
```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets.

```
43 \CustomizeMathJax{\def\LWRskmathpdddenominator#1^#2^#3\LWRskmathEND{%
44 \ifblank{#1}{%
45 \ifblank{#2}%
46 {\partial{#1}}%
47 {\partial{#1}^{#2}}%
48 }%
49 }}
```

Factored from `\LWRskmathpdnostarsub`, following:

The phrase  $\partial$  appears to be required while parsing the carets. `\LWRskmathdpplus` is used to only place a plus sign starting after the first term. `\LWRskmathpdone` is used to only place a 1 digit if a second or later term does not have a power.

This may not be recursion-safe. (Is there really such as a thing as nested differentials?)

```

50 \CustomizeMathJax{\newcommand{\LWRskmathdonumerator}[5]{%
51 \partial^{%
52 \def\LWRskmathdpplus{}%
53 \LWRskmathpdnumerator#2^{}}\LWRskmathEND%
54 \def\LWRskmathdpplus{+}%
55 \def\LWRskmathpdone{1}%
56 \LWRskmathpdnumerator#3^{}}\LWRskmathEND%
57 \LWRskmathpdnumerator#4^{}}\LWRskmathEND%
58 \LWRskmathpdnumerator#5^{}}\LWRskmathEND%
59 }%
60 {#1}%
61 }}
62
63 \CustomizeMathJax{\newcommand{\LWRskmathdodenominator}[4]{%
64 \LWRskmathpddenominator#1^{}}\LWRskmathEND%
65 \ifblank{#2}{\,\,}%
66 \LWRskmathpddenominator#2^{}}\LWRskmathEND%
67 \ifblank{#3}{\,\,}%
68 \LWRskmathpddenominator#3^{}}\LWRskmathEND%
69 \ifblank{#4}{\,\,}%
70 \LWRskmathpddenominator#4^{}}\LWRskmathEND%
71 }}

```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

72 \CustomizeMathJax{\def\LWRskmathpdnostarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
73 \ifblank{#3}{\def\LWRskmathpdone{}}{\def\LWRskmathpdone{1}}
74 \frac%
75 {\LWRskmathdonumerator{#1}{#2}{#3}{#4}{#5}}%
76 {\LWRskmathdodenominator{#2}{#3}{#4}{#5}}%
77 }}
78
79 \CustomizeMathJax{\newcommand{\LWRskmathpdnostar}[2]{%
80 \LWRskmathpdnostarsub{#1}#2,,,,,\LWRskmathEND%
81 }}
82 \CustomizeMathJax{\newcommand{\pd}{\ifstar\LWRskmathpdstar\LWRskmathpdnostar}}

```

If notation=english or legacy, use slanted, else upright:

```

83 \cs_if_eq:NNTF __skmath_total_derivative_d: \LWR__skmath_total_derivative_d:
84 { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathit{d}}} }
85 { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathrm{d}}} }
86 \CustomizeMathJax{\def\LWRskmathtdsub#1#2^#3\LWRskmathEND{%
87 \frac
88 {\LWRskmathtd^{#3}{#1}}

```

```

89 {\LWRskmathtd{#2}^{#3}}
90 }}
91
92 \CustomizeMathJax{\newcommand{\td}[2]{%
93 \LWRskmathtdsub{#1}#2^{}}\LWRskmathEND%
94 }}

95 \CustomizeMathJax{\newcommand{\E}[1]{%
96 \operatorname{E}\left[#1\right]%
97 }}

98 \CustomizeMathJax{\let\given\mid}
99
100 \CustomizeMathJax{\newcommand{\P}[1]{%
101 \operatorname{P}%
102 \left(#1\right)%
103 }}

104 \CustomizeMathJax{\newcommand{\var}[1]{%
105 \operatorname{Var}\left(#1\right)%
106 }}
107
108 \CustomizeMathJax{\newcommand{\cov}[2]{%
109 \operatorname{Cov}\left(#1,#2\right)%
110 }}

```

#### Common code for \sin etc:

```

111 \CustomizeMathJax{\newcommand{\LWRskmathtrigtwo}[2][]{%
112 \ifblank{#1}{}{^{#1}}%
113 \ifblank{#2}{}{\left(#2\right)}%
114 }}
115
116 \CustomizeMathJax{\newcommand{\LWRskmathtrig}[1]{%
117 \operatorname{#1}%
118 \LWRskmathtrigtwo%
119 }}

120 \CustomizeMathJax{\renewcommand{\sin}{\LWRskmathtrig{sin}}}
121 \CustomizeMathJax{\renewcommand{\arcsin}{\LWRskmathtrig{arcsin}}}
122
123 \CustomizeMathJax{\renewcommand{\cos}{\LWRskmathtrig{cos}}}
124 \CustomizeMathJax{\renewcommand{\arccos}{\LWRskmathtrig{arccos}}}
125
126 \CustomizeMathJax{\renewcommand{\tan}{\LWRskmathtrig{tan}}}
127 \CustomizeMathJax{\renewcommand{\arctan}{\LWRskmathtrig{arctan}}}
128
129 \CustomizeMathJax{\renewcommand{\cot}{\LWRskmathtrig{cot}}}
130
131 \CustomizeMathJax{\renewcommand{\sinh}{\LWRskmathtrig{sinh}}}
132 \CustomizeMathJax{\renewcommand{\cosh}{\LWRskmathtrig{cosh}}}
133 \CustomizeMathJax{\renewcommand{\tanh}{\LWRskmathtrig{tanh}}}

```

Common code for `\ln` and `\log`:

```

134 \CustomizeMathJax{\newcommand{\LWRskmathlogtwo}[2][]{%
135 \ifblank{#1}{_{{#1}}}%
136 \ifblank{#2}{\left(##2\right)}%
137 }}
138
139 \CustomizeMathJax{\newcommand{\LWRskmathlog}[1]{%
140 \operatorname{#1}%
141 \LWRskmathlogtwo%
142 }}

143 \CustomizeMathJax{\renewcommand{\ln}{\LWRskmathlog{ln}}}
144 \CustomizeMathJax{\renewcommand{\log}{\LWRskmathlog{log}}}

145 \CustomizeMathJax{\newcommand{\LWRskmathexpparens}[1]{%
146 \operatorname{exp}%
147 \ifblank{#1}{\left(##1\right)}%
148 }}

```

See the `skmath` source for the original of the following:

```

149 \CustomizeMathJax{\newcommand{\LWRskmathexppostar}[1]{%
150 \mathchoice
151 {\vee^{#1}}
152 {\LWRskmathexpparens{#1}}
153 {\LWRskmathexpparens{#1}}
154 {\LWRskmathexpparens{#1}}
155 }}
156
157 \CustomizeMathJax{\renewcommand{\exp}{\ifstar\LWRskmathexpparens\LWRskmathexppostar}}

```

Common code for `\min` etc:

```

158 \CustomizeMathJax{\newcommand{\LWRskmathminstar}[2][]{%
159 \operatorname{\LWRskmathminname}%
160 \ifblank{#1}{\%
161 _{\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}
162 }%
163 \ifblank{#2}{\#2}%
164 }}

165 \CustomizeMathJax{\newcommand{\LWRskmathminnostar}[2][]{%
166 \ifblank{#1}{%
167 {\operatorname{\LWRskmathminname}}%
168 {%
169 \underset%
170 {\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}%
171 {\operatorname{\LWRskmathminname}}%
172 }%
173 \ifblank{#2}{\left\{##2\right\}}%
174 }}

```

`\LWRskmathminname` seems to be recursion-safe since it is used immediately.

```

175 \CustomizeMathJax{\newcommand{\LWRskmathmin}[1]{%
176 \def\LWRskmathminname{#1}%
177 \ifstar\LWRskmathminstar\LWRskmathminno%
178 }}

179 \CustomizeMathJax{\renewcommand{\min}{\LWRskmathmin{min}}}
180 \CustomizeMathJax{\renewcommand{\argmin}{\arg\LWRskmathmin{min}}}
181
182 \CustomizeMathJax{\renewcommand{\max}{\LWRskmathmin{max}}}
183 \CustomizeMathJax{\renewcommand{\argmax}{\arg\LWRskmathmin{max}}}
184 \CustomizeMathJax{\renewcommand{\sup}{\LWRskmathmin{sup}}}
185 \CustomizeMathJax{\renewcommand{\inf}{\LWRskmathmin{inf}}}

186 \CustomizeMathJax{\let\bar\overline}
187
188 \CustomizeMathJax{\let\vec\boldsymbol}

```

Remember the original definitions:

```

189 \CustomizeMathJax{\let\LWRskmathRe\Re}
190 \CustomizeMathJax{\let\LWRskmathIm\Im}

```

Redefine depending on notation=iso:

```

191 \bool_if:NTF\g__skmath_iso_complex_parts_bool{
192 \CustomizeMathJax{\renewcommand{\Re}[1]{%
193 \LWRskmathRe%
194 \ifblank{#1}{}\left{#1\right}}%
195 }}
196 \CustomizeMathJax{\renewcommand{\Im}[1]{%
197 \LWRskmathIm%
198 \ifblank{#1}{}\left{#1\right}}%
199 }}
200 }{
201 \CustomizeMathJax{\renewcommand{\Re}[1]{%
202 \operatorname{Re}%
203 \ifblank{#1}{}{#1}%
204 }}
205 \CustomizeMathJax{\renewcommand{\Im}[1]{%
206 \operatorname{Im}%
207 \ifblank{#1}{}{#1}%
208 }}
209 }
210
211 \ExplSyntaxOff
212 \end{warpMathJax}

```

---

File 452 **lwarp-slantsc.sty**

§ 561 Package **slantsc**

*(Emulates or patches code by HARALD HARDERS.)*

Pkg slantsc slantsc is emulated for HTML, and used as-is for print output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{slantsc}[2012/01/01]

2 \newcommand*{\LWR@HTML@noscsshape}{}
3 \LWR@formatted{noscsshape}
4
5 \FilenameNullify{%
6 \LetLtxMacro\noscsshape\@empty%
7 }
```

---

File 453 **lwarp-slashed.sty**

§ 562 Package **slashed**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg slashed slashed works as-s for HTML SVG math. For MATHJAX, emulation is provided.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{slashed}[1997/01/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\slashed}[1]{\cancel{#1}}}
4 \end{warpMathJax}
```

---

File 454 **lwarp-soul.sty**

§ 563 Package **soul**

*(Emulates or patches code by MELCHIOR FRANZ.)*

Pkg soul soul is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{soul}[2003/11/17]
2 \RequirePackage{xcolor}% for \convertcolorspec
```

Storage for the colors to use:

```

3 \newcommand*{\LWR@soululcolor}{}

```



```

4
5 \newcommand*\LWR@soulstcolor{}
6
7 % \definecolor{LWR@soulhlcolordefault}{HTML}{F8E800}
8 % \newcommand*\LWR@soulhlcolor{LWR@soulhlcolordefault}
9 \newcommand*\LWR@soulhlcolor{}

```

\so {*text*}

Basic markup with css:

```

10 \newcommand{\so}[1]{%
11 \InlineClass(letter-spacing:.2ex){letterspacing}{#1}%
12 }

```

\caps {*text*}

```

13 \newcommand{\caps}[1]{%
14 \InlineClass%
15 (font-variant:small-caps;letter-spacing:.1ex)%
16 {capsspacing}{#1}%
17 }

```

\LWR@soulcolor {*text*} {*color*} {*class*} {*colorstyle*} {*FormatWPstyle*}

Add colors if not empty:

```

18 \newcommand{\LWR@soulcolor}[5]{%
19 \ifcsempy{#2}%
20 {%
21 \InlineClass(#5){#3}{#1}%
22 }%
23 {%
24 \convertcolorspec{named}{\@nameuse{#2}}{HTML}\LWR@tempcolor%
25 \LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}%
26 }%
27 }

```

```

28 \newcommand{\ul}[1]{%
29 \LWR@soulcolor{#1}{LWR@soululcolor}{uline}{text-decoration-color}%
30 {text-decoration:underline; text-decoration-skip: auto;}%
31 }
32
33 \newcommand{\st}[1]{
34 \LWR@soulcolor{#1}{LWR@soulstcolor}{sout}{text-decoration-color}%
35 {text-decoration:line-through}%
36 }
37
38 \newcommand{\hl}[1]{
39 \LWR@soulcolor{#1}{LWR@soulhlcolor}{highlight}{background-color}%
40 {background:\LWR@origpound{F8E800}}
41 }

```

Nullified:

```

42 \newcommand*\soulaccent}[1]{}
43 \newcommand*\soulregister}[2]{}
44 \newcommand*\sloppyword}[1]{#1}
45 \newcommand*\sodef}[5]{\DeclareRobustCommand*#1[#1]{\so{##1}}}
46 \newcommand*\resetso{}
47 \newcommand*\capsdef}[5]{}
48 \newcommand*\capsreset{}
49 \newcommand*\capssave}[1]{}
50 \newcommand*\capsselect}[1]{}
51 \newcommand*\setul}[2]{}
52 \newcommand*\resetul{}
53 \newcommand*\setuldepth}[1]{}
54 \newcommand*\setuloverlap}[1]{}
55 \newcommand*\<{}

```

Set colors:

```

56 \newcommand*\setulcolor}[1]{\renewcommand{\LWR@soululcolor}{#1}}
57 \newcommand*\setstcolor}[1]{\renewcommand{\LWR@soulstcolor}{#1}}
58 \newcommand*\sethlcolor}[1]{\renewcommand{\LWR@soulhlcolor}{#1}}

```

Long versions of the user-level macros:

```

59 \let\textso\so
60 \let\textul\ul
61 \let\texthl\hl
62 \let\textcaps\caps

```

---

File 455 **lwarp-soulpos.sty**

§ 564 Package **soulpos**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg soulpos soulpos is emulated.

**for HTML output:**

```

1 \RequirePackage{soul}
2 \RequirePackage{soulutf8}
3 \LWR@ProvidesPackageDrop{soulpos}[2012/02/25]

4 \NewDocumentCommand{\ulposdef}{m o m}{}
5
6 \newdimen\ulwidth
7
8 \newcommand\ifulstarttype[1]{%
9 \expandafter\@secondoftwo%
10 }
11
12 \newcommand\ifulendtype[1]{%
13 \expandafter\@secondoftwo%
14 }
15

```

```

16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulendtype}{0}
18 \newcommand{\ulpostolerance}{0}%

```

---

File 456 **lwarp-soulutf8.sty**

§ 565 Package **soulutf8**

Pkg soulutf8 soulutf8 is emulated.

lwarp's HTML output naturally supports UTF-8 encoding.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]
2 \RequirePackage{soul}

```

---

File 457 **lwarp-splitbib.sty**

§ 566 Package **splitbib**

*(Emulates or patches code by NICOLAS MARKEY.)*

Pkg splitbib splitbib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{splitbib}[2005/12/22]

2 \def\NMSB@stylebox#1#2{%
3 \begin{BlockClass}[text-align:center ; border: 1px solid black]{splitbibbox}
4 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
5 \end{BlockClass}
6 }
7
8 \def\NMSB@stylebar#1#2{%
9 \begin{BlockClass}[%
10 text-align:center ;
11 border-top: 1px solid black ;
12 border-bottom: 1px solid black ;
13]{splitbibbar}
14 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
15 \end{BlockClass}
16 }
17
18 \def\NMSB@styledash#1#2{%
19 \begin{BlockClass}[%
20 text-align:center ;
21]{splitbibdash}
22 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{---~#1#2~---}}
23 \end{BlockClass}
24 }
25
26 \def\NMSB@stylenone#1#2{%

```

```

27 \par
28 }
29
30 \def\NMSB@style#1#2{%
31 \par
32 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
33 \par
34 }

```


File 458 **lwarp-splitidx.sty**

§ 567 Package **splitidx**

(Emulates or patches code by MARKUS KOHM.)

Pkg splitidx splitidx is patched for use by lwarp.

If the `latexmk` option is selected for `lwarp`, `latexmk` will compile the document but will *not* compile the indexes. `lwarpmk printindex` and `lwarpmk htmlindex` will still be required.

 `\thepage` When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer to `\thepage` during HTML output, as the concept of a page number is meaningless. Instead, do

```

\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}

```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 686.17 in the `lwarp-patch-memoir` package for the `\@wrsindexhyp` macro as an example.

for HTML output: 1 \LWR@ProvidesPackagePass{splitidx}[2016/02/18]

```

2 \catcode'_ =12%
3 \xpatchcmd{\newindex}
4 {\jobname-#2.idx}
5 {\jobname-#2_html.idx}
6 {}
7 {\LWR@patcherror{splitidx}{@newindex}}
8 \catcode'_ =8%

```

Patched to use `lwarp`'s automatic indexing counter instead of `\thepage`:

```

9 \renewcommand*\@wrsindex[2][[]]{%
10 \ifx\relax#1\relax
11 \if@splitidx
12 \@wrsindex[idx]{#2}%
13 \else

```

```

14 \def\@tempa{#2}%
15 \if@verbinde\@onelevel@sanitize\@tempa\fi
16 \@wrindex{\@tempa}%
17 \fi
18 \else
19 \def\@tempa{#2}%
20 \csname index@#1@hook\endcsname
21 % \expandafter\ifx\csname @wrsindex\endcsname\relax
22 \addtocounter{LWR@autoindex}{1}% lwarp
23 \label{LWRindex-\arabic{LWR@autoindex}}% lwarp
24 % \@@@wrsindex{#1}{\@tempa}{\thepage}}%
25 \@@@wrsindex{#1}{\@tempa}{\arabic{LWR@autoindex}}}%
26 % \else
27 % \def\@tempb{\@wrsindex{#1}}%
28 % \expandafter\@tempb\@tempa||\%
29 % \fi
30 \endgroup
31 \esphack
32 \fi
33 }

```

lwarp defines sectioning commands with `xparse`, so the below patches are done as temporary redefinitions instead of being `\let`.

```

34 \xpatchcmd{\printsubindex}
35 {\let\section\subsection}
36 {\renewcommand*{\section}{\subsection}}
37 {}
38 {\LWR@patcherror{splitidx}{printsubindex-section}}
39
40 \xpatchcmd{\printsubindex}
41 {\let\chapter\section}
42 {\renewcommand*{\chapter}{\section}}
43 {}
44 {\LWR@patcherror{splitidx}{printsubindex-chapter}}
45
46 \xpatchcmd{\printsubindex}
47 {\let\@makechapterhead\section}
48 {\def\@makechapterhead{\section}}
49 {}
50 {\LWR@patcherror{splitidx}{printsubindex-chapter}}

```

---

File 459 **lwarp-srcltx.sty**

§ 568 Package **srcltx**

Pkg srcltx srcltx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{srcltx}[2006/11/12]

```

2 \newif\ifSRCOK \SRCOKfalse
3 \newcommand*{\srcIncludeHook[1]}{

```

---

```

4 \newcommand*\srcInputHook[1]{}
5 \newcommand*\MainFile{}
6 \def\MainFile{\jobname.tex}
7 \newcommand*\CurrentInput{}
8 \gdef\CurrentInput{\MainFile}
9 \newcommand\Input{}
10 \let\Input\input

```

---

File 460 **lwarp-srctex.sty**

§ 569 Package **srctex**

Pkg srctex srctex is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]  
2 \LWR@origRequirePackage{lwarp-srcltx}

---

File 461 **lwarp-stabular.sty**

§ 570 Package **stabular**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg stabular stabular is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{stabular}[2014/03/20]

Env stabular [*vpos*] [*colspec*]

```

2 \newenvironment{stabular}[2][c]
3 {
4 \begin{tabular}[#1]{#2}
5 \renewcommand{\noalign}[1]{}
6 }
7 {\end{tabular}}

```

Env stabular [*width*] [*vpos*] [*colspec*]

```

8 \NewDocumentEnvironment{stabular*}{m o m}
9 {
10 \begin{tabular}[#2]{#3}
11 \renewcommand{\noalign}[1]{}
12 }
13 {\end{tabular}}

```

File 462 **lwarp-stackengine.sty**

§ 571 Package **stackengine**

(Emulates or patches code by STEVEN B. SEGLETES.)

Pkg stackengine stackengine is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{stackengine}[2017/02/13]

The original version is necessary for the patched \@stack and \stackanchor, where nesting lateximages does not work:

```
2 \LetLtxMacro\LWR@orig@stackengine\stackengine

3 \renewcommand*\stackengine[8]{%
4 \ifstrequal{#4}{0}%
5 {\begin{lateximage}[\ImageAltText]}%
6 {\begin{lateximage}[\ImageAltText][][vertical-align:top]}%
7 \LWR@orig@stackengine{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
8 \end{lateximage}%
9 }
```

\@stack uses a lateximage with a vertical alignment:

```
10 \LetLtxMacro\LWR@orig@@stack\@stack
11
12 \xpatchcmd{\LWR@orig@@stack}{\stackengine}{\LWR@orig@stackengine}
13 {}
14 {\LWR@patcherror{stackengine}{\LWR@orig@@stack}}
15
16 \renewcommand*\@stack[4]{%
17 \ifstrequal{#3}{0}%
18 {\begin{lateximage}[\ImageAltText]}%
19 {\begin{lateximage}[\ImageAltText][][vertical-align:top]}%
20 \LWR@orig@@stack{#1}{#2}{#3}{#4}%
21 \end{lateximage}%
22 }
```

The lapping macros are disabled for HTML:

```
23 \newcommand*\LWR@HTML@@stacklap[4]{#3}
24 \LWR@formatted{@stacklap}
```

\stackanchor is patched for two instances of \stackengine. A lateximage with vertical alignment is used.

```
25 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
26 {}
```

```

27 {\LWR@patcherror{stackengine}{stackanchor patch 1}}
28
29 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
30 {}
31 {\LWR@patcherror{stackengine}{stackanchor patch 2}}
32
33 \xpretocmd{\stackanchor}
34 {\begin{lateximage}[\ImageAltText][][vertical-align:middle]}
35 {}
36 {\LWR@patcherror{stackengine}{stackanchor pre}}
37
38 \xapptocmd{\stackanchor}{\end{lateximage}}
39 {}
40 {\LWR@patcherror{stackengine}{stackanchor app}}

```

`\Centerstack` is simply placed inside a `lateximage` with a vertical alignment:

```

41 \xpretocmd{\Centerstack}
42 {\begin{lateximage}[\ImageAltText][][vertical-align:middle]}
43 {}
44 {\LWR@patcherror{stackengine}{Centerstack pre}}
45
46 \xapptocmd{\Centerstack}{\end{lateximage}}
47 {}
48 {\LWR@patcherror{stackengine}{Centerstack app}}

```

`\savestack` reverts to print mode while saving the box, then places it inside a `lateximage` when used:

```

49 \renewcommand*\savestack[2]{%
50 \xdef\sv@name{\stack@macro@name{#1}}%
51 \@ifundefined{\sv@name content}{%
52 \expandafter\newsavebox\expandafter{\csname\sv@name content\endcsname}%
53 }{%
54 \begingroup% lwarp
55 \LWR@restoreorigformatting% lwarp
56 \RenewDocumentEnvironment{lateximage}{s o s o o d}{\sv@name content}{\sv@name content}% lwarp: inside group
57 \expandafter\LWR@gsavebox\csname\sv@name content\endcsname{#2}%
58 \expandafter\gdef\expandafter#1\expandafter{%
59 \expandafter\begin\expandafter{lateximage\expandafter}% lwarp
60 \expandafter\usebox\expandafter%
61 {\csname\sv@name content\endcsname}%
62 \expandafter\end\expandafter{lateximage\expandafter}% lwarp
63 }%
64 \endgroup% lwarp
65 }

```

---

File 463 **lwarp-stackrel.sty**

§ 572 Package **stackrel**

(Emulates or patches code by HEIKO OBERDIEK.)



Pkg stackrel **stackrel** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{stackrel}[2016/05/16]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\renewcommand{\stackrel}[3][]{%
4 \mathrel{\mathop{#3}\limits_{#1}^{#2}}}%
5 }}
6
7 \CustomizeMathJax{\newcommand{\stackbin}[3][]{%
8 \mathbin{\mathop{#3}\limits_{#1}^{#2}}}%
9 }}
10 \end{warpMathJax}

```

File 464 **lwarp-stutex2.sty**

§ 573 Package **statex2**

*(Emulates or patches code by RODNEY A SPARAPANI.)*

Pkg statex2 **statex2** is patched for use by **lwarp**, and emulated for MATHJAX.

- ⚠ As of this version, option `autobold` does not appear to work for PDF output.
- ⚠ For MATHJAX, the tilde character `~` does not create `\sim`. Use `\sim` directly.
- ⚠ Because MATHJAX has limited conditional processing:

- `\wrap` only creates square braces, no matter what its optional arguments.
- `\P`, `\pCau`, `\pN`, and `\pU` do not handle special cases.

⚠ `\and` To have `\and` work if using `\maketitle`, place the following after the start of the document:

```

\newcommand*{\and}{%
 \relax\ifmmode%
 \expandafter\;\mb{\mathrm{and}}\;%
 \else%
 \expandafter\STATEXand%
 \fi%
}

```

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{statex2}[2011/09/14]
2 \newcommand*{\LWR@HTML@Alpha}[1][]{%
3 \fcolorbox{black}{ForestGreen}{\textcolor{white}{\textsf{ALPHA}}}%
4 \textbf{\textcolor{ForestGreen}{\textsf{#1}}}%
5 }
6 \LWR@formatted{Alpha}

```

```

7
8 \newcommand*\LWR@HTML@List}[1]{%
9 \textbf{\textcolor{Dandelion}\textsf{L}\textsubscript{\textit{#1}}}%
10 }
11 \LWR@formatted{List}
12
13 \newcommand*\LWR@HTML@Snd}[1][1]{%
14 \fcolorbox{black}{Dandelion}{\textcolor{white}\textsf{2nd}}%
15 \textbf{\textcolor{Dandelion}\textsf{#1}}%
16 }
17 \LWR@formatted{Snd}
18
19 \begin{warpMathJax}
20 \LWR@infoprocessingmathjax{statex2}
21
22 \CustomizeMathJax{\newcommand{\cpi}{\boldsymbol{\pi}}}
23 \CustomizeMathJax{\newcommand{\c}[1]{\boldsymbol{\mathrm{#1}}}}
24 \CustomizeMathJax{\newcommand{\sfsl}[1]{\mathsf{#1}}}% not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{#1}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{#1}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mb{\mathrm{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mb{\mathrm{blockdiag}}}}
34 \CustomizeMathJax{\newcommand{\erf}{\mb{\mathrm{erf}}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mb{\mathrm{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mb{\mathrm{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mb{\chi^2}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mb{\frac{d}{d{#1}}}\wrap{\mb{#2}}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mb{\frac{d}{d{#2}}}\wrap{\mb{#1}}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mb{\mathrm{e}}^{#1}}}
42 \CustomizeMathJax{\newcommand{\E}[2][1]{\mb{\mathrm{E}}_{\mb{#1}}}\wrap{\mb{#2}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mb{\frac{\alpha}{2}}}}
44 \CustomizeMathJax{\newcommand{\I}[2][1]{%
45 \mb{\mathrm{I}}_{\mb{#1}} \LWRwrapparen{\mb{#2}}%
46 }}
47 \CustomizeMathJax{\newcommand{\IBeta}[2]{%
48 \mb{\frac{\Gamma[#+#2]}{\Gamma[#1]\Gamma[#2]}}%
49 }}
50 \CustomizeMathJax{\newcommand{\If}{\;\mb{\mathrm{if}}\;}}
51 \CustomizeMathJax{\newcommand{\im}{\mb{\mathrm{i}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\overline}}
53 \CustomizeMathJax{\newcommand{\ow}{\;\mb{\mathrm{otherwise}}\;}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2]{%
55 \mb{\frac{\partial}{\partial #1}}\wrap{\mb{#2}}%
56 }}
57 \CustomizeMathJax{\newcommand{\pderivf}[2]{%
58 \mb{\frac{\partial}{\partial #2}}\wrap{\mb{#1}}%
59 }}
60 \CustomizeMathJax{\newcommand{\sd}{\mb{\sigma}}}
61 \CustomizeMathJax{\newcommand{\ul}{\underline}}

```

```

62 \CustomizeMathJax{\newcommand{\V}[2][\mb{\mathrm{V}}_{\mb{#1}} \wrap{\mb{#2}}}}
63 \CustomizeMathJax{\newcommand{\vs}{\; \mb{\mathrm{vs.}} \;};}
64 \CustomizeMathJax{\newcommand{\where}{\; \mb{\mathrm{where}} \;};}
65 \CustomizeMathJax{\newcommand{\wrap}[2][\left[#2 \right]]}% only []
66 \CustomizeMathJax{\newcommand{\LWRwrapparen}[1]{\left(#1 \right)}}% lwarp
67
68 % \CustomizeMathJax{\renewcommand{\sim}{\mb{\sim}}}% doesn't work,
69 % replace <space><space> with <space>\sim<space>
70
71 \CustomizeMathJax{\newcommand{\iid}{\; \stackrel{\mb{\mathrm{iid}}}{\sim} \;};}
72 \CustomizeMathJax{\newcommand{\ind}{\; \stackrel{\mb{\mathrm{ind}}}{\sim} \;};}
73 \CustomizeMathJax{\newcommand{\indpr}{%
74 \; \stackrel{\mb{\mathrm{ind}}}{\stackrel{\mb{\mathrm{prior}}}{\sim}} \;};
75 }}
76 \CustomizeMathJax{\newcommand{\post}{\; \stackrel{\mb{\mathrm{post}}}{\sim} \;};}
77 \CustomizeMathJax{\newcommand{\prior}{\; \stackrel{\mb{\mathrm{prior}}}{\sim} \;};}
78
79 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
80 \CustomizeMathJax{\renewcommand{\Gamma}[1][\mb{\STATEXGamma}\LWRwrapparen{\mb{#1}}}}
81 %
82 \CustomizeMathJax{\renewcommand{\and}{\; \mb{\mathrm{and}} \;};}
83 %
84 \CustomizeMathJax{\newcommand{\H}{\mb{\mathrm{H}}}}
85 %
86 \CustomizeMathJax{\newcommand{\P}[2][\mb{\mathrm{P}}_{\mb{#1}}\wrap{\mb{#2}}}}
87 %
88 \CustomizeMathJax{\newcommand{\mid}{\mb{\mathrm{mid}}}}
89
90 \CustomizeMathJax{\newcommand{\B}[1][\mb{\mathrm{B}}\LWRwrapparen{\mb{#1}}}}
91 \CustomizeMathJax{\newcommand{\BB}[1][\mb{\mathrm{BetaBin}}\LWRwrapparen{\mb{#1}}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2][\mb{\mathrm{Bin}}\LWRwrapparen{\mb{#1}, \ #2}}}}
93 \CustomizeMathJax{\newcommand{\Dir}[1][\mb{\mathrm{Dirichlet}}\LWRwrapparen{\mb{#1}}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{%
95 \mb{\mathrm{Hypergeometric}}\LWRwrapparen{\mb{#1}, \ #2, \ #3}}%
96 }}
97 \CustomizeMathJax{\newcommand{\M}[2]{%
98 \mb{\mathrm{Multinomial}}\LWRwrapparen{\mb{#1}, \ #2}}%
99 }}
100 \CustomizeMathJax{\newcommand{\NB}[2][\mb{\mathrm{NegBin}}\LWRwrapparen{\mb{#1}, \ #2}}}}
101 \CustomizeMathJax{\newcommand{\Poi}[1][\mb{\mathrm{Poisson}}\LWRwrapparen{\mb{#1}}}}
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{%
105 \mb{\frac{\Gamma[#+1]\Gamma[#+1]\Gamma[#+1]\Gamma[#+1]}{\Gamma[#+1+1]\Gamma[#+2+1]\Gamma[#+3+1]\Gamma[#+4+1]}}%
106 {\Gamma[#+1+1]\Gamma[#+2+1]\Gamma[#+3+1]\Gamma[#+4+1]}}%
107 \I[#+1]{\{0, 1, \dots, \ #2\}}, \ where \ #3>0, \; \ #4>0 \ and \ n=1, 2, \dots}%
108 }}
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{%
110 \mb{\binom{#2}{#1}#3^{#1}} \LWRwrapparen{\mb{\{1-#3\}^{#2-#1}}}}%
111 \mb{\I[#+1]{\{0, 1, \dots, \ #2\}}, \ where \ p \in (0, 1) \ and \ n=1, 2, \dots}%
112 }}
113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{%
114 \mb{\frac{1}{#1!}#2^{#1}e^{-#2}\I[#+1]{\{0, 1, \dots\}}, \ where \ #2>0}%
115 }}
116

```

```

117 \CustomizeMathJax{\newcommand{\Cau}[2]{\mb{\mathrm{Cauchy}}\LWRwrapparen{\mb{#1, \ #2}}}}
118 \CustomizeMathJax{\let\Cauchy=\Cau}
119 \CustomizeMathJax{\newcommand{\Chi}[2][{}]{%
120 \chisq_{\mb{#1}}\LWRwrapparen{\mb{#2}}}%
121 }}
122 \CustomizeMathJax{\let\Chisq=\Chi}
123 \CustomizeMathJax{\newcommand{\Bet}[2]{\mb{\mathrm{Beta}}\LWRwrapparen{\mb{#1, \ #2}}}}
124 \CustomizeMathJax{\let\Beta=\Bet}
125 \CustomizeMathJax{\newcommand{\Exp}[1]{\mb{\mathrm{Exp}}\LWRwrapparen{\mb{#1}}}}
126 \CustomizeMathJax{\newcommand{\F}[2]{\mb{\mathrm{F}}\LWRwrapparen{\mb{#1, \ #2}}}}
127 \CustomizeMathJax{\newcommand{\Gam}[2]{\mb{\mathrm{Gamma}}\LWRwrapparen{\mb{#1, \ #2}}}}
128 \CustomizeMathJax{\newcommand{\IC}[1]{\mb{\mathrm{\chi^{-2}}}\LWRwrapparen{\mb{#1}}}}
129 \CustomizeMathJax{\newcommand{\IG}[2]{%
130 \mb{\mathrm{Gamma^{-1}}}\LWRwrapparen{\mb{#1, \ #2}}}%
131 }}
132 \CustomizeMathJax{\newcommand{\IW}[2]{%
133 \mb{\mathrm{Wishart^{-1}}}\LWRwrapparen{\mb{#1, \ #2}}}%
134 }}
135 \CustomizeMathJax{\newcommand{\Log}[2]{%
136 \mb{\mathrm{Logistic}}\LWRwrapparen{\mb{#1, \ #2}}}%
137 }}
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139 \mb{\mathrm{Log\!-\!N}}\LWRwrapparen{\mb{#1, \ #2}}}%
140 }}
141 \CustomizeMathJax{\newcommand{\N}[3][{}]{%
142 \mb{\mathrm{N}}_{\mb{#1}}\LWRwrapparen{\mb{#2, \ #3}}}%
143 }}
144 \CustomizeMathJax{\newcommand{\Par}[2]{\mb{\mathrm{Pareto}}\LWRwrapparen{\mb{#1, \ #2}}}}
145 \CustomizeMathJax{\let\Pareto=\Par}
146 \CustomizeMathJax{\newcommand{\Tsq}[2]{\mb{\mathrm{T^2}}\LWRwrapparen{\mb{#1, \ #2}}}}
147 \CustomizeMathJax{\newcommand{\U}[1]{\mb{\mathrm{U}}\LWRwrapparen{\mb{#1}}}}
148 \CustomizeMathJax{\newcommand{\W}[2]{\mb{\mathrm{Wishart}}\LWRwrapparen{\mb{#1, \ #2}}}}
149
150 \CustomizeMathJax{\renewcommand{\t}[1]{\mb{\mathrm{t}}\LWRwrapparen{\mb{#1}}}}
151
152 \CustomizeMathJax{\newcommand{\pBet}[3][x]{%
153 \IBeta{#2}{#3}%
154 #1^{#2-1}\LWRwrapparen{1-#1^{#3-1}\II[#1]{0, \ 1}, \where #2>0 \and #3>0}%
155 }}
156 \CustomizeMathJax{\newcommand{\pCau}[3][x]{%
157 \ifthenelse{\equal{#2, #3}{0, 1}}{\frac{1}{\cpi}\LWRwrapparen{1+#1^2}}%
158 {\frac{1}{#3\cpi}\left\{1+\wrap{\LWRwrapparen{x-#2}/#3^2}\right\}}, \where #3>0}%
159 }}% no special case for 0,1
160 \CustomizeMathJax{\newcommand{\pChi}[2][x]{%
161 \frac{2^{-#2/2}}{\Gamma[#2/2]}#1^{#2/2-1}\e{-#1/2}%
162 \II[#1]{0, \infty}, \where #2>0%
163 }}
164 \CustomizeMathJax{\newcommand{\pExp}[2][x]{%
165 \frac{1}{#2}\e^{-#1/#2}\II[#1]{0, \infty},%
166 \where #2>0%
167 }}
168 \CustomizeMathJax{\newcommand{\pGam}[3][x]{%
169 \frac{#3^{#2}}{\Gamma[#2]}#1^{#2-1}\e{-#3#1}%
170 \II[#1]{0, \infty}, \where #2>0 \and #3>0%
171 }}

```

```

172 \CustomizeMathJax{\newcommand{\pN}[3][x]{%
173 % \ifthenelse{\equal{#2, #3}{0, 1}}%
174 % {\frac{1}{\sqrt{2\pi}}\e^{-#1^2/2}}%
175 {\frac{1}{\sqrt{2\pi \cdot #3}}\e{-\LWRwrapparen{#1-#2}^2/2 \cdot #3}}%
176 }}% no test for 0,1, must add \cdot
177 \CustomizeMathJax{\newcommand{\pPar}[3][x]{%
178 \frac{#3}{#2\LWRwrapparen{1+#1/#2}^{#3+1}}\I[#1]{0,\infty},%
179 \where #2>0 \and #3>0%
180 }}
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182 % \ifthenelse{\equal{#2, #3}{0, 1}}{\I[#1]{0, \ 1}}%
183 {\frac{1}{#3-#2}\I[#1]{#2, \ #3}, \where #2<#3}%
184 }}% no special case for 0,1
185
186 \CustomizeMathJax{\newcommand{\=} [1]{\bar{#1}}}
187 \CustomizeMathJax{\let^~\widehat}
188 \CustomizeMathJax{\let~\widetilde}
189 \CustomizeMathJax{\newcommand{\'} [1]{\LWRwrapparen{\mb{#1}}}}
190 \CustomizeMathJax{\newcommand{\b} [1]{\bar{#1}}}
191 \CustomizeMathJax{\newcommand{\c} [1]{\mb{\mathrm{#1}}}}
192 \CustomizeMathJax{\newcommand{\d} [1]{\, \mb{\mathrm{d}}{#1}}}
193 \CustomizeMathJax{\newcommand{\.} {\mb{\ldots}}}
194 \end{warpMathJax}

```


---


File 465 **lwarp-statistics.sty**

§ 574 Package **statistics**

*(Emulates or patches code by JULIEN RIVAUD.)*

Pkg statistics **statistics** is patched for use by **lwarp**.

 **\color** The **statistics** documentation examples include the use of the **\color** macro. Use **\textcolor** instead.

 **math** The **statistics** package uses **math** arrays, but the **HTML** version uses text tabulars to allow text copy/paste. If **math** is required, use **\ensuremath** or **\(** and **\)** as needed.

**Pre/postline** is ignored, and **\hline** is used instead. Each table will have an **\hline** above and below as a frame.

**for HTML output:** 1 \LWR@ProvidesPackagePass{statistics}[2019/09/29]

2 \ExplSyntaxOn

To use text tabular instead of **math** array. This allows text copy/paste of the results.

In the following, all changes for the **Lwarp** package are labelled "**lwarp**".

Redefined using the **lwarp** version of &:

3 \StartDefiningTabulars%      **lwarp**

```

4 \cs_set_protected_nopar:Nn __statistics_table_make:nn {
5 \int_compare:nT
6 { 0 < \l__statistics_table_maxcols_int
7 = \l__statistics_nbvals_int } {
8 __statistics_table_end:
9 \tl_use:N \l__statistics_table_sep_tl
10 __statistics_table_start:
11 }
12 \int_incr:N \l__statistics_nbvals_int
13 \int_incr:N \l__statistics_currange_int
14 \fp_add:Nn \l__statistics_curtotal_fp { #2 }
15 __statistics_set_if_shown:N \l_tmpa_bool
16 \tl_set:Nx \l_tmpa_tl {
17 \exp_not:n { & \tl_set:Nn \currentcolumn } {
18 \int_use:N \l__statistics_currange_int
19 }
20 }
21 \bool_if:NTF \l_tmpa_bool {
22 \tl_put_right:Nn \l_tmpa_tl
23 { __statistics_table_shown_format:n }
24 }{
25 \tl_put_right:Nn \l_tmpa_tl
26 { __statistics_table_hidden_format:n }
27 }
28 \seq_put_right:Nn \l__statistics_store_values_seq { #1 }
29 \bool_if:NT \l__statistics_table_values_bool {
30 \tl_put_right:Nx \l__statistics_table_values_tl {
31 \exp_not:V \l_tmpa_tl {
32 \exp_not:n {
33 __statistics_table_values_format:n { #1 }
34 }
35 }
36 }
37 }
38 \seq_put_right:Nx \l__statistics_store_counts_seq { \fp_eval:n {#2} }
39 \bool_if:NT \l__statistics_table_counts_bool {
40 \tl_put_right:Nx \l__statistics_table_counts_tl {
41 \exp_not:V \l_tmpa_tl {
42 \exp_not:n {
43 __statistics_table_counts_format:n {
44 { __statistics_table_allcounts_format:n { #2 } }
45 }
46 }
47 }
48 }
49 }
50 \bool_if:NT \l__statistics_table_icc_bool {
51 \tl_put_right:Nx \l__statistics_table_icc_tl {
52 \exp_not:V \l_tmpa_tl {
53 \exp_not:n { __statistics_table_icc_format:n }
54 {
55 \exp_not:n{ __statistics_table_allcounts_format:n }
56 { \fp_use:N \l__statistics_curtotal_fp }
57 }
58 }

```

```

59 }
60 }
61 \bool_if:NT \l__statistics_table_dcc_bool {
62 \tl_put_right:Nx \l__statistics_table_dcc_tl {
63 \exp_not:V \l_tmpa_tl {
64 \exp_not:n { __statistics_table_dcc_format:n }
65 {
66 \exp_not:n{ __statistics_table_allcounts_format:n }
67 {
68 \fp_eval:n {
69 \l__statistics_total_fp
70 - \l__statistics_curtotal_fp
71 + #2
72 }
73 }
74 }
75 }
76 }
77 }
78 \fp_set:Nn \l__statistics_table_curICF_fp {
79 round(\l__statistics_curtotal_fp
80 / \l__statistics_total_fp,
81 \l__statistics_table_round_int)
82 }
83 \bool_if:NT \l__statistics_table_frequencies_bool {
84 \tl_put_right:Nx \l__statistics_table_frequencies_tl {
85 \exp_not:V \l_tmpa_tl {
86 \exp_not:n { __statistics_table_frequencies_format:n }
87 {
88 \exp_not:n{ __statistics_table_allfreqs_format:n }
89 {
90 \fp_eval:n {
91 \l__statistics_table_curICF_fp
92 - \l__statistics_table_prevICF_fp
93 }
94 }
95 }
96 }
97 }
98 }
99 \bool_if:NT \l__statistics_table_icf_bool {
100 \tl_put_right:Nx \l__statistics_table_icf_tl {
101 \exp_not:V \l_tmpa_tl {
102 \exp_not:n { __statistics_table_icf_format:n }
103 {
104 \exp_not:n{ __statistics_table_allfreqs_format:n }
105 { \fp_to_decimal:N \l__statistics_table_curICF_fp }
106 }
107 }
108 }
109 }
110 \bool_if:NT \l__statistics_table_dcf_bool {
111 \tl_put_right:Nx \l__statistics_table_dcf_tl {
112 \exp_not:V \l_tmpa_tl {
113 \exp_not:n { __statistics_table_dcf_format:n }

```

```

114 {
115 \exp_not:n{ __statistics_table_allfreqs_format:n }
116 {
117 \fp_eval:n {
118 1 - \l__statistics_table_prevICF_fp
119 }
120 }
121 }
122 }
123 }
124 }
125 \fp_set_eq:NN
126 \l__statistics_table_prevICF_fp
127 \l__statistics_table_curICF_fp
128 }
129 \StopDefiningTabulars% lwarp

```

Redefined using `tabular`. Also, `preline` and `postline` do not work correctly with `lwarp`, which looks for certain tokens to detect `\hline`s, so `\hline` is used instead.

```

130 \cs_set_protected_nopar:Nn __statistics_table_end: {
131 \tl_set:Nx \l__statistics_table_preamble_tl {
132 % \exp_not:n { \begin{array}[] }
133 \exp_not:n { \begin{tabular}[]% lwarp
134 \exp_not:V \l__statistics_table_valign_tl
135 \exp_not:n {] }
136 { \exp_not:V \l__statistics_table_headcoltype_tl
137 \prg_replicate:nn { \l__statistics_nbvals_int }
138 { \exp_not:V \l__statistics_table_coltype_tl } }
139 }
140 \seq_clear:N \l__statistics_table_contents_seq
141 \clist_map_inline:nn { values, counts, icc, dcc, frequencies, icf, dcf } {
142 \bool_if:cT { l__statistics_table_##1_bool } {
143 \seq_put_right:Nv
144 \l__statistics_table_contents_seq
145 { l__statistics_table_##1_tl }
146 }
147 }
148 % $
149 \tl_use:N \l__statistics_table_preamble_tl
150 \hline% lwarp
151 % \l__statistics_table_preline_tl
152 \seq_use:Nn
153 \l__statistics_table_contents_seq
154 { \l__statistics_table_newline_tl }
155 \\
156 % \l__statistics_table_postline_tl
157 \hline% lwarp
158 % \end{array}$
159 \end{tabular}% lwarp
160 }

```

With `lwarp`, `\ensuremath` creates an `svg` image, but its `alt` tag does not contain the text of the contents for copy/paste, since these expressions are usually not simple text. For the `statistics` package, copy/paste is restored by using `text` instead of `math` output.



For the leftmost column. Redefined to use text output:

```

161 \cs_set_protected_nopar:Nn __statistics_table_start: {
162 \int_zero:N \l__statistics_nbvals_int
163 \clist_pop:NNT \l__statistics_table_maxcols_clist \l_tmpa_tl {
164 \int_set:Nn \l__statistics_table_maxcols_int { \l_tmpa_tl }
165 }
166 \clist_map_inline:nn { values, counts, frequencies, icc, icf, dcc, dcf } {
167 \tl_set:cx { \l__statistics_table_##1_tl } {
168 \exp_not:N \ensuremath {
169 \exp_not:N \hbox {
170 \exp_not:c { \l__statistics_table_##1_name_tl }
171 }
172 }
173 }
174 }
175 }

```

For the first row. Redefined to use text output:

```

176 \RenewDocumentCommand __statistics_IN:w { m u{;} u{;} m } {
177 % \ensuremath{ \left#1 \num{#2} \mathbin{;} \num{#3} \right#4 }
178 #1 #2 ; #3 #4% lwarp
179 }
180
181 __statistics_setup:nn { table } {
182 % values/format = \ensuremath{#1},
183 values/format = {#1},% lwarp
184 }

```

Added \ExplSyntaxOn/Off to avoid errors. (In once instance, a double subscript error appeared.)

```

185 \RenewDocumentCommand \StatsGraph { +0{} +m +0{} } {
186 \group_begin:
187 \int_gincr:N \g__statistics_graph_last_int
188 \tl_set:Nx \l_tmpa_tl {
189 \exp_not:n { g__statistics_graph_xstep_ }
190 \int_use:N \g__statistics_graph_last_int
191 \exp_not:n { _tl }
192 }
193 \tl_if_exist:cTF { \l_tmpa_tl } {
194 \fp_gset:Nn \g__statistics_graph_xstep_fp
195 { \tl_use:c { \l_tmpa_tl } }
196 }{
197 \fp_gset:Nn \g__statistics_graph_xstep_fp { \c_one_int }
198 }
199 __statistics_setup:nn { graph } { #1, #3 }
200 \tl_if_single:nTF { #2 } {
201 \cs_if_exist:NF #2 { #2 }
202 \tl_set_eq:NN \l__statistics_data_tl #2
203 }{
204 \tl_set:Nn \l__statistics_data_tl { #2 }
205 }
206 \fp_zero:N \l__statistics_graph_maxheight_fp

```

```

207 \fp_set:Nn \l__statistics_graph_minvalue_fp {inf}
208 \fp_set:Nn \l__statistics_graph_maxvalue_fp {-inf}
209 \fp_zero:N \l__statistics_total_fp
210 \int_zero:N \l__statistics_nbvals_int
211 \bool_set_true:N \l__statistics_graph_allranges_bool
212 \keyval_parse:NNV
213 __statistics_graph_prepare:n
214 __statistics_graph_prepare:nn
215 \l__statistics_data_tl
216 \tl_clear:N \l__statistics_graph_tikzdata_tl
217 \tl_clear:N \l__statistics_graph_tikzinfo_tl
218 \int_zero:N \l__statistics_currange_int
219 \bool_if:NTF \l__statistics_graph_allranges_bool {
220 \bool_if:NTF \l__statistics_graph_cumulative_bool {
221 \ExplSyntaxOn% lwarp
222 __statistics_graph_dopicture_cumulative:
223 \ExplSyntaxOff% lwarp
224 }{
225 \ExplSyntaxOn% lwarp
226 __statistics_graph_dopicture_hist:
227 \ExplSyntaxOff% lwarp
228 }
229 }{
230 \ExplSyntaxOn% lwarp
231 __statistics_graph_dopicture_comb:
232 \ExplSyntaxOff% lwarp
233 }
234 \iow_now:Nx \@auxout {
235 \exp_not:n {
236 \ExplSyntaxOn
237 \tl_gset:cn
238 }
239 {
240 \exp_not:n {g__statistics_graph_xstep_}
241 \int_use:N \g__statistics_graph_last_int
242 \exp_not:n {_tl}
243 }
244 {
245 \fp_to_decimal:N \g__statistics_graph_xstep_fp
246 }
247 \exp_not:n {
248 \ExplSyntaxOff
249 }
250 }
251 \group_end:
252 }
253
254 \ExplSyntaxOff

```

File 466 **lwarp-statmath.sty**

§ 575 Package **statmath**

(Emulates or patches code by SEBASTIAN ANKARGREN.)

Pkg statmath **statmath** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{statmath}[2018/03/08]

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{statmath}
6
7 \ifdefequal{\abcbf}{\mathbf}
8 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\mathbf{#1}}}}
9 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\boldsymbol{#1}}}}
10
11 \CustomizeMathJax{\newcommand{\greekbf}[1]{\boldsymbol{#1}}}
12
13 \CustomizeMathJax{\newcommand{\bfA}{\abcbf A}}
14 \CustomizeMathJax{\newcommand{\bfB}{\abcbf B}}
15 \CustomizeMathJax{\newcommand{\bfC}{\abcbf C}}
16 \CustomizeMathJax{\newcommand{\bfD}{\abcbf D}}
17 \CustomizeMathJax{\newcommand{\bfE}{\abcbf E}}
18 \CustomizeMathJax{\newcommand{\bfF}{\abcbf F}}
19 \CustomizeMathJax{\newcommand{\bfG}{\abcbf G}}
20 \CustomizeMathJax{\newcommand{\bfH}{\abcbf H}}
21 \CustomizeMathJax{\newcommand{\bfI}{\abcbf I}}
22 \CustomizeMathJax{\newcommand{\bfJ}{\abcbf J}}
23 \CustomizeMathJax{\newcommand{\bfK}{\abcbf K}}
24 \CustomizeMathJax{\newcommand{\bfL}{\abcbf L}}
25 \CustomizeMathJax{\newcommand{\bfM}{\abcbf M}}
26 \CustomizeMathJax{\newcommand{\bfN}{\abcbf N}}
27 \CustomizeMathJax{\newcommand{\bfO}{\abcbf O}}
28 \CustomizeMathJax{\newcommand{\bfP}{\abcbf P}}
29 \CustomizeMathJax{\newcommand{\bfQ}{\abcbf Q}}
30 \CustomizeMathJax{\newcommand{\bfR}{\abcbf R}}
31 \CustomizeMathJax{\newcommand{\bfS}{\abcbf S}}
32 \CustomizeMathJax{\newcommand{\bfT}{\abcbf T}}
33 \CustomizeMathJax{\newcommand{\bfU}{\abcbf U}}
34 \CustomizeMathJax{\newcommand{\bfV}{\abcbf V}}
35 \CustomizeMathJax{\newcommand{\bfW}{\abcbf W}}
36 \CustomizeMathJax{\newcommand{\bfX}{\abcbf X}}
37 \CustomizeMathJax{\newcommand{\bfY}{\abcbf Y}}
38 \CustomizeMathJax{\newcommand{\bfZ}{\abcbf Z}}
39 \CustomizeMathJax{\newcommand{\bfa}{\abcbf a}}
40 \CustomizeMathJax{\newcommand{\bfb}{\abcbf b}}
41 \CustomizeMathJax{\newcommand{\bfc}{\abcbf c}}
42 \CustomizeMathJax{\newcommand{\bfd}{\abcbf d}}

```

```

43 \CustomizeMathJax{\newcommand{\bfe}{\abcbf e}}
44 \CustomizeMathJax{\newcommand{\bff}{\abcbf f}}
45 \CustomizeMathJax{\newcommand{\bfg}{\abcbf g}}
46 \CustomizeMathJax{\newcommand{\bfh}{\abcbf h}}
47 \CustomizeMathJax{\newcommand{\bfi}{\abcbf i}}
48 \CustomizeMathJax{\newcommand{\bfj}{\abcbf j}}
49 \CustomizeMathJax{\newcommand{\bfk}{\abcbf k}}
50 \CustomizeMathJax{\newcommand{\bfl}{\abcbf l}}
51 \CustomizeMathJax{\newcommand{\bfm}{\abcbf m}}
52 \CustomizeMathJax{\newcommand{\bfn}{\abcbf n}}
53 \CustomizeMathJax{\newcommand{\bfo}{\abcbf o}}
54 \CustomizeMathJax{\newcommand{\bfp}{\abcbf p}}
55 \CustomizeMathJax{\newcommand{\bfq}{\abcbf q}}
56 \CustomizeMathJax{\newcommand{\bfr}{\abcbf r}}
57 \CustomizeMathJax{\newcommand{\bfs}{\abcbf s}}
58 \CustomizeMathJax{\newcommand{\bft}{\abcbf t}}
59 \CustomizeMathJax{\newcommand{\bfu}{\abcbf u}}
60 \CustomizeMathJax{\newcommand{\bfv}{\abcbf v}}
61 \CustomizeMathJax{\newcommand{\bfw}{\abcbf w}}
62 \CustomizeMathJax{\newcommand{\bfx}{\abcbf x}}
63 \CustomizeMathJax{\newcommand{\bfy}{\abcbf y}}
64 \CustomizeMathJax{\newcommand{\bfz}{\abcbf z}}
65
66 \LWR@mathjax@addgreek@l@bfit{bf}{}% Greek lowercase bold face italic
67 \LWR@mathjax@addgreek@u@bfup*{bf}{}% Greek uppercase bold face upright, cap macros.
68
69 \CustomizeMathJax{\newcommand{\bfzero}{\greekbf 0}}
70
71 \CustomizeMathJax{\DeclareMathOperator{\cov}{Cov}}
72 \CustomizeMathJax{\DeclareMathOperator{\E}{E}}
73 \CustomizeMathJax{\DeclareMathOperator{\V}{V}}
74 \CustomizeMathJax{\newcommand{\inas}{\overset{a. s.}{\to}}}
75 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\to}}}
76 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\to}}}
77 \CustomizeMathJax{\DeclareMathOperator{\plim}{plim}}
78 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
79 \CustomizeMathJax{\DeclareMathOperator{\vc}{vec}}
80 \CustomizeMathJax{\DeclareMathOperator{\vcs}{vecs}}
81 \CustomizeMathJax{\DeclareMathOperator{\vch}{vech}}
82 \CustomizeMathJax{\DeclareMathOperator{\diag}{diag}}
83 \CustomizeMathJax{\DeclareMathOperator{\argmin}{arg\,min}}
84 \CustomizeMathJax{\DeclareMathOperator{\argmax}{arg\,max}}
85 \end{warpMathJax}

```

---

File 467 **lwarp-steinmetz.sty**

§ 576 Package **steinmetz**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg steinmetz steinmetz is patched for use by lwarp. Emulation is provided for MATHJAX

for HTML output: 1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]

```

2 \renewcommand{\phase}[2][]{%
3 \begin{lateximage}*[steinmetz\{\detokenize{#2}\}]
4 \ensuremath{\underline{/#2}}
5 \end{lateximage}
6 }
7
8 \begin{warpMathJax}
9 \CustomizeMathJax{\newcommand{\phase}[2][]{\underline{/#2}}}
10 \end{warpMathJax}

```

---

File 468 **lwarp-stfloats.sty**

§ 577 Package **stfloats**

Pkg stfloats stfloats is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{stfloats}[2017/03/27]

stfloats may have been preloaded by a ltj\* class.

The following are provided in case they have not yet been defined:

```

2 \providecommand*\fnbelowfloat{}
3 \providecommand*\fnunderfloat{}
4 \providecommand*\setbaselinefloat{}
5 \providecommand*\setbaselinefixed{}

```

Nullified for HTML:

```

6 \renewcommand*\fnbelowfloat{}
7 \renewcommand*\fnunderfloat{}
8 \renewcommand*\setbaselinefloat{}
9 \renewcommand*\setbaselinefixed{}

```

---

File 469 **lwarp-struktex.sty**

§ 578 Package **struktex**

*(Emulates or patches code by JOBST HOFFMANN.)*

Pkg struktex struktex is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{struktex}

```

2 \BeforeBeginEnvironment{struktogramm}{%
3 \begin{lateximage}[-struktex-~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{struktogramm}{\end{lateximage}}
6

```

---

```

7 \newenvironment{LWR@HTML@centernss}{\begin{center}}{\end{center}}
8 \LWR@formattedenv{centernss}
9
10 \newcommand{\LWR@HTML@CenterNssFile}[1]{%
11 \begin{center}
12 \input{#1.nss}
13 \end{center}
14 }
15 \LWR@formatted{CenterNssFile}
16
17 \newcommand{\LWR@HTML@centernssfile}{\LWR@HTML@CenterNssFile}
18 \LWR@formatted{centernssfile}

```

---

File 470 **lwarp-subcaption.sty**

§ 579 Package **subcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg subcaption subcaption is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{subcaption}[2018/05/01]

Tells `lwarp` to ignore minipage widths inside a subfigure or subtable. In print mode the minipages are used to place the items next to each other. In HTML they are placed side-by-side automatically.

```

2 \xpretocmd{\subcaption@iiminipage}
3 {\minipagefullwidth}
4 {}
5 {\LWR@patcherror{subcaption}{subcaption@iiminipage}}

```

Likewise for a `\subcaptionbox`:

```

6 \xpretocmd{\subcaptionbox}
7 {\minipagefullwidth}
8 {}
9 {\LWR@patcherror{subcaption}{subcaptionbox}}

```


---

File 471 **lwarp-subfig.sty**

§ 580 Package **subfig**

*(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)*

Pkg subfig subfig is supported and patched by lwarp.

 **table numbering** To have correct sub table numbers:

```

\usepackage{caption}
\captionsetup[table]{position=top}

```

⚠ **lof/lotdepth** At present, the package options for lofdepth and lotdepth are not working. These counters must be set separately after the package has been loaded.

⚠ **horizontal spacing** In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

**for HTML output:** Accept all options for `lwarp-subfig`:

```
1 \LWR@ProvidesPackagePass{subfig}[2005/06/28]
```

```
\sf@@@subfloat {<1 type>} [<2 lof entry>] [<3 caption>] {<4 contents>}
```

The outer minipage allows side-by-side subfloats with `\hfill` between.

```
2 \long\def\sf@@@subfloat#1[#2][#3]#4{%
3 \begin{minipage}{\linewidth}% lwarp

4 \IfValueTF{#2}{%
5 \LWR@setlatestname{#2}%
6 }{%
7 \IfValueTF{#3}{%
8 \LWR@setlatestname{#3}%
9 }{%
10 }%
11 \LWR@stoppars% lwarp
12 \@ifundefined{FBsc@max}{%
13 {\FB@readaux{\let\FBsuboheight\relax}}%
14 \@tempcnta=\@ne
15 \if@minipage
16 \@tempcnta=\z@
17 \else\ifdim \lastskip=\z@ \else
18 \@tempcnta=\tw@
19 \fi\fi
20 \ifmaincaptiontop
21 \sf@top=\sf@nearskip
22 \sf@bottom=\sf@farskip
23 \else
24 \sf@top=\sf@farskip
25 \sf@bottom=\sf@nearskip
26 \fi
27 \leavevmode

28 % \setbox\@tempboxa \hbox{#4}%
29 % \@tempdima=\wd\@tempboxa
30 % \@ifundefined{FBsc@max}{%
31 % {\global\advance\Xhsize-\wd\@tempboxa
32 % \dimen@=\ht\@tempboxa
33 % \advance\dimen@\dp\@tempboxa
34 % \ifdim\dimen@>\FBso@max
35 % \global\FBso@max\dimen@
36 % \fi}%

```

Do not use boxes, which interfere with `lateximages`:

```

37 % \vtop%
38 \bgroup
39 % \vbox%
40 \bgroup
41 \ifcase\@tempcnta
42 \@minipagefalse
43 \or
44 % \vskip\sf@top
45 \or
46 \ifdim \lastskip=\z@ \else
47 % \@tempskipb\sf@top\relax\@xaddvskip
48 \fi
49 \fi
50 \sf@ifpositiontop{%
51 \ifx \@empty#3\relax \else
52 \sf@subcaption{#1}{#2}{#3}%
53 % \vskip\sf@capskip
54 % \vskip\sf@captopadj
55 \fi\egroup
56 % \hrule width0pt height0pt depth0pt
57 \LWR@startpars% lwarp
58 % \box\@tempboxa
59 #4
60 \LWR@stoppars% lwarp
61 }{%
62 \LWR@startpars% lwarp
63 \@ifundefined{FBsc@max}%
64 {
65 % \box\@tempboxa
66 #4
67 }%
68 {\ifx\FBsuboheight\relax
69 % \box\@tempboxa
70 #4
71 \else
72 % \vbox to \FBsuboheight{\FBafil\box\@tempboxa\FBbfil}%
73 #4
74 \fi}%
75 \LWR@stoppars% lwarp
76 \egroup
77 \ifx \@empty#3\relax \else
78 % \vskip\sf@capskip
79 % \hrule width0pt height0pt depth0pt
80 \sf@subcaption{#1}{#2}{#3}%
81 \fi
82 }%
83 % \vskip\sf@bottom
84 \egroup
85 \@ifundefined{FBsc@max}{%
86 {\addtocounter{FRobj}{-1}%
87 \ifnum\c@FRobj=0\else
88 \subfloatrowsep
89 \fi}%
90 \ifmaincaptiontop\else
91 \global\advance\@nameuse{c@\@captype}\m@ne

```



```

92 \fi
93 \end{minipage}% lwarp
94 \LWR@startpars% lwarp
95 \endgroup\ignorespaces%
96 }%

```

\sf@subcaption    {<1 type>} {<2 lof entry>} {<3 caption>}

```

97 \long\def\sf@subcaption#1#2#3{%
98 \LWR@stoppars% lwarp
99 \ifx \relax#2\relax \else
100 \bgroup
101 \let\label=@gobble
102 \let\protect=\string
103 \def\@subcaplabel{%
104 \caption@lstfmt{\@nameuse{p@#1}}{\@nameuse{the#1}}}%
105 \sf@updatecaptionlist{#1}{#2}{\the\value{\@capttype}}{\the\value{#1}}%
106 \egroup
107 \fi
108 \bgroup
109 \ifx \relax#3\relax
110 \let\captionlabelsep=\relax
111 \fi
112 % \setbox0\vbox{%
113 % \hb@xt@\the\@tempdima{%
114 %
115 % \hss
116 % \parbox[t]{\the\@tempdima}{%
117 % \caption@make
118 % {\@nameuse{sub\@capttype name}}%
119 % {\@nameuse{thesub\@capttype}}%
120 % {#3}
121 % }%
122 % \hss
123 % }
124 % }%
125 \@ifundefined{FBsc@max}%
126 % {\box0}%
127 % {
128 % \parbox[t]{\the\@tempdima}{%
129 % \LWR@traceinfo{sfsubcap B1}% lwarp
130 % \LWR@figcaption% lwarp
131 % \caption@make
132 % {\@nameuse{sub\@capttype name}}%
133 % {\@nameuse{thesub\@capttype}}%
134 % {\LWR@isolate{#3}}%
135 % \endLWR@figcaption% lwarp
136 % \LWR@traceinfo{sfsubcap B2}% lwarp
137 % }%
138 % }%
139 {\dimen@ht0%
140 \advance\dimen@dp0%
141 \ifdim\dimen@>\FBsc@max
142 \global\FBsc@max\dimen@

```

```

143 \fi
144 \FB@readaux{\let\FBsubcheight\relax}%
145 \ifx\FBsubcheight\relax
146 \def\next{
147 % \parbox[t]{\the\@tempdima}
148 }%
149 \else
150 \def\next{
151 % \parbox[t][\FBsubcheight][t]{\the\@tempdima}
152 }%
153 \fi
154 % \vbox{%
155 % \hbext@the\@tempdima{%
156
157 % \hss
158 % \next{%
159 \LWR@traceinfo{sfsubcap C1}% lwarp
160 \caption@make
161 {\@nameuse{sub\@capttype name}}%
162 {\@nameuse{thesub\@capttype}}%
163 {#3}
164 \LWR@traceinfo{sfsubcap C1}% lwarp
165 % }%
166 % \hss
167
168 % }
169 % }
170 % }%
171 \egroup
172 \LWR@startpars% lwarp
173 }

```

`\subfloat@label` Patches for `\sf@sub@label`:

```

174 \xpretocmd{\subfloat@label}
175 {\LWR@ensuredoingapar}
176 {}
177 {\LWR@patcherror{subfig}{subfloat@label}}

```

Patches for `\subref`.

`\sf@subref`  $\{ \langle label \rangle \}$

The unstarred version uses a `\ref` link whose printed text comes from the `sub@<label>`:

```

178 \renewcommand{\sf@subref}[1]{%
179 \LWR@subnewref{#1}{sub@#1}%
180 }

```

`\sf@@subref`  $\{ \langle label \rangle \}$

The starred version uses the printed `sub@<label>` which is stored as if it were a page number:

```

181 \renewcommand{\sf@@subref}[1]{\LWR@orig@pageref{sub@#1}}

```

Defining new subfloats. The `l@sub<type>` for each is redefined.

```
\@newsfloat [<keys/values>] {<float name>}
182 \LetLtxMacro\LWR@orig@newsfloat\@newsfloat
183
184 \def\@newsfloat[#1]#2{%
185 \LWR@orig@newsfloat[#1]{#2}%
186 \renewcommand{\l@sub#2}[2]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##1}{##2}}%
187 }
```

Pre-defined for figures and tables:

```
\l@subfigure {<text>} {<pagenum>}
188 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}

\l@subtable {<text>} {<pagenum>}
189 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}
```

---

File 472 **lwarp-subfigure.sty**

§ 581 Package **subfigure**

Pkg subfigure subfigure is emulated by subfig.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{subfigure}[2002/03/15]
2 \RequirePackage{subfig}

3 \LetLtxMacro\subfigure\subfloat
4 \LetLtxMacro\subtable\subfloat
5 \LetLtxMacro\Subref\subref
6 \@ifundefined{figuretopcaptrue}{\newif\iffiguretopcap}{}
7 \newif\ifsubfiguretopcap
8 \newif\ifsubcaphang
9 \newif\ifsubcapcenter
10 \newif\ifsubcapcenterlast
11 \newif\ifsubcapnooneline
12 \newif\ifsubcapraggedright
13 \newskip\subfigtopskip
14 \newskip\subfigcapskip
15 \newdimen\subfigcaptopadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*\subcapsize{}
20 \newcommand*\subcaplabelfont{}
21 \newcommand*\subcapfont{}
```

File 473 **lwarp-subsubscripts.sty**

§ 582 Package **subsubscripts**

(Emulates or patches code by RICCARDO BRESCIANI.)

Pkg subsubscripts **subsubscripts** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LW@ProvidesPackagePass{subsubscripts}[2009/10/27]

The larger skips are used here.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \newcommand{\fourscriptsC}[7]{%
5 {}^{#2}_{#3}\hspace{#6}#1\hspace{#7}{}^{#4}_{#5}%
6 }
7 }
8 \CustomizeMathJax{%
9 \newcommand{\lrsubscriptsC}[5]{%
10 \fourscriptsC{#1}{}{#2}{}{#3}{#4}{#5}%
11 }
12 }
13 \CustomizeMathJax{%
14 \newcommand{\lrsuperscriptsC}[5]{%
15 \fourscriptsC{#1}{#2}{}{#3}{}{#4}{#5}%
16 }
17 }
18 \CustomizeMathJax{%
19 \newcommand{\fourscripts}[5]{%
20 \fourscriptsC{#1}{#2}{#3}{#4}{#5}{0ex}{0ex}%
21 }
22 }
23 \CustomizeMathJax{%
24 \newcommand{\lrsubscripts}[3]{\fourscripts{#1}{}{#2}{}{#3}}
25 }
26 \CustomizeMathJax{%
27 \newcommand{\lrsuperscripts}[3]{\fourscripts{#1}{#2}{}{#3}{}{}}
28 }
29 \CustomizeMathJax{%
30 \newcommand{\twolscripts}[4][-.16ex]{{}^{#3}_{#4}\hspace{#1}#2}
31 }
32 \CustomizeMathJax{%
33 \newcommand{\tworscripts}[4][-.07ex]{#2\hspace{#1}{}}^{#3}_{#4}}
34 }
35 \CustomizeMathJax{%
36 \newcommand{\lsubscript}[3][-.16ex]{\twolscripts[#1]{#2}{}{#3}}
37 }
38 \CustomizeMathJax{%
39 \newcommand{\lsuperscript}[3][-.16ex]{\twolscripts[#1]{#2}{#3}{}{}}
40 }

```

```

41 \CustomizeMathJax{%
42 \newcommand{\rsubscript}[3][-.07ex]{\tworscripts[#1]{#2}{#3}}
43 }
44 \CustomizeMathJax{%
45 \newcommand{\rsuperscript}[3][-.07ex]{\tworscripts[#1]{#2}{#3}}
46 }
47 \end{warpMathJax}

```

File 474 **lwarp-supertabular.sty**

§ 583 Package **supertabular**

(Emulates or patches code by JOHANNES BRAAMS, THEO JURRIENS.)

Pkg supertabular supertabular is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{supertabular}[2004/02/20]

⚠ Misplaced alignment For `\tablefirsthead`, etc., enclose them as follows:

tab character &

```

\StartDefiningTabulars
\tablefirsthead
. . .
\StopDefiningTabulars

```

See section 8.10.1.

⚠ lateximage supertabular and xtab are not supported inside a lateximage.

```

2 \newcommand{\LWRST@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRST@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9 \newcommand{\tabletail}[1]{}
10
11 \newcommand{\LWRST@lasttail}{}
12
13 \newcommand{\tablelasttail}[1]{%
14 \long\gdef\LWRST@lasttail{#1}%
15 }

16 \newcommand{\tablecaption}[2][]{%
17 \long\gdef\LWRST@caption{%
18 \ifblank{#1}%
19 {\caption{#2}}%
20 {\caption[#1]{#2}}%
21 }%
22 }
23
24 \let\topcaption\tablecaption

```

```

25 \let\bottomcaption\tablecaption

26 \newcommand*\LWRST@caption{}
27
28 \newcommand*\shrinkheight[1]{}
29
30 \NewDocumentEnvironment{supertabular}{s o m}
31 {%
32 \LWR@traceinfo{supertabular}%
33 \begin{table}%
34 \LWRST@caption%
35 \begin{tabular}{#3}%
36 \TabularMacro\ifdefvoid{\LWRST@firsthead}%
37 {\LWR@getmynexttoken}%
38 {\expandafter\LWR@getmynexttoken\LWRST@firsthead}%
39 }%
40 {%
41 \ifdefvoid{\LWRST@lasttail}%
42 {}%
43 {%
44 \TabularMacro\ResumeTabular%
45 \LWRST@lasttail%
46 }%
47 \end{tabular}%
48 \end{table}%

49 \gdef\LWRST@caption{}

50 \LWR@traceinfo{supertabular done}%
51 }
52
53 \NewDocumentEnvironment{mpsupertabular}{s o m}
54 {\minipage{\linewidth}\supertabular{#3}}
55 {\endsupertabular\endminipage}

```

---

File 475 **lwarp-svg.sty**

§ 584 Package **svg**

(Emulates or patches code by PHILIP ILTEN, FALK HANISCH.)

Pkg svg **svg** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{svg}[2020/10/23]

2 \xpretocmd{\includesvg}%
3 {\begin{lateximage}}%
4 {}%
5 {\LWR@patcherror{svg}{includesvg}}
6
7 \xapptocmd{\includesvg}%

```

```

8 {\end{lateximage}}%
9 {}%
10 {\LWR@patcherror{svg}{includesvg}}
11
12 \xpretocmd{\includeinkscape}%
13 {\begin{lateximage}}%
14 {}%
15 {\LWR@patcherror{svg}{includeinkscape}}
16
17 \xapptocmd{\includeinkscape}%
18 {\end{lateximage}}%
19 {}%
20 {\LWR@patcherror{svg}{includeinkscape}}

```

---

File 476 **lwarp-swfigure.sty**

§ 585 Package **swfigure**

*(Emulates or patches code by CLAUDIO BECCARI.)*

Pkg swfigure swfigure is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{swfigure}[2020-11-10]

```

2 \NewDocumentEnvironment{DFimage}%
3 {O{SW} m O{#4} m o D(){0.8} D<>{0} D|{|{0.25} D!|{}}%
4 {%
5 \begin{figure}
6 \centering
7 \includegraphics{#2}
8 \caption[#{3}]{#4}
9 \IfValueT{#5}{\label{#5}}
10 \end{figure}
11 }%
12 {}%

```

---

File 477 **lwarp-syntonly.sty**

§ 586 Package **syntonly**

*(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)*

Pkg syntonly syntonly is ignored.

**for HTML output:** Discard all options for lwarp-syntonly:

```

1 \LWR@ProvidesPackageDrop{syntonly}[2017/06/30]
2 \newif\ifsyntax@
3 \syntax@false

```

---

```

4
5 \newcommand*{\syntaxonly}{}
6
7 \@onlypreamble\syntaxonly

8 \def\nopages@{}
```

---

File 478 **lwarp-tabfigures.sty**

§ 587 Package **tabfigures**

Pkg tabfigures tabfigures is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

---

File 479 **lwarp-tablefootnote.sty**

§ 588 Package **tablefootnote**

Pkg tablefootnote tablefootnote is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tablefootnote}[2014/01/26]

This works because in HTML tables are no longer floats.

```
2 \LetLtxMacro\tablefootnote\footnote
```

---

File 480 **lwarp-tables.sty**

§ 589 Package **tables**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg tables tables is emulated. \LWR@hline is used to handle the optional argument when tables is loaded.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tables}

```
2 \newdimen\tablinesep
3 \newdimen\arraylinesep
4 \newdimen\extrarulesep
```



File 481 **lwarp-tabularx.sty**

§ 590 Package **tabularx**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg tabularx **tabularx** is emulated by **lwarp**.

**for HTML output:** Discard all options for **lwarp-tabularx**:

```
1 \LWR@ProvidesPackageDrop{tabularx}[2016/02/03]
2 \RequirePackage{array}
```

`\tabularxcolumn` is ignored. All X columns will be p for now. The width is ignored.

```
3 \def\tabularxcolumn#1{p{#1}}
4 \newcolumnntype{X}{p{1in}}

5 \DeclareDocumentEnvironment{tabularx}{m o m}
6 {\tabular{#3}}
7 {\endtabular}
8
9 \DeclareDocumentEnvironment{tabularx*}{m o m}
10 {\tabular{#3}}
11 {\endtabular}
```

File 482 **lwarp-tabulary.sty**

§ 591 Package **tabulary**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg tabulary **tabulary** is emulated by **lwarp**.

**for HTML output:** Discard all options for **lwarp-tabulary**.

Column types L, C, R, and J are emulated by **lwarp** core code.

```
1 \LWR@ProvidesPackageDrop{tabulary}[2014/06/11]
2 \RequirePackage{array}

3 \NewDocumentEnvironment{tabulary}{m o m}
4 {\tabular{#3}}
5 {\endtabular}
6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\tabular{#3}}
9 {\endtabular}
```

```

10 \newcolumnntype{L}{l}
11 \newcolumnntype{C}{c}
12 \newcolumnntype{R}{r}
13 \newcolumnntype{J}{l}

14 \newdimen\tymin
15 \newdimen\tymax
16 \def\tyformat{}

```

---

File 483 **lwarp-tagpdf.sty**

§ 592 Package **tagpdf**

Pkg tagpdf **tagpdf** is mostly ignored, but emulates alt text, for images only. (HTML only has alternate text for images.)

(If left enabled for HTML output, tagpdf errors when producing HTML, somehow due to the HTML page numbers.)

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tagpdf}[2019/07/02]

2 \ExplSyntaxOn
3
4 \tl_new:N \l__uftag_mc_key_label_tl
5
6 \keys_define:nn { uftag / mc }
7 {
8 tag .code:n = % the name (H,P,Span etc
9 },
10 raw .code:n =
11 },
12 ,
13 alttext .code:n = % Alt property
14 {
15 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
16 },
17 alttext-o .code:n = % Alt property
18 {
19 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
20 },
21 actualtext .code:n = % ActualText property
22 },
23 actualtext-o .code:n = % ActualText property
24 },
25 label .tl_set:N = \l__uftag_mc_key_label_tl,
26 artifact .code:n = {},
27 artifact .default:n = {notype}
28 }
29
30 \keys_define:nn { uftag / struct }
31 {
32 label .tl_set:N = \l__uftag_struct_key_label_tl,

```

```

33 stash .bool_set:N = \l__uftag_struct_elem_stash_bool,
34 tag .code:n = % S property
35 {},
36 title .code:n = % T property
37 {},
38 title-o .code:n = % T property
39 {},
40 alttext .code:n = % Alt property
41 {
42 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
43 },
44 alttext-o .code:n = % Alt property
45 {
46 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
47 },
48 actualtext .code:n = % ActualText property
49 {},
50 actualtext-o .code:n = % ActualText property
51 {},
52 }
53
54 \NewDocumentCommand \tagpdfsetup { m }{}
55
56 \cs_set_eq:NN\tagpdfifluatexTF \sys_if_engine_luatex:TF
57 \cs_set_eq:NN\tagpdfifluatexT \sys_if_engine_luatex:T
58 \cs_set_eq:NN\tagpdfifpdfTeXT \sys_if_engine_pdfTeX:T
59 \cs_new:Npn \tagpdfget #1 {}
60 \cs_new:Npn \uftag_get:n #1 {}
61
62 \NewDocumentCommand \tagmcifinTF { m m }{}
63
64 \NewDocumentCommand \tagmcbegin { m }{\uftag_mc_begin:n {#1}\ignorespaces}
65 \cs_new_protected:Nn \uftag_mc_begin:n {
66 \group_begin:
67 \keys_set:nn { uftag / mc } {#1}
68 \group_end:
69 }
70
71 \NewDocumentCommand \tagmcend {}{\ThisAltText{}}
72
73 \cs_new_protected:Nn \uftag_mc_end: {\ThisAltText{}}
74
75 \NewDocumentCommand \tagmcuse { m }{}
76
77 \cs_new_protected:Nn \uftag_mc_use:n {}
78
79 \NewDocumentCommand \tagstructbegin { m }{
80 \uftag_struct_begin:n {#1}
81 }
82
83 \cs_new_protected:Nn \uftag_struct_begin:n
84 {
85 \group_begin:
86 \keys_set:nn {uftag / struct} { #1 }
87 \group_end:

```

```

88 }
89
90 \NewDocumentCommand \tagstructend { }{\ThisAltText{}}
91
92 \cs_new_protected:Nn \uftag_struct_end: {\ThisAltText{}}
93
94 \NewDocumentCommand \tagstructuse { m }{}
95
96 % \NewDocumentCommand\showtagpdfmcddata { 0 {__uftag_get_mc_abs_cnt:} }{}
97 % What is the second argument?
98
99 \NewDocumentCommand\showtagpdfattributes { }{}
100
101 \sys_if_engine_luatex:T
102 {
103 \NewDocumentCommand\pdffakespace { }
104 {
105 __uftag_fakespace:
106 }
107 }
108
109 \ExplSyntaxOff

```

---

File 484 **lwarp-tascmac.sty**

§ 593 Package **tascmac**

Pkg tascmac **tascmac** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tascmac}[2018/03/09]

```

2 \newenvironment*{boxnote}
3 {
4 \BlockClass[
5 padding: .5ex ;
6 border: 1px solid black ;
7 border-top: 1px dashed black ;
8]{boxnote}
9 }
10 {\endBlockClass}
11
12 \newenvironment*{screen}[1][]
13 {
14 \BlockClass[
15 padding: .5ex ;
16 border: 1px solid gray ;
17 border-radius: 8pt
18]{boxnote}
19 }
20 {\endBlockClass}
21
22 \newenvironment*{itembox}[2][]

```

```
23 {
24 \BlockClass[
25 padding: .5ex ;
26 border: 1px solid gray ;
27 border-radius: 8pt
28]{boxnote}
29 \InlineClass{itemboxtitle}{#2}\par
30 }
31 {\endBlockClass}
32
33 \newenvironment*{shadebox}
34 {
35 \BlockClass[
36 padding: .5ex ;
37 border: 1px solid black ;
38 box-shadow: 3px 3px 3px \#808080 ;
39]{boxnote}
40 }
41 {\endBlockClass}
42
43 \newcommand*{\mask}[2]{%
44 \InlineClass[background: lightgray]{mask}{#1}%
45 }
46
47 \newcommand*{\maskbox}[5]{%
48 \InlineClass[background: lightgray]{mask}{#5}%
49 }
50
51 \newcommand*{\Maskbox}[6]{%
52 \InlineClass[
53 background: lightgray ;
54 border: #5 solid black
55]{mask}{#6}%
56 }
57
58 \newcommand*{\keytop}[2][]{%
59 \InlineClass[%
60 padding: .2ex ;
61 border: 1px solid black ;
62 border-radius: .7ex ;
63]{keytop}{#2}%
64 }
65
66 \def\yen{\HTMLUnicode{00A5}}
67
68 \def\return{\HTMLUnicode{23CE}}
69
70 \def\Return{\HTMLUnicode{23CE}}
71
72 \def\ascii{ASCII Corporation}
73
74 \def\Ascii{ASCII Corporation}
75
76 \def\ASCII{ASCII Corporation}
```

File 485 **lwarp-tcolorbox.sty**

§ 594 Package **tcolorbox**

(Emulates or patches code by THOMAS F. STURM.)

Pkg tcolorbox tcolorbox is patched for use by lwarp.

See section 8.3.8 for limitations.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tcolorbox}[2020/04/28]

```
2 \newbool{LWR@havetcblower}
3 \boolfalse{LWR@havetcblower}
```

Colors are supported via HTML styles:

```
4 \newcommand{\LWR@tcolorbox@findcolors}{%
5 \convertcolorspec{named}{tcbcolback}{HTML}\LWR@tcbcolback
6 \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolframe
7 \iftcb@titlefilled%
8 \convertcolorspec{named}{tcbcolbacktitle}{HTML}\LWR@tcbcolbacktitle
9 \else
10 \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolbacktitle
11 \fi
12 \convertcolorspec{named}{tcbcoltitle}{HTML}\LWR@tcbcoltitle
13 \convertcolorspec{named}{tcbcolupper}{HTML}\LWR@tcbcolupper
14 \convertcolorspec{named}{tbcollower}{HTML}\LWR@tbcollower
15 }
16
17 \newcommand*{\LWR@tcolorbox@titlecolorstyles}{%
18 border-top: 1px solid \LWR@origpound\LWR@tcbcolframe ;
19 border-bottom: 1px solid \LWR@origpound\LWR@tcbcolframe ;
20 background: \LWR@origpound\LWR@tcbcolbacktitle ;
21 color: \LWR@origpound\LWR@tcbcoltitle ;
22 }
```

The title is placed inside its own <div> of class tcolorboxtitle.

```
23 \newcommand*{\LWR@showtitle@}[1]{%
24 \begin{BlockClass}[
25 \LWR@tcolorbox@titlecolorstyles
26]{tcolorboxtitle}
27 % \cmdKV@LWR@tcolorbox@title\par
28 \kvtcb@before@title#1\kvtcb@after@title
29 \end{BlockClass}
30 }
```

If no title, a non-breakable space is used to take some vertical space.

```

31 \newcommand*{\LWR@showtitle}[1]{%
32 \iftcb@titlevisible
33 \LWR@showtitle@{#1}
34 \else
35 \LWR@showtitle@{~}
36 \fi
37 }
38
39 \newcommand*{\LWR@tcolorbox@dophantom}{%
40 % \sbox\tcb@phantombox{\kvtcb@phantom}%
41 % \iftcb@hasPhantom%
42 % \box\tcb@phantombox%
43 % \tcb@hasPhantomfalse%
44 % \fi%
45 \kvtcb@phantom
46 \let\kvtcb@phantom\empty%
47 }

```

The tcolorbox is placed inside an external <div> of class #1, which is tcolorbox or tcolorbox inlineminipage. The upper and lower parts are placed into their own internal <div>s of class tcolorboxupper and tcolorboxlower.

```

48 \newcommand*{\LWR@tcolorboxstart}[1]{
49 \LWR@tcolorbox@findcolors
50 \begin{BlockClass}[
51 border: 1px solid \LWR@origpound\LWR@tcbcolframe ;
52 background: \LWR@origpound\LWR@tcbcolback ;
53]{#1}
54 \LWR@tcolorbox@dophantom%
55 \ifdefvoid{\kvtcb@title}
56 {}
57 {
58 \LWR@showtitle{\kvtcb@title}
59 }
60 \begin{BlockClass}[
61 color: \LWR@origpound\LWR@tcbcolupper ;
62]{tcolorboxupper}
63 }

```

Floats enclose the tcolorbox.

```

64 \newcommand*{\LWR@tcolorbox@dostartfloat}{%
65 \ifx\kvtcb@float\empty%
66 % \tcb@set@normal@unbroken@beforeafter%
67 \else%
68 % \edef\tcb@before@unbroken{%
69 % \noexpand\tcb@float@env@begin{tcbfloat}[\kvtcb@float]%
70 % \noexpand\kvtcb@everyfloat%
71 % }%
72 % \let\tcb@after@unbroken=\tcb@float@env@end%
73 \tcb@float@env@begin{tcbfloat}[\kvtcb@float]
74 \noexpand\kvtcb@everyfloat
75 \fi%
76 }
77

```

```

78 \newcommand*{\LWR@tcolorbox@doendfloat}{%
79 \ifx\kvtcb@float\@empty%
80 \else%
81 \tcb@float@env@end%
82 \fi%
83 }

```

Footnotes are handled via the main footnote mechanism, and pending notes are printed before and after each tcolorbox. Footnote numbering will not match the print output.

```

84 \renewenvironment{tcolorbox}[1][[]
85 {
86 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
87 {
88 \PackageError{lwarp}
89 {%
90 Lwarp cannot process a tcolorbox inside a lateximage\MessageBreak
91 or SVG math.\MessageBreak
92 Enter 'H' for possible solutions%
93 }
94 {%
95 Use \protect\tcbbox, \protect\tcbboxmath, or
96 \protect\tcbhighmath\space instead.\MessageBreak%
97 (Inside math, you probably want to use these anyhow.)%
98 }
99 }{\relax}
100 \LWR@printpendingfootnotes
101 \tcb@layer@inc
102 \tcb@apply@box@options{#1}
103 \LWR@tcolorbox@dostartfloat%
104 \tcbset{title=#1}
105 \boolfalse{LWR@havetcblower}
106 \LWR@tcolorboxstart{tcolorbox}
107 \tcb@insert@before@upper%
108 }
109 {
110 \ifbool{LWR@havetcblower}{%
111 \tcb@insert@after@lower%
112 }{%
113 \tcb@insert@after@upper%
114 }%
115 \end{BlockClass}
116 \LWR@printpendingfootnotes
117 \tcb@layer@dec
118 \end{BlockClass}
119 \LWR@tcolorbox@doendfloat%
120 }

```

For the lower part, the upper part is finished then the lower is started. `\tcblower` is only temporarily defined where appropriate, so the HTML version is defined globally via `\newcommand` instead of `\renewcommand`.

```

121 \newcommand{\tcblower}{
122 \tcb@insert@after@upper%

```



```

123 \end{BlockClass}
124 \begin{BlockClass}[%
125 border-top: 1px dashed \LWR@origpound\LWR@tcbscolframe ;
126 color: \LWR@origpound\LWR@tcbscollower ;
127]{tcolorboxlower}
128 \tcb@insert@before@lower%
129 }

```

Starred and unstarred `\tcbline` are simple `\hrules`.

```

130 \AtBeginDocument{
131 \ifdef{\tcbline}{
132 \newcommand*\LWR@sub@tcbline}{%
133 \begin{BlockClass}{hrule}
134 \end{BlockClass}
135 }
136 \newcommand{\LWR@HTML@tcbline}{\@ifstar\LWR@sub@tcbline\LWR@sub@tcbline}
137 \LWR@formatted{tcbline}
138 }{}
139 }
140
141 \newcommand{\LWR@HTML@tcbbox}[2][]{
142 \LWR@printpendingfootnotes
143 \LWR@tcolorbox@dostartfloat%
144 \begingroup
145 \tcb@layer@inc
146 \tcb@apply@box@options{#1}
147 \tcbset{title=#1}
148 \boolfalse\LWR@havetcblower}
149 \LWR@tcolorboxstart{tcolorbox inlineminipage}
150 \tcb@insert@before@upper%
151 #2
152 \ifbool{\LWR@havetcblower}{%
153 \tcb@insert@after@lower%
154 }{%
155 \tcb@insert@after@upper%
156 }%
157 \end{BlockClass}
158 \LWR@printpendingfootnotes
159 \end{BlockClass}
160 \tcb@layer@dec%
161 \endgroup%
162 \LWR@tcolorbox@dostartfloat%
163 \global\booltrue{\LWR@minipagethispar}%
164 }
165 \LWR@formatted{tcbbox}
166
167 \appto\LWR@restoreMathJaxformatting{%
168 \renewcommand{\tcbbox}[2][]{#2}%
169 }

```

Patches for the subtitle, which is placed inside a `<div>` of class `tcolorboxsubtitle`.

```

170 \xpatchcmd{\tcbsubtitle}
171 {\begingroup}

```

```

172 {\begingroup\let\kvtcb@title\relax\begin{BlockClass}{tcolorboxsubtitle}}
173 {}
174 {\LWR@patcherror{tcolorbox}{tcbsubtitle}}
175
176 \xpatchcmd{\tcbsubtitle}
177 {\endgroup}
178 {\end{BlockClass}\endgroup}
179 {}
180 {\LWR@patcherror{tcolorbox}{tcbsubtitleB}}

```

`\tcbboxfit` is the same as `\tcbbox`.

```

181 \AtBeginDocument{
182 \ifdef{\tcbboxfit}{%
183 \let\LWR@HTML@tcbboxfit\tcbbox%
184 \LWR@formatted{tcbboxfit}
185 }{}
186 }

```

`\tcbtitle` is patched to support the text font.

```

187 \LetLtxMacro\LWR@HTML@tcbtitle\tcbtitle
188 \xpatchcmd{\LWR@HTML@tcbtitle}
189 {\kvtcb@before@title\tcbtitletext}
190 {\kvtcb@before@title\LWR@textcurrentfont{\LWR@textcurrentcolor{\tcbtitletext}}}
191 {}
192 {\LWR@patcherror{tcolorbox}{LWR@HTML@tcbtitle}}
193 \LWR@formatted{tcbtitle}

```

List-of:

```

194 \renewcommand*\l@tcolorbox[2]{\hypertocfloat{1}{tcolorbox}{lof}{#1}{#2}}

```

Theorem limitations. An error is printed if the document uses `math`, `ams equation`, etc. `\tcbboxmath` and `\tcbhighmath` are ignored for HTML.

```

195 \AtBeginDocument{
196 \pgfkeysifdefined{/tcb/libload/theorems}{
197
198 \def\LWR@HTML@tcb@hack@amsmath{%
199 \PackageError{lwarp}
200 {%
201 tcolorbox ‘math’, ‘ams equation’, and related\MessageBreak
202 are not supported.\MessageBreak
203 \protect\tcbboxmath\space and
204 \protect\tcbhighmath\space are emulated.\MessageBreak
205 Enter ‘H’ for possible solutions%
206 }
207 {%
208 Remove tcolorbox math-related options, and instead\MessageBreak
209 use the usual math environments inside each tcolorbox.%
210 }
211 }
212 \LWR@formatted{tcb@hack@amsmath}
213 }

```

```

214 % Cause an error if using math:
215 \tcbset{%
216 math upper/.style={before upper*=\tcb@hack@amsmath,after upper*=$},%
217 math lower/.style={before lower*=\tcb@hack@amsmath,after lower*=$},%
218 }
219
220 \appto\LWR@restoreorigformatting{%
221 \tcbset{%
222 math upper/.style={before upper*=$\displaystyle,after upper*=$},%
223 math lower/.style={before lower*=$\displaystyle,after lower*=$},%
224 }%
225 }
226
227 \newcommand{\LWR@HTML@tcbboxmath}[2][\#2]
228 \LWR@formatted{tcbboxmath}
229 \newcommand{\LWR@HTML@tcbhighmath}[2][\#2]
230 \LWR@formatted{tcbhighmath}
231 \appto\LWR@restoreMathJaxformatting{%
232 \renewcommand{\tcbboxmath}[2][\#2]%
233 \renewcommand{\tcbhighmath}[2][\#2]%
234 }
235 }{}% theorems loaded
236 }% AtBeginDocument

```

For MATHJAX:

```

237 \CustomizeMathJax{\newcommand{\tcbset}[1]{}}
238 \CustomizeMathJax{\newcommand{\tcbsetforeverylayer}[1]{}}
239 \CustomizeMathJax{\newcommand{\tcbbox}[2][\boxed{\text{\#2}}}}
240 \CustomizeMathJax{\newcommand{\tcbboxfit}[2][\boxed{\#2}}
241 \CustomizeMathJax{\newcommand{\tcblower}{}}
242 \CustomizeMathJax{\newcommand{\tcbline}{}}
243 \CustomizeMathJax{\newcommand{\tcbtitle}{}}
244 \CustomizeMathJax{\newcommand{\tcbsubtitle}[2][\mathrm{\#2}}}}
245 \CustomizeMathJax{\newcommand{\tcbboxmath}[2][\boxed{\#2}}
246 \CustomizeMathJax{\newcommand{\tcbhighmath}[2][\boxed{\#2}}

```


---

File 486 **lwarp-tensor.sty**

§ 595 Package **tensor**

(Emulates or patches code by PHILIP G. RATCLIFFE.)

Pkg tensor **tensor** is used as-is for SVG math, and is emulated for MATHJAX.

 **spacing** Compressed spacing and left justification are not possible with MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tensor}[2004/12/20]

For MATHJAX. Special handling is required to parse the superscript and subscript arguments.

When a superscript or subscript is seen, it is processed and then the remainder is processed recursively.

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\LWRtensorindicesthreesub#1#2{{_{#2}}\LWRtensorindicesthree}}
4 \CustomizeMathJax{\def\LWRtensorindicesthreesup#1#2{{^{#2}}\LWRtensorindicesthree}}
```

If not a superscript nor a subscript, processing stops.

```
5 \CustomizeMathJax{\newcommand{\LWRtensorindicesthreenotsup}{}}
```

Check ahead for a superscript or a subscript.

```
6 \CustomizeMathJax{\newcommand{\LWRtensorindicesthreenotsub}{
7 \ifnextchar ^ \LWRtensorindicesthreesup \LWRtensorindicesthreenotsup
8 }}
9
10 \CustomizeMathJax{\newcommand{\LWRtensorindicesthree}{
11 \ifnextchar _ \LWRtensorindicesthreesub \LWRtensorindicesthreenotsub
12 }}
```

Ignore star.

```
13 \CustomizeMathJax{\newcommand{\LWRtensorindicestwo}{
14 \ifstar\LWRtensorindicesthree\LWRtensorindicesthree
15 }}
```

Remove the outer brace of the argument.

```
16 \CustomizeMathJax{\newcommand{\indices}[1][\LWRtensorindicestwo#1]}
```

Attempting to use `\vphantom` here does not work:

```
17 \CustomizeMathJax{\newcommand{\LWRtensortwo}[3][\{\}\indices{#1}{#2}\indices{#3}}}
```

Ignore star.

```
18 \CustomizeMathJax{\newcommand{\tensor}{\ifstar\LWRtensortwo\LWRtensortwo}}
```

In text mode, `\nuclide` is converted to an svg image.

```
19 \CustomizeMathJax{%
20 \newcommand{\LWRnuclidetwo}[2][\{%
21 {%
22 \vphantom{\mathrm{#2}}%
23 \LWRtensornucleonnumber}_{#1}%
24 \mathrm{#2}%
25 }%
26 }%
27 }

28 \CustomizeMathJax{%
29 \newcommand{\nuclide}[1][\{%
```

```

30 \def\LWRtensornucleonnumber{#1}%
31 \LWRnuclidetwo%
32 }%
33 }
34 \end{warpMathJax}

```

---

File 487 **lwarp-termcal.sty**

§ 596 Package **termcal**

*(Emulates or patches code by BILL MITCHELL.)*

Pkg termcal termcal is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{termcal}% questionable date in the .sty file

Nullify the @ because everything is being done in a token list.

```

2 \xpatchcmd{\endcalendar}
3 {@{}}
4 {}
5 {}
6 {\LWR@patcherror{termcal}{endcalendar}}

```

Remove the hbox:

```

7 \xpatchcmd{\ca@doaday}
8 {\hbox to \hsize{\calprintdate\hfill\ifclassday\calprintclass\fi}}
9 {%
10 \calprintdate\hfill\ifclassday\calprintclass\fi%
11 }
12 {}
13 {\LWR@patcherror{termcal}{ca@doaday}}

```

Change each of two ampersands to call the lwarp tabular version:

```

14 \xpatchcmd{\calday}
15 {&}
16 {\LWR@tabularampersand}
17 {}
18 {\LWR@patcherror{termcal}{calday}}
19
20 \xpatchcmd{\calday}
21 {&}
22 {\LWR@tabularampersand}
23 {}
24 {\LWR@patcherror{termcal}{calday B}}

```

---

File 488 **lwarp-textarea.sty**

§ 597 Package **textarea**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg textarea **textarea** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textarea}[2005/12/26]

```
2 \newcommand\StartFromTextArea{}
3 \newcommand\StartFromHeaderArea{}
4 \newcommand*\RestoreTextArea{}
5 \newcommand*\ExpandTextArea[1][*]{}
6 \let\NCC@restorettextarea\@empty
```

---

File 489 **lwarp-textcomp.sty**

§ 598 Package **textcomp**


*(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)*

Pkg textcomp **textcomp** is patched for use by lwarp.

For MATHJAX, the MATHJAX package is used.

#### § 598.1 **Limitations**

Some textcomp symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many textcomp symbols are not supported by many system / browser fonts. In the css try referencing fonts which are more complete, but expect to see gaps in coverage.

#### § 598.2 **Package loading**

**for HTML output:** 1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]

### § 598.3 HTML symbols

For HTML, use HTML entities or direct Unicode, depending on the engine.

`\AtBeginDocument` improves support for `LuaATEX` and `XgLATEX`.

#### § 598.3.1 pdf<sup>A</sup>T<sub>E</sub>X symbols

```

2 \AtBeginDocument{
3 \ifPDFTeX% pdfAlatex or dvi latex
4 \newcommand*\LWR@HTML@textdegree{\HTMLentity{deg}}
5 \newcommand*\LWR@HTML@textcelsius{\HTMLunicode{2103}}
6 \newcommand*\LWR@HTML@textohm{\HTMLunicode{2126}}
7 \newcommand*\LWR@HTML@textmu{\HTMLunicode{00B5}}
8 \newcommand*\LWR@HTML@textlquill{\HTMLunicode{2045}}
9 \newcommand*\LWR@HTML@textrquill{\HTMLunicode{2046}}
10 \newcommand*\LWR@HTML@textcircledP{\HTMLunicode{2117}}
11 \newcommand*\LWR@HTML@texttwelveudash{\HTMLunicode{2014}}% emdash
12 \newcommand*\LWR@HTML@textthreequartersemdash{\HTMLunicode{2014}}% emdash
13 \newcommand*\LWR@HTML@textmho{\HTMLunicode{2127}}
14 \newcommand*\LWR@HTML@textnaira{\HTMLunicode{20A6}}
15 \newcommand*\LWR@HTML@textpeso{\HTMLunicode{20B1}}
16 \newcommand*\LWR@HTML@textrecipe{\HTMLunicode{211E}}
17 \newcommand*\LWR@HTML@textinterrobang{\HTMLunicode{203D}}
18 \newcommand*\LWR@HTML@textinterrobangdown{\HTMLunicode{2E18}}
19 \newcommand*\LWR@HTML@textperthousand{\HTMLunicode{2030}}
20 \newcommand*\LWR@HTML@textpertenthousand{\HTMLunicode{2031}}
21 \newcommand*\LWR@HTML@textbaht{\HTMLunicode{0E3F}}
22 \newcommand*\LWR@HTML@textdiscount{\%}
23 \newcommand*\LWR@HTML@textservicemark{\HTMLunicode{2120}}
24 \else

```

#### § 598.3.2 X<sub>g</sub>L<sup>A</sup>T<sub>E</sub>X and Lua<sup>A</sup>T<sub>E</sub>X symbols

NOTE: Some of the following do not print well in the listing. Consult the `.dtx` or `.sty` file for the actual characters.

```

25 \newcommand*\LWR@HTML@textdegree{\textdegree}
26 \newcommand*\LWR@HTML@textcelsius{\textcelsius}
27 \newcommand*\LWR@HTML@textohm{\textohm}
28 \newcommand*\LWR@HTML@textmu{\textmu}
29 \newcommand*\LWR@HTML@textlquill{\textlquill}
30 \newcommand*\LWR@HTML@textrquill{\textrquill}
31 \newcommand*\LWR@HTML@textcircledP{\textcircledP}
32 \newcommand*\LWR@HTML@texttwelveudash{\texttwelveudash}
33 \newcommand*\LWR@HTML@textthreequartersemdash{\textthreequartersemdash}
34 \newcommand*\LWR@HTML@textmho{\textmho}
35 \newcommand*\LWR@HTML@textnaira{\textnaira}
36 \newcommand*\LWR@HTML@textpeso{\textpeso}
37 \newcommand*\LWR@HTML@textrecipe{\textrecipe}
38 \newcommand*\LWR@HTML@textinterrobang{\textinterrobang}
39 \newcommand*\LWR@HTML@textinterrobangdown{\textinterrobangdown}
40 \newcommand*\LWR@HTML@textperthousand{\textperthousand}

```

```

41 \newcommand*\LWR@HTML@textpertenthousand}{\%}
42 \newcommand*\LWR@HTML@textbaht}{฿}
43 \newcommand*\LWR@HTML@textdiscount}{\%}
44 \newcommand*\LWR@HTML@textservicemark}{☞}
45 \fi
46
47 \LWR@formatted{textdegree}
48 \LWR@formatted{textcelsius}
49 \LWR@formatted{textoem}
50 \LWR@formatted{textmu}
51 \LWR@formatted{textlquill}
52 \LWR@formatted{textrquill}
53 \LWR@formatted{textcircledP}
54 \LWR@formatted{texttwelveudash}
55 \LWR@formatted{textthreequartersemdash}
56 \LWR@formatted{textmho}
57 \LWR@formatted{textnaira}
58 \LWR@formatted{textpeso}
59 \LWR@formatted{textrecipe}
60 \LWR@formatted{textinterrobang}
61 \LWR@formatted{textinterrobangdown}
62 \LWR@formatted{textperthousand}
63 \LWR@formatted{textpertenthousand}
64 \LWR@formatted{textbaht}
65 \LWR@formatted{textdiscount}
66 \LWR@formatted{textservicemark}

```

#### § 598.4 HTML diacritics

For HTML, Unicode diacritical marks are used:

```

67 \newcommand*\LWR@HTML@capitalcedilla}[1]{#1\HTMLUnicode{0327}}
68 \newcommand*\LWR@HTML@capitalogonek}[1]{#1\HTMLUnicode{0328}}
69 \newcommand*\LWR@HTML@capitalgrave}[1]{#1\HTMLUnicode{0300}}
70 \newcommand*\LWR@HTML@capitalacute}[1]{#1\HTMLUnicode{0301}}
71 \newcommand*\LWR@HTML@capitalcircumflex}[1]{#1\HTMLUnicode{0302}}
72 \newcommand*\LWR@HTML@capitaltilde}[1]{#1\HTMLUnicode{0303}}
73 \newcommand*\LWR@HTML@capitaldieresis}[1]{#1\HTMLUnicode{0308}}
74 \newcommand*\LWR@HTML@capitalhungarumlaut}[1]{#1\HTMLUnicode{30B}}
75 \newcommand*\LWR@HTML@capitalring}[1]{#1\HTMLUnicode{30A}}
76 \newcommand*\LWR@HTML@capitalcaron}[1]{#1\HTMLUnicode{30C}}
77 \newcommand*\LWR@HTML@capitalbreve}[1]{#1\HTMLUnicode{306}}
78 \newcommand*\LWR@HTML@capitalmacron}[1]{#1\HTMLUnicode{304}}
79 \newcommand*\LWR@HTML@capitaldotaccent}[1]{#1\HTMLUnicode{307}}

```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `xunicode`.

```

80 \providecommand*\LWR@HTML@textcircled}[1]{%
81 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
82 }
83
84 \LWR@formatted{capitalcedilla}
85 \LWR@formatted{capitalogonek}
86 \LWR@formatted{capitalgrave}

```



```

87 \LWR@formatted{capitalacute}
88 \LWR@formatted{capitalcircumflex}
89 \LWR@formatted{capitaltilde}
90 \LWR@formatted{capitaldieresis}
91 \LWR@formatted{capitalhungarumlaut}
92 \LWR@formatted{capitalring}
93 \LWR@formatted{capitalcaron}
94 \LWR@formatted{capitalbreve}
95 \LWR@formatted{capitalmacron}
96 \LWR@formatted{capitaldotaccent}
97
98 \LWR@formatted{textcircled}

```

Nullify textcomp macros when generating filenames:

```

99 \FilenameNullify{%
100 \renewcommand*\textdegree{}%
101 \renewcommand*\textcelsius{}%
102 \renewcommand*\textohm{}%
103 \renewcommand*\textmu{}%
104 \renewcommand*\textlquill{}%
105 \renewcommand*\textrquill{}%
106 \renewcommand*\textcircledP{}%
107 \renewcommand*\texttwelvewardash{}%
108 \renewcommand*\textthreequartersemdash{}%
109 \renewcommand*\textmho{}%
110 \renewcommand*\textnaira{}%
111 \renewcommand*\textpeso{}%
112 \renewcommand*\textrecipe{}%
113 \renewcommand*\textinterrobang{}%
114 \renewcommand*\textinterrobangdown{}%
115 \renewcommand*\textperthousand{}%
116 \renewcommand*\textpertenthousand{}%
117 \renewcommand*\textbaht{}%
118 \renewcommand*\textdiscount{}%
119 \renewcommand*\textservicemark{}%
120 \renewcommand*\textcircled}[1]{#1}%
121 \renewcommand*\capitalcedilla}[1]{#1}%
122 \renewcommand*\capitalogonek}[1]{#1}%
123 \renewcommand*\capitalgrave}[1]{#1}%
124 \renewcommand*\capitalacute}[1]{#1}%
125 \renewcommand*\capitalcircumflex}[1]{#1}%
126 \renewcommand*\capitaltilde}[1]{#1}%
127 \renewcommand*\capitaldieresis}[1]{#1}%
128 \renewcommand*\capitalhungarumlaut}[1]{#1}%
129 \renewcommand*\capitalring}[1]{#1}%
130 \renewcommand*\capitalcaron}[1]{#1}%
131 \renewcommand*\capitalbreve}[1]{#1}%
132 \renewcommand*\capitalmacron}[1]{#1}%
133 \renewcommand*\capitaldotaccent}[1]{#1}%
134 }% FilenameNullify
135
136 }% AtBeginDocument

```

For MATHJAX:

```
137 \CustomizeMathJax{\require{textcomp}}
```

---

File 490 **lwarp-textfit.sty**

§ 599 Package **textfit**

Pkg textfit **textfit** is emulated.

Text is placed into a `<span>` of class `textfit`. Sizes are approximated, and also limited by browser min/max font-size settings.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{textfit}[1994/04/15]

2 \newsavebox{\LWR@textfitbox}
3
4 \newcommand*{\LWR@textfitscale}[2]{%
5 \setlength{\LWR@templengthone}{#1}%
6 \setlength{\LWR@templengthone}{%
7 1em*\ratio{\LWR@templengthone}{\LWR@templengthtwo}%
8 }%
9 \InlineClass[font-size:\LWR@printlength{\LWR@templengthone}]{textfit}{#2}%
10 }
11
12 \newcommand*{\scaletowidth}[2]{%
13 \sbox{\LWR@textfitbox}{#2}%
14 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
15 \LWR@textfitscale{#1}{#2}%
16 }
17
18 \newcommand*{\scaletoheight}[2]{%
19 \sbox{\LWR@textfitbox}{#2}%
20 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
21 \LWR@textfitscale{#1}{#2}%
22 }
```

---

File 491 **lwarp-textpos.sty**

§ 600 Package **textpos**

*(Emulates or patches code by NORMAN GRAY.)*

Pkg textpos **textpos** is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{textpos}[2020/09/26]

2 \NewDocumentEnvironment{textblock}{m o r()}{}{}
3 \NewDocumentEnvironment{textblock*}{m o r()}{}{}
4 \newcommand*{\TPGrid}[3][{}]
```

---

```

5 \def\TPShowGrid{\@ifstar{\@TPShowGrid}{\@TPShowGrid}}
6 \def\@TPShowGrid#1#2{}
7 \NewDocumentCommand{\TPMargin}{s o}{}
8 \newcommand*\textblockcolour[1]{}
9 \newcommand*\textblockrulecolour[1]{}
10 \newcommand*\textblockcolor[1]{}
11 \newcommand*\textblockrulecolor[1]{}
12 \newcommand*\tekstblokkulur[1]{}
13 \newcommand*\tekstblokrulekulur[1]{}
14 \newlength{\TPHorizModule}
15 \newlength{\TPVertModule}
16 \newlength{\TPboxrulesize}
17 \newcommand*\textblocklabel[1]{}
18 \newcommand*\showtextsize{}
19 \newcommand*\textblockorigin[2]{}
20 \newcommand*\TPoptions[1]{}
21 \newcommand*\TPreferencePosition[1]{}

```

---

File 492 **lwarp-theorem.sty**

§ 601 Package **theorem**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg theorem theorem is patched for use by lwarp.

---

Table 21: Theorem package — css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader

where <theoremstyle> is plain, break, etc.

---

**for HTML output:** 1 \LWR@ProvidesPackagePass{theorem}[2014/10/28]

§ 601.1 **Remembering the theorem style**

Storage for the style being used for new theorems:

```
2 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```

3 \gdef\theoremstyle#1{%
4 \ifundefined{th@#1}{\@warning
5 {Unknown theoremstyle ‘#1’. Using ‘plain’}%
6 \theorem@style{plain}%
7 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
8 }%
9 {%

```

```

10 \theoremstyle{#1}%
11 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
12 }%
13 \begingroup
14 \csname th@the\theoremstyle \endcsname
15 \endgroup}

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

16 \gdef\xnthm#1#2[#3]{%
17 \expandafter\ifdefinable\csname #1\endcsname
18 {%
19 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
20 \definecounter{#1}\newctr{#1}[#3]%
21 \expandafter\xdef\csname the#1\endcsname
22 {\expandafter \noexpand \csname the#3\endcsname
23 \@thmcountersep \@thmcounter{#1}}}%
24 \def\@tempa{\global\@namedef{#1}}%
25 \expandafter \@tempa \expandafter{%
26 \csname th@the \theoremstyle
27 \expandafter \endcsname \the \theorem@bodyfont
28 \@thm{#1}{#2}}%
29 \global \expandafter \let \csname end#1\endcsname \@endtheorem
30 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
31 }}
32
33 \gdef\ynthm#1#2{%
34 \expandafter\ifdefinable\csname #1\endcsname
35 {
36 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
37 \definecounter{#1}%
38 \expandafter\xdef\csname the#1\endcsname{\@thmcounter{#1}}%
39 \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
40 \expandafter{\csname th@the \theoremstyle \expandafter
41 \endcsname \the\theorem@bodyfont \@thm{#1}{#2}}%
42 \global \expandafter \let \csname end#1\endcsname \@endtheorem
43 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
44 }}
45
46 \gdef\@othm#1[#2]#3{%
47 \expandafter\ifx\csname c@#2\endcsname\relax
48 \@nocounterr{#2}%
49 \else
50 \expandafter\ifdefinable\csname #1\endcsname
51 {
52 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
53 \expandafter \xdef \csname the#1\endcsname
54 {\expandafter \noexpand \csname the#2\endcsname}%
55 \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
56 \expandafter{\csname th@the \theoremstyle \expandafter
57 \endcsname \the\theorem@bodyfont \@thm{#2}{#3}}%
58 \global \expandafter \let \csname end#1\endcsname \@endtheorem
59 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
60 }%

```

```
61 \fi}
```

## § 601.2 **css patches**

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader.

```
62 \gdef\th@plain{%
63 \def\@begintheorem##1##2{%
64 \item[
65 \InlineClass{theoremheader}{##1\ ##2}
66]
67 }%
68 \def\@opargbegintheorem##1##2##3{%
69 \item[
70 \InlineClass{theoremheader}{##1\ ##2\ (##3)}
71]
72 }
73 }
74
75 \gdef\th@break{%
76 \def\@begintheorem##1##2{%
77 \item[
78 \InlineClass{theoremheader}{##1\ ##2}\newline%
79]
80 }%
81 \def\@opargbegintheorem##1##2##3{%
82 \item[
83 \InlineClass{theoremheader}{##1\ ##2\ (##3)}\newline
84]
85 }
86 }
87
88 \gdef\th@marginbreak{%
89 \def\@begintheorem##1##2{
90 \item[
91 \InlineClass{theoremheader}{##2 \quad ##1}\newline
92]
93 }%
94 \def\@opargbegintheorem##1##2##3{%
95 \item[
96 \InlineClass{theoremheader}{##2 \quad ##1\ %
97 (##3)}\newline
98]
99 }
100 }
101
102 \gdef\th@changebreak{%
103 \def\@begintheorem##1##2{
```

```

104 \item[
105 \InlineClass{theoremheader}{##2\ ##1}\newline
106]
107]%
108 \def\@opargbegintheorem##1##2##3{%
109 \item[
110 \InlineClass{theoremheader}{ ##2\ ##1\ %
111 (##3)}\newline
112]
113 }
114 }
115
116 \gdef\th@change{%
117 \def\@begintheorem##1##2{
118 \item[
119 \InlineClass{theoremheader}{##2\ ##1}
120]
121]%
122 \def\@opargbegintheorem##1##2##3{%
123 \item[
124 \InlineClass{theoremheader}{##2\ ##1\ (##3)}
125]
126]
127 }
128
129 \gdef\th@margin{%
130 \def\@begintheorem##1##2{
131 \item[
132 \InlineClass{theoremheader}{##2 \quad ##1}
133]
134]%
135 \def\@opargbegintheorem##1##2##3{%
136 \item[
137 \InlineClass{theoremheader}{##2 \quad ##1\ (##3)}
138]
139]
140 }

```

Patched for css:

```

141 \gdef\@thm#1#2{\refstepcounter{#1}%
142 \LWR@forcenewpage% lwarp

143 \LWR@printpendingfootnotes% lwarp

144 \BlockClass{theorembody\LWR@thisthmstyle}% lwarp
145 \trivlist
146 \@topsep \theorempreskipamount % used by first \item
147 \@topsepadd \theorempostskipamount % used by \@endparenv
148 \ifnextchar [%
149 {\@ythm{#1}{#2}}%
150 {\@begintheorem{#2}{\csname the#1\endcsname}\ignorespaces}}
151
152 \gdef\@endtheorem{%
153 \endtrivlist

```

```

154 \LWR@printpendingfootnotes% lwarp
155 \endBlockClass
156 }

```

---

File 493 **lwarp-thinsp.sty**

§ 602 Package **thinsp**

Pkg thinsp thinsp is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{thinsp}[2016/10/02]
2 \AtBeginDocument{
3 \let\thinthinspace\relax% defined by some packages
4 \newcommand*\thinthinspace{\thinspace}
5 }
6
7 \newcommand*\stretchthinspace{\thinspace}
8 \newcommand*\stretchthinthinspace{\thinthinspace}
9 \newcommand*\stretchnegthinspace{\negthinspace}

```

---

File 494 **lwarp-thm-listof.sty**

§ 603 Package **thm-listof**

*(Emulates or patches code by ULRICH M. SCHWARZ, YUKAI CHOU.)*

Pkg thm-listof thm-listof is part of thmtools, and is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thm-listof}[2019/12/22]

```

For font control, see the generated HTML and use CSS per amsthm or ntheorem.

Other thm-\* package may be loaded by thm-listof.

```

2 \@ifpackagelater{thm-listof}{2020/08/01}{% v0.72
3 \def\thmtlo@newentry{%
4 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
5 }
6 }{% earlier than v0.72
7 \patchcmd{\listoftheorems}
8 {%
9 \xa\protected@edef\csname l@thmt@envname\endcsname{%
10 \nx\@dottedtocline{1}{1.5em}{\nx\thmt@listnumwidth}%
11 }%
12 }
13 {%
14 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%

```

```

15 }
16 {}
17 {\LWR@patcherror{thm-listof}{listoftheorems}}
18
19 \xpatchcmd{\thmt@mklistcmd}
20 {%
21 \@xa\protected@edef\csname l@\thmt@envname\endcsname{%
22 \@nx\@dottedtocline{1}{1.5em}{\@nx\thmt@listnumwidth}%
23 }%
24 }
25 {%
26 \csdef{l@\thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
27 }
28 {}
29 {\LWR@patcherror{thm-listof}{thmt@mklistcmd}}
30 }

```

---

File 495 **lwarp-thm-restate.sty**

§ 604 Package **thm-restate**

(Emulates or patches code by ULRICH M. SCHWARZ.)

Pkg thm-restate thm-restate is part of thmtools, and is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thm-restate}[2020/08/01]
2 \xpatchcmd{\thmt@restatable}
3 {\@ifstar}
4 {\edef\LWR@thmstyle{#2}\@ifstar}
5 {}
6 {\LWR@patcherror{thm-restate}{thmt@restatable}}

```

---

File 496 **lwarp-thmbox.sty**

§ 605 Package **thmbox**

(Emulates or patches code by EMMANUEL BEFFARA.)

Pkg thmbox thmbox is emulated for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thmbox}[2005/04/24]
2 \renewenvironment{thmbox}[2][]%
3 {%
4 \begin{BlockClass}{thmbox}
5 \begin{BlockClass}{thmboxtitle}
6 #2
7 \end{BlockClass}
8 }

```



```

9 {\end{BlockClass}}
10
11 \renewenvironment{proof}[1][]
12 {%
13 \begin{BlockClass}{thmboxproof}%
14 \InlineClass{thmboxproofname}{\proofname\ #1\unskip\,;}
15 }
16 {%
17 \quad\HTMLUnicode{220E}% end of proof symbol
18 \end{BlockClass}
19 }
20
21 \renewenvironment{example}[1][\examplename]%
22 {%
23 \begin{BlockClass}{thmboxexample}%
24 \InlineClass{thmboxexamplename}{#1\,;}
25 }
26 {\end{BlockClass}}
27
28 \renewenvironment{leftbar}[1][]%
29 {\begin{BlockClass}{thmboxleftbar}}
30 {\end{BlockClass}}

```

---

File 497 **lwarp-thmtools.sty**

§ 606 Package **thmtools**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

Pkg thmtools thmtools is patched for use by lwarp.

Also see thm-listof and thm-restate.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thmtools}[2020/08/01]

The following patches either thm-amsthm or thm-ntheorem.

```

2 \def\thmt@headstyle@margin{%
3 \InlineClass{amsthmnumbertheorem}{\NUMBER}
4 \
5 \InlineClass{amsthmnametheorem}{\NAME}
6 \InlineClass{amsthmnotetheorem}{\NOTE}
7 }
8
9 \let\thmt@headstyle@swapnumber\thmt@headstyle@margin

```

---

File 498 **lwarp-threadcol.sty**

§ 607 Package **threadcol**

Pkg threadcol threadcol is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]  
2 \newcommand{\setthreadname}[1]{}

---

File 499 **lwarp-threeparttable.sty**

§ 608 Package **threeparttable**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg threeparttable **threeparttable** is emulated.

Table note are contained inside a CSS <div> of class tnotes. If `enumitem` is used, the note item labels are also individually highlighted with an additional CSS <span> of class tnoteitemheader, otherwise they are plain text.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threeparttable}[2003/06/13]

Env threeparttable [*<alignment>*]  
2 \newenvironment\*{threeparttable}[1][b]  
3 {\def\@capttype{table}}  
4 {}

Env tablenotes [*<options>*]  
5 \newenvironment\*{tablenotes}[1][  
6 {%  
7 \LWR@forcenewpage  
8 \BlockClass{tnotes}%  
9 \description%  
10 }  
11 {%  
12 \enddescription%  
13 \endBlockClass%  
14 }

\tnote {*<text>*}  
15 \newcommand{\tnote}[1]{\LWR@htmlspan{sup}{#1}}

Env measuredfigure [*<alignment>*]  
16 \newenvironment\*{measuredfigure}[1][t]  
17 {\def\@capttype{figure}}  
18 {}

File 500 **lwarp-threeparttablex.sty**

§ 609 Package **threeparttablex**

Pkg threeparttablex threeparttablex is patched for use by lwarp.

threeparttablex is used with longtable and booktabs as follows:

```

\begin{longtable}{ [column specifiers] }
[. . .] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[. . .] \endhead % or \endfirsthead
[. . .] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warpHTMLonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}

```

**table width** The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, lwarp guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

**for HTML output:** 1 \LWR@ProvidesPackagePass{threeparttablex}[2013/07/23]

The width is guessed depending on the number of columns, then limited to a min/max.

```

2 \renewcommand\insertTableNotes{%
3 \setlength{\LWR@templengthone}{.375in*\value{LWR@tabletotalLaTeXcols}}%
4 \setlength{\LWR@templengthone}{\minof{\textwidth}{\LWR@templengthone}}%
5 \setlength{\LWR@templengthone}{\maxof{2.5in}{\LWR@templengthone}}%
6 \multicolumn{\value{LWR@tabletotalLaTeXcols}}{c}{%
7 \parbox{\LWR@templengthone}{%
8 \begin{tablenotes}[\TPTL@optarg]%
9 \TPTL@font%
10 \TPTL@body%
11 \end{tablenotes}%
12 }%
13 }%
14 }

```

---

```
15 \providecommand{\TPTL@tnotex}{}
16 \renewcommand{\TPTL@tnotex}[2]{\tnote{\nameref{#2}}}
```

---

File 501 **lwarp-thumb.sty**

§ 610 Package **thumb**

Pkg thumb thumb is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thumb}[1997/12/24]

```
2 \newcommand*\Overviewpage{}
3 \newlength{\thumbheight}
4 \newlength{\thumbwidth}
```

---

File 502 **lwarp-thumbs.sty**

§ 611 Package **thumbs**

Pkg thumbs thumbs is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thumbs}[2014/03/09]

```
2 \newcommand{\addthumb}[4]{}
3 \newcommand{\addtitlethumb}[5]{}
4 \newcommand{\stopthumb}{}
5 \newcommand{\continuethumb}{}
6 \newcommand{\thumbsoverview}[1]{}
7 \newcommand{\thumbsoverviewback}[1]{}
8 \newcommand{\thumbsoverviewverso}[1]{}
9 \newcommand{\thumbsoverviewdouble}[1]{}
10 \newcommand{\thumbnewcolumn}{}
11 \newcommand{\addthumbsoverviewtocontents}[2]{}
12 \newcommand{\thumbsnophantom}{}
```


---

File 503 **lwarp-tikz.sty**

§ 612 Package **tikz**

*(Emulates or patches code by TILL TANTAU.)*

Pkg tikz tikz is supported.

 **displaymath and matrices** If using display math with tikzpicture or \tikz, along with matrices with the & character, the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of & in the tikz expression must be replaced with \&.

Accept all options for lwarp-tikz:

```
1 \LWR@ProvidesPackagePass{tikz}[2015/08/07]
```

**catcodes** **lwarp** changes the catcode of \$ for its own use. The Tikz babel library temporarily changes catcodes back to normal for Tikz's use. tikz v3.0.0 introduced the babel library which handles catcode changes. For older versions, lwarp must change \$'s catcode itself.

Also see:

<https://tex.stackexchange.com/questions/16199/test-if-a-package-or-package-option-is-loaded>

```
2 \newbool{LWR@tikzbabel}
3
4 \@ifpackagelater{tikz}{2013/12/20}% Test for Tikz version v3.0.0
5 {\usetikzlibrary{babel}\booltrue{LWR@tikzbabel}}
6 {\boolfalse{LWR@tikzbabel}}
```

Env **pgfpicture** The `\pgfpicture` environment is enclosed inside a `\lateximage`. Enclose the low-level `\pgfpicture` in a `lateximage`. This is also used by the higher-level `\tikz` and `tikzpicture`.

```
7 \preto\pgfpicture{%
8 \begin{lateximage}[-tikz-~\PackageDiagramAltText]%
9 \ifbool{LWR@tikzbabel}% Test for Tikz version v3.0.0
10 {}%
11 {\catcode'\$=3}% dollar sign is math shift
12 }
13
14 \appto\endpgfpicture{\end{lateximage}}
```

Tikz is placed inside an svg image, so use the original meanings of the following:

```
15 \LetLtxMacro\pgfutil@minipage\LWR@print@minipage
16 \let\pgfutil@endminipage\endLWR@print@minipage
17
18 \let\pgfutil@raggedleft\LWR@print@raggedleft
19 \let\pgfutil@raggedright\LWR@print@raggedright

20 \def\pgfutil@font@tiny{\LWR@print@tiny}
21 \def\pgfutil@font@scriptsize{\LWR@print@scriptsize}
22 \def\pgfutil@font@footnotesize{\LWR@print@footnotesize}
23 \def\pgfutil@font@small{\LWR@print@small}
24 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
25 \def\pgfutil@font@large{\LWR@print@large}
26 \def\pgfutil@font@Large{\LWR@print@Large}
27 \def\pgfutil@font@huge{\LWR@print@huge}
```

---

```

28 \def\pgfutil@font@Huge{\LWR@print@Huge}
29
30 \def\pgfutil@font@itshape{\LWR@print@itshape}
31 \def\pgfutil@font@bfseries{\LWR@print@bfseries}
32
33 \def\pgfutil@font@normalfont{\LWR@print@normalfont}

```

---

File 504 **lwarp-tikz-imagelabels.sty**

§ 613 Package **tikz-imagelabels**

*(Emulates or patches code by TOBIAS PLÜSS.)*

Pkg tikz-imagelabels **tikz-imagelabels** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{tikz-imagelabels}[2019/06/27]
2 \BeforeBeginEnvironment{annotationimage}{%
3 \begin{lateximage}[-tikz-imagelabels--\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{annotationimage}{\end{lateximage}}

```

---

File 505 **lwarp-titles.sty**

§ 614 Package **titles**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg titles **titles** is loaded and used by **lwarp** during HTML output. All user options and macros are ignored and disabled.

Discard all options for **lwarp-titles**:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{titles}[2016/03/15]

```

`\pagestyle` and `\thispagestyle` are already disabled in the **lwarp** code.

```

\newpagestyle {<name>} [<style>] {<commands>}
2 \NewDocumentCommand{\newpagestyle}{m o m}{}

```

```

\renewpagestyle {<name>} [<style>] {<commands>}
3 \NewDocumentCommand{\renewpagestyle}{m o m}{}

```

```

\sethead [<el>] [<ec>] [<er>] {} {<oc>} {<or>}
4 \NewDocumentCommand{\sethead}{o o o m m m}{}

```

---

|                                |                                                                                                                                                                                            |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\setfoot</code>          | <code>[\langle el \rangle] [\langle ec \rangle] [\langle er \rangle] {\langle ol \rangle} {\langle oc \rangle} {\langle or \rangle}</code><br>5 \NewDocumentCommand{\setfoot}{o o o m m}{} |
| <code>\settitledmarks</code>   | <code>* {\langle names \rangle}</code><br>6 \NewDocumentCommand{\settitledmarks}{s m}{}                                                                                                    |
| <code>\headrule</code>         | 7 \newcommand*{\headrule}{}{}<br>7 \newcommand*{\headrule}{}{}                                                                                                                             |
| <code>\footrule</code>         | 8 \newcommand*{\footrule}{}{}                                                                                                                                                              |
| <code>\setheadrule</code>      | <code>{\langle length \rangle}</code><br>9 \newcommand*{\setheadrule}[1]{}{}                                                                                                               |
| <code>\setfootrule</code>      | <code>{\langle length \rangle}</code><br>10 \newcommand*{\setfootrule}[1]{}{}                                                                                                              |
| <code>\makeheadrule</code>     | 11 \newcommand*{\makeheadrule}{}{}                                                                                                                                                         |
| <code>\makefootrule</code>     | 12 \newcommand*{\makefootrule}{}{}                                                                                                                                                         |
| <code>\setmarkboth</code>      | <code>{\langle code \rangle}</code><br>13 \newcommand{\setmarkboth}[1]{}{}                                                                                                                 |
| <code>\widenhead</code>        | 14 \NewDocumentCommand{\widenhead}{s o o m m}{}                                                                                                                                            |
| <code>\bottitledmarks</code>   | 15 \newcommand*{\bottitledmarks}{}{}                                                                                                                                                       |
| <code>\toptitledmarks</code>   | 16 \newcommand*{\toptitledmarks}{}{}                                                                                                                                                       |
| <code>\firsttitledmarks</code> | 17 \newcommand*{\firsttitledmarks}{}{}                                                                                                                                                     |

|                               |                                                                                                                                                      |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\nexttitlemarks</code>  |                                                                                                                                                      |
|                               | 18 <code>\newcommand*{\nexttoptitlemarks}{}{}</code>                                                                                                 |
| <code>\outertitlemarks</code> |                                                                                                                                                      |
|                               | 19 <code>\newcommand*{\outertitlemarks}{}{}</code>                                                                                                   |
| <code>\innertitlemarks</code> |                                                                                                                                                      |
|                               | 20 <code>\newcommand*{\innertitlemarks}{}{}</code>                                                                                                   |
| <code>\newtitlemark</code>    | <code>* {&lt;name&gt;}</code>                                                                                                                        |
|                               | 21 <code>\NewDocumentCommand{\newtitlemark}{s m}{}{}</code>                                                                                          |
| <code>\pretitlemark</code>    | <code>* {&lt;section&gt;} {&lt;text&gt;}</code>                                                                                                      |
|                               | 22 <code>\NewDocumentCommand{\pretitlemark}{s m m}{}{}</code>                                                                                        |
| <code>\ifsamemark</code>      | <code>{&lt;group&gt;} {&lt;command&gt;} {&lt;&gt;true&gt;} {&lt;&gt;false&gt;}</code>                                                                |
|                               | 23 <code>\newcommand{\ifsamemark}[4]{}{}</code>                                                                                                      |
| <code>\setfloathead</code>    | <code>* [ &lt;.&gt; ] [ &lt;.&gt; ] [ &lt;.&gt; ] { &lt;.&gt; } { &lt;.&gt; } { &lt;.&gt; } { &lt;.&gt; } { &lt;extra&gt; } [ &lt;which&gt; ]</code> |
|                               | 24 <code>\NewDocumentCommand{\setfloathead}{s o o o m m m m}{}{}</code>                                                                              |
| <code>\setfloatfoot</code>    | <code>* [ &lt;.&gt; ] [ &lt;.&gt; ] [ &lt;.&gt; ] { &lt;.&gt; } { &lt;.&gt; } { &lt;.&gt; } { &lt;.&gt; } { &lt;extra&gt; } [ &lt;which&gt; ]</code> |
|                               | 25 <code>\NewDocumentCommand{\setfloatfoot}{s o o o m m m m}{}{}</code>                                                                              |
| <code>\nextfloathead</code>   | <code>* [ &lt;.&gt; ] [ &lt;.&gt; ] [ &lt;.&gt; ] { &lt;.&gt; } { &lt;.&gt; } { &lt;.&gt; } { &lt;.&gt; } { &lt;extra&gt; } [ &lt;which&gt; ]</code> |
|                               | 26 <code>\NewDocumentCommand{\nextfloathead}{s o o o m m m m}{}{}</code>                                                                             |
| <code>\nextfloatfoot</code>   | <code>* [ &lt;.&gt; ] [ &lt;.&gt; ] [ &lt;.&gt; ] { &lt;.&gt; } { &lt;.&gt; } { &lt;.&gt; } { &lt;.&gt; } { &lt;extra&gt; } [ &lt;which&gt; ]</code> |
|                               | 27 <code>\NewDocumentCommand{\nextfloatfoot}{s o o o m m m m}{}{}</code>                                                                             |
| <code>\newmarkset</code>      | <code>{&lt;markset&gt;}</code>                                                                                                                       |
|                               | 28 <code>\newcommand{\newmarkset}[1]{}{}</code>                                                                                                      |
| <code>\newextramark</code>    | <code>* {&lt;markset&gt;} {&lt;macro-name&gt;}</code>                                                                                                |
|                               | 29 <code>\NewDocumentCommand{\newextramarkset}{s m m}{}{}</code>                                                                                     |
| <code>\botextramarks</code>   | <code>{&lt;markset&gt;}</code>                                                                                                                       |
|                               | 30 <code>\newcommand{\botextramarks}[1]{}{}</code>                                                                                                   |



```

\topextramarks {<markset>}
 31 \newcommand{\topextramarks}[1]{}

\firstextramarks {<markset>}
 32 \newcommand{\firstextramarks}[1]{}

\nextextramarks {<markset>}
 33 \newcommand{\nexttopextramarks}[1]{}

\outerextramarks {<markset>}
 34 \newcommand{\outerextramarks}[1]{}

\innerextramarks {<markset>}
 35 \newcommand{\innerextramarks}[1]{}

```

---

File 506 **lwarp-titleref.sty**

§ 615 Package **titleref**

Pkg titleref titleref is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{titleref}[2001/04/05]
2
3 \LetLtxMacro\titleref\nameref
4
5 \providecounter{LWR@currenttitle}
6
7 \newcommand*{\currenttitle}{%
8 \addtocounter{LWR@currenttitle}{1}%
9 \label{currenttitle\arabic{LWR@currenttitle}}%
10 \nameref{currenttitle\arabic{LWR@currenttitle}}%
11 }
12
13 \newcommand*{\theTitleReference}[2]{}

```

---

File 507 **lwarp-titlesec.sty**

§ 616 Package **titlesec**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg titlesec titlesec is emulated. All user options and macros are ignored and disabled.

Discard all options for lwarp-titlesec:

```

for HTML output: 1 \PackageInfo{lwarp}{Using the lwarp version of package 'titlesec'.}%
2 \ProvidesPackage{lwarp-titlesec}[2016/03/21]
3
4 \newbool{LWR@loadtitleps}
5 \boolfalse{LWR@loadtitleps}
6
7 \DeclareOption{pagestyles}{
8 \booltrue{LWR@loadtitleps}
9 }
10
11 \DeclareOption*{}
12
13 \ProcessOptions\relax
14
15 \ifbool{LWR@loadtitleps}{
16 \RequirePackage{lwarp-titleps}
17 }{}

\titlelabel {\langle label-format \rangle}
18 \newcommand*{\titlelabel}[1]{}

\titleformat* {\langle command \rangle} {\langle format \rangle}

\titleformat {\langle command \rangle} [\langle shape \rangle] {\langle format \rangle} {\langle label \rangle} {\langle sep \rangle} {\langle before \rangle} [\langle after \rangle]
19 \newcommand\titleformat{%
20 \@ifstar{\ttl@format@s}%
21 {\ttl@format@i}}
22 \newcommand{\ttl@format@s}[1]{}
23 \NewDocumentCommand{\ttl@format@i}{m o m m m o}{}

\chaptertitlename
24 \@ifundefined{@chapapp}{\let\@chapapp\chaptername}{}
25 \newcommand\chaptertitlename{\@chapapp}

\titlespacing * {\langle command \rangle} {\langle left \rangle} {\langle before \rangle} {\langle after \rangle} [\langle right \rangle]
26 \NewDocumentCommand{\titlespacing}{s m m m m o}{}

\filright
27 \newcommand*{\filright}{}

\filcenter
28 \newcommand*{\filcenter}{}

\filleft
29 \newcommand*{\filleft}{}

```

```

\fillast
30 \newcommand*\fillast{}

\filinner
31 \newcommand*\filinner{}

\filouter
32 \newcommand*\filouter{}

\wordsep
33 \newcommand\wordsep{\fontdimen\tw@\font \@plus
34 \fontdimen\thr@\font \@minus \fontdimen4\font}

\titeline * [align] {material}
35 \NewDocumentCommand\titeline{s o m}{}

\titlerule [height]
36 \providecommand\titlerule{\@ifstar\ttl@row\ttl@rule}
37 \newcommand\ttl@rule[1]{}
38 \newcommand\ttl@row[2]{}

\iftitlemeasuring {true} {false}
39 \newcommand\iftitlemeasuring[2]{#2}

\assignpagestyle {command} {pagestyle}
40 \newcommand\assignpagestyle[2]{#2}

\titleclass {name} [startlevel] {class} [cmd]
41 \NewDocumentCommand\titleclass{m o m o}{}

```

File 508 **lwarp-titletoc.sty**

§ 617 Package **titletoc**

(Emulates or patches code by JAVIER BEZOS.)

Pkg titletoc titletoc is emulated. All user options and macros are ignored and disabled.

Discard all options for lwarp-titletoc:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{titletoc}[2011/12/15]

|                                |                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\dottedcontents</code>   | <pre>{&lt;section&gt;} [&lt;left&gt;] {&lt;above&gt;} {&lt;label&gt;} {&lt;leader&gt;} 2 \NewDocumentCommand{\dottedcontents}{m o m m m}{}</pre>                                                                                                                                                                                                                   |
| <code>\titlecontents</code>    | <pre>* {&lt;section&gt;} [&lt;left&gt;] {&lt;above&gt;} {&lt;numbered&gt;} {&lt;numberless&gt;} {&lt;filler&gt;} [&lt;below or begin&gt;] [&lt;separator&gt;] [&lt;end&gt;] 3 \newcommand{\titlecontents}{\@ifstar{\ttl@tcstar}{\ttl@tcnostar}} 4 \NewDocumentCommand{\ttl@tcstar}{m o m m m o o o}{} 5 \NewDocumentCommand{\ttl@tcnostar}{m o m m m m o}{} </pre> |
| <code>\contentsmargin</code>   | <pre>[&lt;correction&gt;] {&lt;right&gt;} 6 \newcommand{\contentsmargin}[2][{}]</pre>                                                                                                                                                                                                                                                                              |
| <code>\thecontentslabel</code> | <pre>7 \newcommand*{\thecontentslabel}{thecontentslabel}</pre>                                                                                                                                                                                                                                                                                                     |
| <code>\thecontentspage</code>  | <pre>8 \newcommand*{\thecontentspage}{thecontentspage}</pre>                                                                                                                                                                                                                                                                                                       |
| <code>\contentslabel</code>    | <pre>[&lt;format&gt;] {&lt;space&gt;} 9 \newcommand{\contentslabel}[2][{}]{\thecontentslabel}</pre>                                                                                                                                                                                                                                                                |
| <code>\contentspage</code>     | <pre>[&lt;format&gt;] 10 \newcommand{\contentspage}[1][{}]{\thecontentspage}</pre>                                                                                                                                                                                                                                                                                 |
| <code>\contentspush</code>     | <pre>{&lt;text&gt;} 11 \newcommand{\contentspush}[1]{} </pre>                                                                                                                                                                                                                                                                                                      |
| <code>\contentsuse</code>      | <pre>{&lt;name&gt;} {&lt;text&gt;} 12 \newcommand{\contentsuse}[2]{} </pre>                                                                                                                                                                                                                                                                                        |
| <code>\startcontents</code>    | <pre>[&lt;name&gt;] 13 \newcommand*{\startcontents}[1][{}]</pre>                                                                                                                                                                                                                                                                                                   |
| <code>\stopcontents</code>     | <pre>[&lt;name&gt;] 14 \newcommand*{\stopcontents}[1][{}]</pre>                                                                                                                                                                                                                                                                                                    |
| <code>\resumecontents</code>   | <pre>[&lt;name&gt;] 15 \newcommand*{\resumecontents}[1][{}]</pre>                                                                                                                                                                                                                                                                                                  |

```

\printcontents [<name>] {<prefix>} {<start>} {<code>}
16 \newcommand{\printcontents}[4][{}

\startlist [<name>] {<list>}
17 \newcommand{\startlist}[2][{}

\stoplist [<name>] {<list>}
18 \newcommand{\stoplist}[2][{}

\resumelist [<name>] {<list>}
19 \newcommand{\resumelist}[2][{}

\printlist [<name>] {<list>} {<prefix>} {<code>}
20 \newcommand{\printlist}[4][{}

```

File 509 **lwarp-titling.sty**

§ 618 Package **titling**

(Emulates or patches code by PETER WILSON.)

Pkg titling

**package support** lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages  
**△ load order** authblk and titling. If both are used, authblk should be loaded before titling.

**\published and \subtitle** If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 69.8.

The various titling footnote restyling commands have no effect.

Pass all options to lwarp-titling:

**for HTML output:** 1 \LWR@ProvidesPackagePass{titling}[2009/09/04]

**\@bsmtitleempty** Patch \@bsmtitleempty:

```

2 \let\LWR@orig@bsmtitleempty\@bsmtitleempty
3 \renewcommand*{\@bsmtitleempty}{%
4 \LWR@orig@bsmtitleempty%
5 }

```

**\keepthetitle** Patch \keepthetitle:

```

6 \let\LWR@origkeepthetitle\keepthetitle
7 \renewcommand*{\keepthetitle}{%
8 \LWR@orig@keepthetitle%
9 }

```

`\killtitle` Patch `\killtitle`:

```
10 \let\LWR@origkilltitle\killtitle
11 \renewcommand*{\killtitle}{%
12 \LWR@orig@killtitle%
13 }
```

Env `titlingpage`

```
14 \renewenvironment*{titlingpage}
15 {%
```

Start an HTML titlepage div:

```
16 \LWR@printpendingfootnotes
17 \begin{titlepage}
```

Prepare for a custom version of `\maketitle` inside the `titlingpage`:

```
18 \LWR@maketitlesetup
19 \let\maketitle\LWR@titlingmaketitle
20 }
21 {
```

At the end of the environment, end the HTML titlepage div:

```
22 \end{titlepage}
23 }
```

Patch the `pre/post title/author/date` to add HTML tags, then initialize:

```
24 \AtBeginDocument{
25 \pretitle{}
26 \posttitle{}
27
28 \preauthor{}
29 \postauthor{}
30
31 \predate{}
32 \postdate{}
33 }
```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```
34 \renewcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
35 \def\@makefnmark{\@thefnmark}%

 \thefootnote ⇒ \nameuse{arabic}{footnote}, or
 \thefootnote ⇒ \nameuse{fnsymbol}{footnote}
```

Redefine the footnote text:

```
36 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
37 \makethanksmark~%
```

```
\makethanksmark ⇒ \thanksfootmark ⇒ \tamark ⇒
\@thefnmark ⇒ \itshape a (or similar)
```

Print the text:

```
38 ##1%
39 }% \@makefntext
40 }
```

`\thanksfootmark`

```
41 \renewcommand{\thanksfootmark}{%
42 % \hb@xt@{\thanksmarkwidth}{\hfil\normalfont%
43 \thanksscript{%
44 \thanksfootpre \tamark \thanksfootpost%
45 }%
46 % }%
47 }
```

`\maketitle` HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the titling package is adapted, simplified, and modified for HTML output.

```
48 \renewcommand*\maketitle{%
```

An HTML titlepage `<div>` is used for all classes.

```
49 \begin{titlepage}
```

Select which kind of footnote marks to use:

```
50 \@bsmarkseries
```

Set up special patches:

```
51 \LWR@maketitlesetup
```

Typeset the title, etc:

```
52 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
53 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div:

```
54 \end{titlepage}
```

Reset the footnote counter:

```
55 \@bscontmark
56 }
```

`\@maketitle` Typesets the title, etc. Patched for HTML.

```
57 \DeclareDocumentCommand{\@maketitle}{}{%
58 \maketitlehooka
59 {
60 \LWR@stoppars\LWR@htmltag{\LWR@tagtitle}%
61 \@bsprefixtitle \@title \@bsprefixtitle%
62 \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars%
63 }
64 \maketitlehookb
65 {
66 \begin{BlockClass}{author}
67 \renewcommand{\and}{%
68 \end{BlockClass}%
69 \begin{BlockClass}{oneauthor}%
70 }
71 \begin{BlockClass}{oneauthor}%
72 \@bsprefixauthor \@author \@bsprefixauthor%
73 \end{BlockClass}%
74 \end{BlockClass}%
75 }
76 \maketitlehookc
77 {
78 \begin{BlockClass}{titledate}%
79 \@bsprefixdate \@date \@bsprefixdate%
80 \end{BlockClass}%
81 }
82 \maketitlehookd
83 }
```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```
84 \renewcommand*\LWR@titlingmaketitle{%
```

Keep pending footnotes out of the title block:

```
85 \LWR@stoppars\@thanks\LWR@startpars
```

Select which kind of footnote marks to use:

```
86 \@bsmarkseries
```

Set up special patches:

```
87 \LWR@maketitlesetup
```



Typeset the title, etc:

```
88 \@maketitle
```

Immediately generate any \thanks footnotes:

```
89 \LWR@stoppars\@thanks\LWR@startpars
```

Reset the footnote counter:

```
90 \@bscontmark
91 }
```

```
\thanksmarkseries {{series}}
```

Sets the type of footnote marks used by \thanks, where type is ‘arabic’, ‘roman’, ‘fn-symbol’, etc.

```
92 \renewcommand{\thanksmarkseries}[1]{%
93 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}%
94 }
```

Set default titlepage thanks footnote marks. See section [69.7](#).

```
95 \@ifclassloaded{memoir}{
96 \thanksmarkseries{arabic}
97 }{% not memoir
98 \if@titlepage
99 \thanksmarkseries{arabic}
100 \else
101 \thanksmarkseries{fnsymbol}
102 \fi
103 }% not memoir
```

---

File 510 **lwarp-tocbasic.sty**

§ 619 Package **tocbasic**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg tocbasic tocbasic is nullified for lwarp.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tocbasic}[2018/12/30]

```
2 \DeclareDocumentCommand{\usetocbasicnumberline}{o}{}
3 \DeclareDocumentCommand{\DeclareTOCStyleEntry}{o m}{}

```

---

```

4 \DeclareDocumentCommand{\DeclareTOCStyleEntries}{o m m}{}
5 \DeclareDocumentCommand{\DeclareTOCEntryStyle}{m o m}{}
6 \DeclareDocumentCommand{\DefineTOCEntryOption}{m o m}{}
7 \DeclareDocumentCommand{\DefineTOCEntryBooleanOption}{m o m m m}{}
8 \DeclareDocumentCommand{\DefineTOCEntryCommandOption}{m o m m m}{}
9 \DeclareDocumentCommand{\DefineTOCEntryIfOption}{m o m m m}{}
10 \DeclareDocumentCommand{\DefineTOCEntryLengthOption}{m o m m m}{}
11 \DeclareDocumentCommand{\DefineTOCEntryNumberOption}{m o m m m}{}
12 \DeclareDocumentCommand{\CloneTOCEntryStyle}{m m}{}
13 \DeclareDocumentCommand{\TOCEntryStyleInitCode}{m m}{}
14 \DeclareDocumentCommand{\TOCEntryStyleStartInitCode}{m m}{}

```

---

File 511 **lwarp-tocbibind.sty**

§ 620 Package **tocbibind**

*(Emulates or patches code by PETER WILSON.)*

Pkg tocbibind tocbibind is patched for use by lwarp.

[placement and toc options](#) An index may be placed inline with other HTML text, or on its own HTML page:

Pkg makeidx **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a  $\LaTeX$  document:

```

\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex

```

Pkg makeidx **On its own HTML page, with a manual toc entry:**

```

\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex

```

Pkg tocbibind **Inline, with an automatic toc entry:**

The tocbibind package may be used to automatically place an entry in the toc.

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

Pkg tocbibind **On its own HTML page, with an automatic toc entry:**

```

\usepackage[nottoc]{tocbibind}
. . .
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex

```

Opt [tocbibind] numindex  
numbered index section

Use the `tocbibind` `numindex` option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.

for HTML output:

```

1 \let\simplechapterdelim\relax
2
3 \LWR@ProvidesPackagePass{tocbibind}[2010/10/13]

4 \renewenvironment{theindex}%
5 {%
6 \if@bibchapter
7 \if@donumindex
8 \chapter{\indexname}
9 \else
10 \if@dotocind
11 \chapter*{\indexname}
12 \addcontentsline{toc}{chapter}{\LWR@isolate{\indexname}}
13 \else
14 \chapter*{\indexname}
15 \fi
16 \fi
17 \else
18 \if@donumindex
19 \section{\indexname}
20 \else
21 \if@dotocind
22 \section*{\indexname}
23 \addcontentsline{toc}{\@tocextra}{\LWR@isolate{\indexname}}
24 \else
25 \section*{\indexname}
26 \fi
27 \fi
28 \fi
29 \let\item\LWR@indexitem%
30 \let\subitem\LWR@indexsubitem%
31 \let\subsubitem\LWR@indexsubsubitem%
32 }{}

```

The following code is shared by `anonchap`.

```

33 \DeclareDocumentCommand{\simplechapter}{0{\@empty}}{%
34 \def\@chapcntformat##1{%
35 #1~\csname the##1\endcsname\simplechapterdelim\quad%
36 }%
37 }

```

```

38
39 \DeclareDocumentCommand{\restorechapter}{}{}{%
40 \let\@chapcntformat\@secCNTformat%
41 }

```

---

File 512 **lwarp-tocdata.sty**

§ 621 Package **tocdata**

(Emulates or patches code by BRIAN DUNN.)

Pkg tocdata tocdata is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{tocdata}[2019/07/06]

2 \renewcommand*{\LWR@maybetocdata}{%
3 \ifdefempty{\TD@thistocdata}{}{}%
4 \quad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}%
5 \def\TD@thistocdata{}
6 }
7 }

8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10 \InlineClass{authorartist}{%
11 \quad --- %
12 \TDoptionalnameprint{#1}\TDoptionalnameprint{#2}#3#4%
13 }%
14 }
15
16 \ifundefined{chapter}{}{
17 \let\tocdatachapterprint\tocdatapartprint
18 }
19 \let\tocdatasectionprint\tocdatapartprint
20 \let\tocdatasubsectionprint\tocdatapartprint
21
22 \newcommand*{\LWR@TD@settextalign}[1]{%
23 \def\LWR@TD@textalign{justify}%
24 \ifcsstring{TD@#1align}{\centering}%
25 {\def\LWR@TD@textalign{center}}%
26 }%
27 \ifcsstring{TD@#1align}{\raggedleft}%
28 {\def\LWR@TD@textalign{right}}%
29 }%
30 \ifcsstring{TD@#1align}{\raggedright}%
31 {\def\LWR@TD@textalign{left}}%
32 }%
33 }
34
35 \renewcommand{\TDartistauthorprint}[5]{%
36 \LWR@TD@settextalign{#1}%
37 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%

```

```

38 \InlineClass{authorartist}{\TDOptionalnameprint{#2}\TDOptionalnameprint{#3}#4#5}%
39 \end{BlockClass}%
40 }
41
42 \newcommand*{\LWR@TD@setnamealign}[1]{%
43 \def\LWR@TD@textalign{justify}%
44 \ifcsstring{TD#1textalign}{\centering}%
45 {\def\LWR@TD@textalign{center}}%
46 }%
47 \ifcsstring{TD#1textalign}{\raggedleft}%
48 {\def\LWR@TD@textalign{right}}%
49 }%
50 \ifcsstring{TD#1textalign}{\raggedright}%
51 {\def\LWR@TD@textalign{left}}%
52 }%
53 }
54
55 \renewcommand{\TDartistauthortextprint}[2]{%
56 \LWR@TD@setnamealign{#1}%
57 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58 #2%
59 \end{BlockClass}%
60 }

```

---

File 513 **lwarp-tocenter.sty**

§ 622 Package **tocenter**

Pkg tocenter tocenter is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tocenter}[2004/12/09]
2 \NewDocumentCommand{\ToCenter}{s o m m}{}
3 \NewDocumentCommand{\FromMargins}{s o m m m}{}

```

---

File 514 **lwarp-tocloft.sty**

§ 623 Package **tocloft**

*(Emulates or patches code by PETER WILSON.)*

Pkg tocloft tocloft is emulated. Most user options and macros are ignored and disabled. `\newlistof` and `\cftchapterprecis` are supported.

Pkg tocloft If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its `titles` option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

 **tocloft & other packages**

Discard all options for `lwarp-tocloft`:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tocloft}[2017/08/31]

```

---

|                                |                                                    |
|--------------------------------|----------------------------------------------------|
| <code>\tocloftpagestyle</code> | <code>{&lt;style&gt;}</code>                       |
|                                | 2 <code>\newcommand{\tocloftpagestyle}[1]{}</code> |
| <code>\cftmarktoc</code>       |                                                    |
|                                | 3 <code>\newcommand*\cftmarktoc{}</code>           |
| <code>\cfttoctitlefont</code>  |                                                    |
|                                | 4 <code>\newcommand*\cfttoctitlefont{}</code>      |
| <code>\cftaftertoctitle</code> |                                                    |
|                                | 5 <code>\newcommand*\cftaftertoctitle{}</code>     |
|                                | 6 <code>\newlength{\cftbeforetoctitleskip}</code>  |
|                                | 7 <code>\newlength{\cftaftertoctitleskip}</code>   |
| <code>\cftmarklof</code>       |                                                    |
|                                | 8 <code>\newcommand*\cftmarklof{}</code>           |
| <code>\cftloftitlefont</code>  |                                                    |
|                                | 9 <code>\newcommand*\cftloftitlefont{}</code>      |
| <code>\cftafterloftitle</code> |                                                    |
|                                | 10 <code>\newcommand*\cftafterloftitle{}</code>    |
|                                | 11 <code>\newlength{\cftbeforeloftitleskip}</code> |
|                                | 12 <code>\newlength{\cftafterloftitleskip}</code>  |
| <code>\cftmarklot</code>       |                                                    |
|                                | 13 <code>\newcommand*\cftmarklot{}</code>          |
| <code>\cftlottitlefont</code>  |                                                    |
|                                | 14 <code>\newcommand*\cftlottitlefont{}</code>     |
| <code>\cftafterlottitle</code> |                                                    |
|                                | 15 <code>\newcommand*\cftafterlottitle{}</code>    |
|                                | 16 <code>\newlength{\cftbeforelottitleskip}</code> |
|                                | 17 <code>\newlength{\cftafterlottitleskip}</code>  |

```

\cftdot
18 \providecommand*\cftdot}{.}

\cftdotsep
19 \providecommand*\cftdotsep}{1}

\cftnodots
20 \providecommand*\cftnodots}{5000}

\cftdotfill {<sep>}
21 \providecommand\cftdotfill}[1]{

\cftsetpnumwidth {<length>}
22 \DeclareDocumentCommand\cftsetpnumwidth}{m}{

\cftsetrmarg {<length>}
23 \DeclareDocumentCommand\cftsetrmarg}{m}{

\cftpnumalign {<alignment>}
24 \DeclareDocumentCommand\cftpnumalign}{m}{

25 \LWR@providelength\cftparskip}

```

The part-related items are also provided by memoir:

```

26 \LWR@providelength\cftbeforepartskip}
27 \LWR@providelength\cftpartindent}
28 \LWR@providelength\cftpartnumwidth}
29 \providecommand*\cftpartfont}{
30 \providecommand*\cftpartpresnum}{
31 \providecommand*\cftpartaftersnum}{
32 \providecommand*\cftpartaftersnumb}{
33 \providecommand*\cftpartleader}{
34 \providecommand*\cftpartdotsep}{1}
35 \providecommand*\cftpartpagefont}{
36 \providecommand*\cftpartafterpnum}{

```

memoir uses the full name “chapter” instead of “chap”:

```

37 \LWR@providelength\cftbeforechapskip}
38 \LWR@providelength\cftchapindent}
39 \LWR@providelength\cftchapnumwidth}
40 \newcommand*\cftchapfont}{
41 \newcommand*\cftchappresnum}{
42 \newcommand*\cftchapaftersnum}{
43 \newcommand*\cftchapaftersnumb}{

```

```

44 \newcommand*\cftchapleader{}
45 \newcommand*\cftchapdotsep{1}
46 \newcommand*\cftchappagefont{}
47 \newcommand*\cftchapafterpnum{}

```

The following do not appear in memoir:

```

48 \LWR@providelength{\cftbeforesecskip}
49 \LWR@providelength{\cftsecindent}
50 \LWR@providelength{\cftsecnumwidth}
51 \newcommand*\cftsecfont{}
52 \newcommand*\cftsecpresnum{}
53 \newcommand*\cftsecaftersnum{}
54 \newcommand*\cftsecaftersnumb{}
55 \newcommand*\cftsecleader{}
56 \newcommand*\cftsecdotsep{1}
57 \newcommand*\cftsecpagefont{}
58 \newcommand*\cftsecafterpnum{}

```

```

59 \LWR@providelength{\cftbeforesubsecskip}
60 \LWR@providelength{\cftsubsecindent}
61 \LWR@providelength{\cftsubsecnumwidth}
62 \newcommand*\cftsubsecfont{}
63 \newcommand*\cftsubsecpresnum{}
64 \newcommand*\cftsubsecaftersnum{}
65 \newcommand*\cftsubsecaftersnumb{}
66 \newcommand*\cftsubsecleader{}
67 \newcommand*\cftsubsecdotsep{1}
68 \newcommand*\cftsubsecpagefont{}
69 \newcommand*\cftsubsecafterpnum{}

```

```

70 \LWR@providelength{\cftbeforesubsubsecskip}
71 \LWR@providelength{\cftsubsubsecindent}
72 \LWR@providelength{\cftsubsubsecnumwidth}
73 \newcommand*\cftsubsubsecfont{}
74 \newcommand*\cftsubsubsecpresnum{}
75 \newcommand*\cftsubsubsecaftersnum{}
76 \newcommand*\cftsubsubsecaftersnumb{}
77 \newcommand*\cftsubsubsecleader{}
78 \newcommand*\cftsubsubsecdotsep{1}
79 \newcommand*\cftsubsubsecpagefont{}
80 \newcommand*\cftsubsubsecafterpnum{}

```

```

81 \LWR@providelength{\cftbeforeparaskip}
82 \LWR@providelength{\cftparaindent}
83 \LWR@providelength{\cftparanumwidth}
84 \newcommand*\cftparafont{}
85 \newcommand*\cftparapresnum{}
86 \newcommand*\cftparaaftersnum{}
87 \newcommand*\cftparaaftersnumb{}
88 \newcommand*\cftparaleader{}
89 \newcommand*\cftparadotsep{1}
90 \newcommand*\cftparapagefont{}
91 \newcommand*\cftparaafterpnum{}

```



```
92 \LWR@providelength{\cftbeforeparaskip}
93 \LWR@providelength{\cftsubparaindent}
94 \LWR@providelength{\cftsubparanumwidth}
95 \newcommand*\cftsubparafont{}
96 \newcommand*\cftsubparapresnum{}
97 \newcommand*\cftsubparaaftersnum{}
98 \newcommand*\cftsubparaaftersnumb{}
99 \newcommand*\cftsubparaleader{}
100 \newcommand*\cftsubparadotsep{1}
101 \newcommand*\cftsubparapagefont{}
102 \newcommand*\cftsubparaafterpnum{}

103 \LWR@providelength{\cftbeforefigskip}
104 \LWR@providelength{\cftfigindent}
105 \LWR@providelength{\cftfignumwidth}
106 \newcommand*\cftfigfont{}
107 \newcommand*\cftfigpresnum{}
108 \newcommand*\cftfigaftersnum{}
109 \newcommand*\cftfigaftersnumb{}
110 \newcommand*\cftfigleader{}
111 \newcommand*\cftfigdotsep{1}
112 \newcommand*\cftfigpagefont{}
113 \newcommand*\cftfigafterpnum{}

114 \LWR@providelength{\cftbeforesubfigskip}
115 \LWR@providelength{\cftsubfigindent}
116 \LWR@providelength{\cftsubfignumwidth}
117 \newcommand*\cftsubfigfont{}
118 \newcommand*\cftsubfigpresnum{}
119 \newcommand*\cftsubfigaftersnum{}
120 \newcommand*\cftsubfigaftersnumb{}
121 \newcommand*\cftsubfigleader{}
122 \newcommand*\cftsubfigdotsep{1}
123 \newcommand*\cftsubfigpagefont{}
124 \newcommand*\cftsubfigafterpnum{}

125 \LWR@providelength{\cftbeforetabskip}
126 \LWR@providelength{\cfttabindent}
127 \LWR@providelength{\cfttabnumwidth}
128 \newcommand*\cfttabfont{}
129 \newcommand*\cfttabpresnum{}
130 \newcommand*\cfttabaftersnum{}
131 \newcommand*\cfttabaftersnumb{}
132 \newcommand*\cfttableader{}
133 \newcommand*\cfttabdotsep{1}
134 \newcommand*\cfttabpagefont{}
135 \newcommand*\cfttabafterpnum{}

136 \LWR@providelength{\cftbeforesubtabskip}
137 \LWR@providelength{\cftsubtabindent}
138 \LWR@providelength{\cftsubtabnumwidth}
139 \newcommand*\cftsubtabfont{}
140 \newcommand*\cftsubtabpresnum{}
141 \newcommand*\cftsubtabaftersnum{}
142 \newcommand*\cftsubtabaftersnumb{}
```

```

143 \newcommand*\cftsubtableader{}
144 \newcommand*\cftsubtabdotsep}{1}
145 \newcommand*\cftsubtabpagefont}{}
146 \newcommand*\cftsubtabafterpnum}{}

147 \DeclareDocumentCommand{\cftsetindents}{m m m}{}

148 \providecommand{\cftpagenumbersoff}[1]{}
149 \providecommand{\cftpagenumberson}[1]{}

```

`\newlistentry` [*<within>*] [*<counter>*] [*<ext>*] [*<level-1>*]

```

150 \DeclareDocumentCommand{\newlistentry}{o m m m}
151 {%
152 \LWR@traceinfo{newlistentry #2 #3 #4}%
153 \IfValueTF{#1}%
154 {%
155 \@ifundefined{c@#2}{%
156 \newcounter{#2}[#1]%
157 \expandafter\edef\csname the#2\endcsname{%
158 \expandafter\noexpand\csname the#1\endcsname.\noexpand\arabic{#2}%
159 }%
160 }{}%
161 }%
162 {%
163 \@ifundefined{c@#2}{%
164 \newcounter{#2}%
165 }{}%
166 }%
167 \@namedef{l@#2}##1##2{%
168 \hypertocfloat{1}{#2}{#3}{##1}{##2}%
169 \def\cftwhatismyname{#2}% from memoir
170 }%
171 \expandafter\newlength\csname cftbefore#2skip\endcsname%
172 \expandafter\newlength\csname cft#2indent\endcsname%
173 \expandafter\newlength\csname cft#2numwidth\endcsname%
174 \@namedef{cft#2font}{}%
175 \@namedef{cft#2presnum}{}%
176 \@namedef{cft#2aftersnum}{}%
177 \@namedef{cft#2aftersnumb}{}%
178 \@namedef{cft#2leader}{}%
179 \@namedef{cft#2dotsep}{1}%
180 \@namedef{cft#2pagefont}{}%
181 \@namedef{cft#2afterpnum}{}%
182 \@namedef{toclevel@#2}{#4}%
183 \@namedef{cft#2fillnum}##1{}%
184 \LWR@traceinfo{newlistentry done}%
185 }

```

`\newlistof` [*<within>*] [*<type>*] [*<ext>*] [*<listofname>*]

Emulated through the `\newfloat` mechanism.

```

186 \DeclareDocumentCommand{\newlistof}{o m m m}

```

```

187 {%
188 \IfValueTF{#1}%
189 {\newlistentry[#1]{#2}{#3}{0}}%
190 {\newlistentry{#2}{#3}{0}}%
191 \@namedef{ext@#2}{#3}%
192 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
193 \setcounter{#3depth}{1}%
194 \@namedef{cftmark#3}{}%
195 \@namedef{listof#2}{\LWR@listof{#2}{#4}}%
196 \@namedef{cftmake#3title}{}%
197 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
198 \expandafter\newlength\csname cftafter#3titleskip\endcsname%
199 \@namedef{cft#3titlefont}{}%
200 \@namedef{cftafter#3title}{}%
201 \@namedef{cft#3prehook}{}%
202 \@namedef{cft#3posthook}{}%
203 }

```

`\cftchapterprecis`     $\langle text \rangle$

```

204 \newcommand{\cftchapterprecis}[1]{%
205 \cftchapterprecishere{#1}
206 \cftchapterprecistoc{#1}}
207 \newcommand{\cftchapterprecishere}[1]{%
208 \begin{quote}\textit{#1}\end{quote}}
209 \newcommand{\cftchapterprecistoc}[1]{
210 \addtocontents{toc}{%
211 {
212 \protect\begin{quote}#1\protect\end{quote}}
213 }
214 }

```

---

File 515    **lwarp-tocstyle.sty**

§ 624    Package    **tocstyle**

Pkg    tocstyle    tocstyle is ignored.

 **Not fully tested!**    [Please send bug reports!](#)

**for HTML output:**    1 \LWR@ProvidesPackageDrop{tocstyle}[2017/02/23]

```

2 \newcommand*\usetocstyle}[2][{}
3 \newcommand*\deactivatetocstyle}[1][{}
4 \newcommand*\reactivatetocstyle}[1][{}
5 \NewDocumentCommand{\settocfeature}{o o m m}{}
6 \NewDocumentCommand{\settocstylefeature}{o m m}{}
7 \NewDocumentCommand{\newtocstyle}{o o m m}{}
8 \newcommand*\aliastoc}[2]{}
9 \newcommand*\showtoc}[2][{}
10 \newcommand{\iftochasdepth}[4]{}

```

File 516 **lwarp-todo.sty**

§ 625 Package **todo**

(Emulates or patches code by FEDERICO GARCIA.)

Pkg todo **todo** is patched for use by **lwarp**.

```

for HTML output: 1 \LWR@ProvidesPackagePass{todo}[2010/03/31]

2 \renewcommand\todoitem[2]{%
3 \refstepcounter{todo}%
4 \item[%
5 \HTMLUnicode{2610} \quad
6 \ref{todopage:\thetodo}
7] : {\todoformat\ifx#1\todotodo\else\textbf{#1} \fi}#2%
8 \label{todolbl:\thetodo}%
9 }%
10
11 \renewcommand\doneitem[2]{%
12 \stepcounter{todo}%
13 \item[%
14 \HTMLUnicode{2611} \quad
15 \ref{todopage:\thetodo}
16] \@nameuse{@done\thetodo}:
17 {\todoformat\ifx#1\todotodo\else\textbf{#1} \fi}#2%
18 }
19
20 \xpatchcmd{\@displaytodo}
21 {\todoformat #1}{\todoformat \textbf{#1}}{}
22 {\PackageWarning{lwarp-todo}{Unable to patch @displaytodo.}}
23
24 \xpatchcmd{\@displayfulltodo}
25 {\todoformat #1}{\todoformat \textbf{#1}}{}
26 {\PackageWarning{lwarp-todo}{Unable to patch @displayfulltodo.}}
27
28 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{}
29 {\PackageWarning{lwarp-todo}{Unable to patch todoenv.}}
30
31 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{#1}}{}
32 {\PackageWarning{lwarp-todo}{Unable to patch astodos.}}
33
34 \AtBeginDocument{
35 \crefname{todo}{todo}{todos}
36 \Crefname{todo}{Todo}{Todos}
37 }

```

File 517 **lwarp-todonotes.sty**

§ 626 Package **todonotes**

*(Emulates or patches code by HENRIK SKOV MIDTIBY.)*

Pkg todonotes todonotes is emulated.

The documentation for todonotes and luatodonotes have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{todonotes}[2012/07/25]
2 \if@todonotes@disabled
3 \else
4
5 \newcommand{\ext@todo}{tdo}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\todo}{\ldo}{#1}{#2}}

8 \let\LWRTODONOTES@orig@todotoc\todotoc
9
10 \renewcommand*\@todotoc{%
11 \LWR@phantomsection%
12 \LWRTODONOTES@orig@todotoc%
13 }
14
15 \renewcommand{\@todonotes@drawMarginNoteWithLine}{
16 \fcolorbox
17 {\@todonotes@currentbordercolor}
18 {\@todonotes@currentbackgroundcolor}
19 {\arabic{\@todonotes@numberoftodonotes}}
20 \marginpar{\@todonotes@drawMarginNote}
21 }
22
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorboxBlock%
25 {\@todonotes@currentbordercolor}%
26 {\@todonotes@currentbackgroundcolor}%
27 {%
28 \if@todonotes@authorgiven%
29 {\@todonotes@author:\,}%
30 \fi%
31 \@todonotes@text%
32 }%
33 }
34
35 \renewcommand{\@todonotes@drawMarginNote}{%
36 \if@todonotes@authorgiven%
```

```

37 \@todonotes@author\par%
38 \fi%
39 \arabic{@todonotes@numberoftodonotes}: %
40 \fcolorbox%
41 {@todonotes@currentbordercolor}%
42 {@todonotes@currentbackgroundcolor}%
43 {%
44 \@todonotes@sizecommand%
45 \@todonotes@text %
46 }%
47 }%
48
49 \renewcommand{\@todonotes@drawLineToRightMargin}{}
50
51 \renewcommand{\@todonotes@drawLineToLeftMargin}{}
52
53 \renewcommand{\missingfigure}[2][[]]{%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57 {@todonotes@currentbordercolor}%
58 {@todonotes@currentfigcolor}%
59 {%
60 \setlength{\fboxrule}{4pt}%
61 \fcolorbox{red}{white}{Missing figure} \quad #2%
62 }
63 }
64
65 \LetLtxMacro\LWRTODONOTES@orig@todo\@todo
66
67 \RenewDocumentCommand{\@todo}{o m}{%
68 \beginngroup%
69 \renewcommand*\phantomsection{}%
70 \IfValueTF{#1}{%
71 \LWRTODONOTES@orig@todo[#1]{#2}%
72 }{%
73 \LWRTODONOTES@orig@todo{#2}%
74 }
75 \endngroup%
76 }
77
78 \fi% \if@todonotes@disabled

```

---

File 518 **lwarp-topcapt.sty**

§ 627 Package **topcapt**

Pkg topcapt topcapt is emulated.


**for HTML output:** 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]

2 \LetLtxMacro\topcaption\caption

File 519 **lwarp-tram.sty**

§ 628 Package **tram**

Pkg tram tram is emulated.

 **block only** The HTML emulation uses a `<div>`, which must not appear inside an HTML `<span>` or an HTML paragraph. For this reason, the tram environment should only be used to contain paragraphs inside a `\parbox` or `minipage`. tram should not be used to mark up inline text.

To disable tram, allowing source compatibility with inline uses:

```
\begin{warpHTML}
\renewenvironment{tram}[1][\]{}{}
\end{warpHTML}
```

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{tram}[2013/04/04]
2 \newenvironment{tram}[1][\]
3 {\BlockClass[background:lightgray]{tram}}
4 {\endBlockClass}
```

File 520 **lwarp-transparent.sty**

§ 629 Package **transparent**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg transparent transparent is emulated. `\texttransparent` works for inline objects. `\transparent` only works for `\includegraphics`.

 **Not X<sub>Ǝ</sub>L<sub>A</sub>T<sub>E</sub>X!** Note that transparent does not work with X<sub>Ǝ</sub>L<sub>A</sub>T<sub>E</sub>X.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{transparent}[2019/11/29]
2 \newcommand*\LWR@HTML@transparent[1]{\edef\LWR@opacity{#1}}
3
4 \LWR@formatted{transparent}
5
6
7 \newcommand*\LWR@HTML@texttransparent[2]{%
8 \begingroup%
9 \transparent{#1}%
10 \InlineClass[opacity: #1]{transparent}{#2}%
11 \endgroup%
12 }
13
14 \LWR@formatted{texttransparent}
```

---

File 521 **lwarp-trimclip.sty**

§ 630 Package **trimclip**

Pkg trimclip trimclip is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{trimclip}[2018/04/08]

The third argument, the text, is not touched. This allows \bgroup / \egroup, and verbatim content.

```

2 \csdef{trimbox}{\@ifstar\@gobble\@gobble}
3 \csletcs{trimbox*}{trimbox}
4 \def\endtrimbox{}
5 \csletcs{endtrimbox*}{endtrimbox}
6
7 \csletcs{clipbox}{trimbox}
8 \csletcs{clipbox*}{trimbox}
9 \csletcs{endclipbox}{endtrimbox}
10 \csletcs{endclipbox*}{endtrimbox}
11
12 \csletcs{marginbox}{trimbox}
13 \csletcs{marginbox*}{trimbox}
14 \csletcs{endmarginbox}{endtrimbox}
15 \csletcs{endmarginbox*}{endtrimbox}

```

---

File 522 **lwarp-trivfloat.sty**

§ 631 Package **trivfloat**

*(Emulates or patches code by JOSEPH WRIGHT.)*

Pkg trivfloat trivfloat is forced to use the built-in lwarp emulation for floats.

To create a new float type and change its name:

---

```

\trivfloat{example}
\renewcommand{\examplename}{Example Name}
\crefname{example}{example}{examples}
\Crefname{example}{Example}{Examples}

```

---

Discard all options for lwarp-trivfloat. This tells trivfloat not to use floatrow or memoir.

```

1 \LWR@ProvidesPackageDrop{trivfloat}[2009/04/23]
2 \LWR@origRequirePackage{trivfloat}

```



`\tfl@chapter@fix` Nullified at the beginning of the document. Is used by `trivfloat` to correct float chapter numbers, but is not needed for `lwarp`.

```
3 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{}}
```

### § 631.1 **Combining `\newfloat`, `\trivfloat`, and `algorithmicx`**

**For both print and HTML output:**



When using `float`, `trivfloat`, or `algorithmicx` at the same time, be aware of conflicting file usage. `algorithmicx` uses `.loa`. `trivfloat` by default starts with `.loa` and goes up for additional floats, skipping `.lof` and `.lot`.



When using `\newfloat`, be sure to manually assign higher letters to the `\newfloat` files to avoid `.loa` used by `algorithmicx`, and any files used by `trivfloat`. Also avoid using `.lof` and `.lot`.



When using `\trivfloat`, you may force it to avoid conflicting with `algorithmicx` by starting `trivfloat`'s file extensions with `.lob`:

---

```
\makeatletter
\setcounter{tfl@float@cnt}{1} % start trivfloats with .lob
\makeatletter
```

---

### File 523 **lwarp-truncate.sty**

### § 632 Package **truncate**

Pkg truncate truncate is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{truncate}[2001/08/20]

```
2 \providecommand{\TruncateMarker}{}
3 \newcommand{\truncate}[3][\TruncateMarker]{#3}
```

### File 524 **lwarp-turnthepage.sty**

### § 633 Package **turnthepage**

Pkg turnthepage turnthepage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]

```
2 \newcommand{\turnthepage}{}

```

File 525 **lwarp-twoup.sty**

§ 634 Package **twoup**

Pkg twoup twoup is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]
2 \newcommand{\cleartolastpage}{}

```

File 526 **lwarp-txfonts.sty**

§ 635 Package **txfonts**

*(Emulates or patches code by YOUNG RYU.)*

Pkg txfonts txfonts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{txfonts}[2008/01/22]

```

For MATHJAX:

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{txfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{up}
8 \end{warpMathJax}

```

File 527 **lwarp-txgreeks.sty**

§ 636 Package **txgreeks**

*(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)*

Pkg txgreeks txgreeks is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors all package options.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{txgreeks}[2011/03/16]
2
3 \LWR@infoprocessingmathjax{txgreeks}

```

```

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7 \iftgs@upLower% upright lowercase Greek
8 \LWR@mathjax@addgreek@l@up{}{}
9 \LWR@mathjax@addgreek@l@it{other}{}
10 \else% italic lowercase Greek
11 \LWR@mathjax@addgreek@l@it{}{}
12 \LWR@mathjax@addgreek@l@up{other}{}
13 \fi
14
15 \iftgs@itupper % italic uppercase Greek
16 \LWR@mathjax@addgreek@u@it*{}{}
17 \LWR@mathjax@addgreek@u@up*{other}{}
18 \LWR@mathjax@addgreek@u@up*{var}{}
19 \else% upright uppercase Greek
20 \LWR@mathjax@addgreek@u@up*{}{}
21 \LWR@mathjax@addgreek@u@it*{other}{}
22 \LWR@mathjax@addgreek@u@it*{var}{}
23 \fi
24 \end{warpMathJax}

```

---

File 528 **lwarp-typearea.sty**

§ 637 Package **typearea**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg typearea **typearea** is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{typearea}[2018/03/30]
2 \DeclareDocumentCommand{\typearea}{o m}{}
3 \DeclareDocumentCommand{\recalctypearea}{}{}
4 \@ifundefined{footheight}{\newlength\footheight}{}
5 \DeclareDocumentCommand{\areaset}{o m m}{}
6 \DeclareDocumentCommand{\activateareas}{}{}
7 \DeclareDocumentCommand{\storeareas}{m}{}
8 \DeclareDocumentCommand{\BeforeRestoreareas}{s m}{}
9 \DeclareDocumentCommand{\AfterRestoreareas}{s m}{}
10 \DeclareDocumentCommand{\AfterCalculatingTypearea}{s m}{}
11 \DeclareDocumentCommand{\AfterSettingArea}{s m}{}

```

File 529 **lwarp-typicons.sty**

§ 638 Package **typicons**

*(Emulates or patches code by ARTHUR VIGIL, XAVIER DANAUX.)*

Pkg typicons **typicons** is patched for use by **lwarp**.

If `\ticon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{typicons}[2015/05/20]

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@orig@typicon@TI\TI
5
6 \newcommand*{\LWR@typicon@symbol}[1]{%
7 \begin{lateximage}*[typicon][typicon#1]%
8 \begingroup%
9 \LWR@orig@typicon@TI%
10 \LWR@orig@symbol{#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\TI}{%
16 \LetLtxMacro\symbol\LWR@typicon@symbol%
17 }
18
19 \renewcommand*{\ticon}[1]
20 {%
21 \begin{lateximage}*[#1 icon][typicon#1]%
22 \TI\csname ticon@#1\endcsname%
23 \end{lateximage}%
24 }
```

File 530 **lwarp-ulem.sty**

§ 639 Package **ulem**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg ulem **Patched** for use by **lwarp**.

**for HTML output:** Use the original package:

```

1 \LWR@ProvidesPackagePass{ulem}[2012/05/18]
```

## Basic markup commands, using CSS:

```
2 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
3 \InlineClass%
4 (text-decoration:underline; text-decoration-skip: auto)%
5 {uline}{\LWR@isolate{#1}}%
6 }
7 \LWR@formatted{uline}
8
9 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
10 \InlineClass%
11 (%
12 text-decoration:underline; text-decoration-skip: auto;%
13 text-decoration-style:double%
14)%
15 {uuline}{\LWR@isolate{#1}}%
16 }
17 \LWR@formatted{uuline}
18
19 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
20 \InlineClass%
21 (%
22 text-decoration:underline; text-decoration-skip: auto;%
23 text-decoration-style:wavy%
24)%
25 {uwave}{\LWR@isolate{#1}}%
26 }
27 \LWR@formatted{uwave}
28
29 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
30 \InlineClass%
31 (text-decoration:line-through)%
32 {sout}{\LWR@isolate{#1}}%
33 }
34 \LWR@formatted{sout}
35
36 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
37 \InlineClass%
38 (text-decoration:line-through)%
39 {xout}{\LWR@isolate{#1}}%
40 }
41 \LWR@formatted{xout}
42
43 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
44 \InlineClass%
45 (%
46 text-decoration:underline;%
47 text-decoration-skip: auto;%
48 text-decoration-style:dashed%
49)%
50 {dashuline}{\LWR@isolate{#1}}%
51 }
52 \LWR@formatted{dashuline}
53
54 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
```

```

55 \InlineClass%
56 (%)
57 text-decoration:underline;%
58 text-decoration-skip: auto;%
59 text-decoration-style: dotted%
60)%
61 {dotuline}{\LWR@isolate{#1}}%
62 }
63 \LWR@formatted{dotuline}

```

Nullified/emulated macros:

```

64 \NewDocumentCommand{\LWR@HTML@markoverwith}{m}{}
65 \LWR@formatted{markoverwith}
66
67 \NewDocumentCommand{\LWR@HTML@ULon}{+m}{\uline{#1}\egroup}
68 \LWR@formatted{ULon}

```

---

File 531 **lwarp-umoline.sty**

§ 640 Package **umoline**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg umoline **umoline** is patched for use by lwarp.

```

for HTML output: 1 \LWR@ProvidesPackagePass{umoline}[2000/07/11]

2 \newcommand*\LWR@HTML@Underline}[1]{%
3 \InlineClass{uline}{#1}%
4 }
5 \LWR@formatted{Underline}
6
7 \newcommand*\LWR@HTML@Midline}[1]{%
8 \InlineClass{sout}{#1}%
9 }
10 \LWR@formatted{Midline}
11
12 \newcommand*\LWR@HTML@Overline}[1]{%
13 \InlineClass{oline}{#1}%
14 }
15 \LWR@formatted{Overline}
16
17 \newcommand*\LWR@HTML@UMoline}[2]{%
18 \InlineClass{uline}{#2}%
19 }
20 \LWR@formatted{UMoline}
21
22 \NewDocumentCommand{\LWR@HTML@UMospace}{s m o}{\hspace*{#2}}
23 \LWR@formatted{UMospace}
24
25 \NewDocumentCommand{\LWR@HTML@UMOnewline}{s}{\newline}
26 \LWR@formatted{UMOnewline}

```

---

File 532 **lwarp-underscore.sty**

§ 641 Package **underscore**

Pkg underscore underscore is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]`


---

File 533 **lwarp-unicode-math.sty**


§ 642 Package **unicode-math**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg unicode-math unicode-math is supported as-is for HTML with SVGmath.

 **MATHJAX** If the document source includes embedded Unicode characters, these may not be reproduced correctly for *pdftotext*, and thus not display correctly in MATHJAX.

Symbol font commands are emulated, but not all combinations are supported by MATHJAX, especially with the dedicated Greek macros. Symbol macros such as `\ymbfsf` may not be sans or bold. For Greek, use the Unicode equivalent, if necessary.

 **\mathversion** The MATHJAX emulation does not change with the use of `\mathversion`. Whatever emulation is established at the begin of the document will remain.

The option `sans-style` honors upright and italic, but italic will not be sans, in order to support Greek macros.

Greek macros such as `\alpha` respond to the `math-style` option. Latin symbols does not, per MATHJAX limitations, unless placed inside `\ymbit` or similar.

Macros from the categories `\mathopen`, `\mathclose`, and `\mathfence` are emulated. Due to current MATHJAX limitations, not all stretch to the correct height.

Also emulated are macros from the categories `\mathpunct`, `\mathover`, `\mathunder`, `\mathaccent`, `\mathbotaccent`, and `\mathop`.

The individual `unicode-math` macros of categories `\mathbin`, `\mathord`, and `\mathrel` are not emulated for MATHJAX, as there are more than two thousand of them, but they may be added as needed. Place the following in the document preamble after loading `unicode-math`, including a definition for each macro which is used in the document but undefined in MATHJAX:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\uplus}{\mathbin{\unicode{x0228E}}}}
```

```
...
\end{warpMathJax}
```

Use `\mathrel`, `\mathbin`, etc. depending on the category of each macro. For a list of macro names and symbols, see **texdoc unimath-symbols**.

```
for HTML output: 1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{unicode-math}
6
7 % Not all are possible in MathJax.
8 \CustomizeMathJax{\let\symnormal\mathit}
9 \CustomizeMathJax{\let\symliteral\mathrm}
10 \CustomizeMathJax{\let\symbb\mathbb}
11 \CustomizeMathJax{\let\symbbit\mathbb}% not italic
12 \CustomizeMathJax{\let\symcal\mathcal}
13 \CustomizeMathJax{\let\symscr\mathscr}
14 \CustomizeMathJax{\let\symfrac\mathfrak}
15
16 \CustomizeMathJax{\let\symsfup\mathsf}
17
18 \CustomizeMathJax{\let\symsfit\mathit}% not sans
19 % \CustomizeMathJax{\newcommand{\symsfit}[1]{%
20 % \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}% not greek
21 % }
22
23 \CustomizeMathJax{\let\symbfsf\mathbf}% not sans
24 % \CustomizeMathJax{\newcommand{\symbfsf}[1]{%
25 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
26 % }
27
28 \CustomizeMathJax{\let\symbfup\mathbf}
29 \CustomizeMathJax{\newcommand{\symbfit}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\let\symbfcal\mathcal}% not bold
31
32 \CustomizeMathJax{\let\symbfscr\mathscr}% not bold
33 % \CustomizeMathJax{\newcommand{\symbfscr}[1]{
34 % \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}% not greek
35 % }
36
37 \CustomizeMathJax{\let\symbffrak\mathfrak}% not bold
38 % \CustomizeMathJax{\newcommand{\symbffrak}[1]{%
39 % \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}% not greek
40 % }
41
42 \CustomizeMathJax{\let\symbfsfup\mathbf}% not sans
43 % \CustomizeMathJax{\newcommand{\symbfsfup}[1]{%
44 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
45 % }
46
47 \CustomizeMathJax{\newcommand{\symbfsfit}[1]{\boldsymbol{#1}}}% not sans
48 % \CustomizeMathJax{\newcommand{\symbfsfit}[1]{%
```



```

49 % \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}% not greek
50 % }
51
52 % Duplicates below are commented out.
53 \CustomizeMathJax{\let\symup\mathrm}
54 \CustomizeMathJax{\let\sympf\mathbf}% \sympfup defined above
55 \CustomizeMathJax{\let\symit\mathit}
56 \CustomizeMathJax{\let\sympfit\mathit}% not bold

57 \ExplSyntaxOn
58 \AtBeginDocument{
59 \bool_if:NTF \g__um_sfliteral_bool
60 {\CustomizeMathJax{\let\symsf\symsfup}}
61 {
62 \bool_if:NTF \g__um_upsans_bool
63 {\CustomizeMathJax{\let\symsf\symsfup}}
64 {\CustomizeMathJax{\let\symsf\symsfit}}
65 }
66 }
67 \ExplSyntaxOff

68 \CustomizeMathJax{\let\sympfsfup\mathbf}% not sans
69 \CustomizeMathJax{\let\symsfit\mathit}% not sans
70 \CustomizeMathJax{\let\sympfsfit\mathit}% not bold nor sans
71 \CustomizeMathJax{\let\symtt\mathtt}
72 \CustomizeMathJax{\let\sympb\mathbb}
73 \CustomizeMathJax{\let\sympbit\mathbb}% not italic
74 \CustomizeMathJax{\let\symscr\mathscr}
75 \CustomizeMathJax{\let\sympfscr\mathscr}% not bold
76 \CustomizeMathJax{\let\symfrac\mathfrak}
77 \CustomizeMathJax{\let\sympffrac\mathbfrac}

```

Some symbol categories defined by `unicode-math`, in case they are used inside custom macros:

```

78 \CustomizeMathJax{\newcommand{\mathfence}[1]{\mathord{#1}}}
79 \CustomizeMathJax{\newcommand{\mathover}[1]{#1}}
80 \CustomizeMathJax{\newcommand{\mathunder}[1]{#1}}
81 \CustomizeMathJax{\newcommand{\mathaccent}[1]{#1}}
82 \CustomizeMathJax{\newcommand{\mathbotaccent}[1]{#1}}
83 \CustomizeMathJax{\newcommand{\mathalpha}[1]{\mathord{#1}}}

```

`math-style` is one of: `ISO`, `TeX`, `french`, `upright`, or `literal`, which set `\g__um_upGreek_bool` and `\g__um_upgreek_bool`.

```

84 \ExplSyntaxOn
85
86 \AtBeginDocument{
87 \bool_if:NTF \g__um_upGreek_bool
88 {\LWR@mathjax@addgreek@u@up*{}}
89 {\LWR@mathjax@addgreek@u@it*{}}
90
91 \bool_if:NTF \g__um_upgreek_bool
92 {\LWR@mathjax@addgreek@l@up*{}}

```

```

93 {\LWR@mathjax@addgreek@l@it{}}{}
94 }
95
96 \LWR@mathjax@addgreek@u@up*{up}{ }
97 \LWR@mathjax@addgreek@u@it*{it}{ }
98 \LWR@mathjax@addgreek@l@up{up}{ }
99 \LWR@mathjax@addgreek@l@it{it}{ }
100
101 \ExplSyntaxOff
102
103 \CustomizeMathJax{\let\lparen()}
104 \CustomizeMathJax{\let\rparen)}
105 \CustomizeMathJax{\newcommand{\cuberoot}[1]{\,\,{}^3\!\!\sqrt{#1}}\,, }
106 \CustomizeMathJax{\newcommand{\fourthroot}[1]{\,\,{}^4\!\!\sqrt{#1}}\,, }

```

Many `\mathopen/\mathclose` delimiters are defined in `lwarp_mathjax.txt`, where `\left/\right` support is added.

```

107 \CustomizeMathJax{\newcommand{\longdivision}[1]{\mathord{\unicode{x027CC}#1}}}
108
109 \CustomizeMathJax{\newcommand{\mathcomma}{,}}
110 \CustomizeMathJax{\newcommand{\mathcolon}{:}}
111 \CustomizeMathJax{\newcommand{\mathsemicolon}{;}}
112
113 \CustomizeMathJax{\newcommand{\overbracket}[1]{\mathinner{\overline{\ulcorner{#1}\urcorner}}}}
114 \CustomizeMathJax{\newcommand{\underbracket}[1]{\mathinner{\underline{\llcorner{#1}\lrcorner}}}}
115
116 \CustomizeMathJax{\newcommand{\overbar}[1]{\mathord{#1\unicode{x00305}}}}
117 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{#1\unicode{x00309}}}}
118 \CustomizeMathJax{\newcommand{\ocirc}[1]{\mathord{#1\unicode{x0030A}}}}
119 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{#1\unicode{x00310}}}}
120 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{#1\unicode{x00312}}}}
121 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{#1\unicode{x00315}}}}
122 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{#1\unicode{x0031A}}}}
123 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{#1\unicode{x020D0}}}}
124 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{#1\unicode{x020D1}}}}
125 \CustomizeMathJax{\newcommand{\vertoverly}[1]{\mathord{#1\unicode{x020D2}}}}
126 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{#1\unicode{x020D0}}}}
127 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{#1\unicode{x020E7}}}}
128 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{#1\unicode{x020E9}}}}
129 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{#1\unicode{x020F0}}}}
130 \CustomizeMathJax{\newcommand{\threunderdot}[1]{\mathord{#1\unicode{x020E8}}}}
131
132 \CustomizeMathJax{\newcommand{\Bbbsum}{\mathop{\unicode{x2140}}\limits}}
133 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
134 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
135 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
136 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
137 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
138 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2234}}\limits}}
139 \CustomizeMathJax{\newcommand{\leftouterjoin}{\mathop{\unicode{x27D5}}\limits}}
140 \CustomizeMathJax{\newcommand{\rightouterjoin}{\mathop{\unicode{x27D6}}\limits}}
141 \CustomizeMathJax{\newcommand{\fullouterjoin}{\mathop{\unicode{x27D7}}\limits}}
142 \CustomizeMathJax{\newcommand{\bigbot}{\mathop{\unicode{x27D8}}\limits}}
143 \CustomizeMathJax{\newcommand{\bigtop}{\mathop{\unicode{x27D9}}\limits}}

```

```

144 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}\limits}}
145 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}\limits}}
146 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}\limits}}
147 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}\limits}}
148 \CustomizeMathJax{\newcommand{\conjquant}{\mathop{\unicode{x2A07}}\limits}}
149 \CustomizeMathJax{\newcommand{\disjquant}{\mathop{\unicode{x2A08}}\limits}}
150 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}\limits}}
151 \CustomizeMathJax{\newcommand{\modtwosum}{\mathop{\unicode{x2A0A}}\limits}}
152 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
153 \CustomizeMathJax{\newcommand{\intbar}{\mathop{\unicode{x2A0D}}\limits}}
154 \CustomizeMathJax{\newcommand{\intBar}{\mathop{\unicode{x2A0E}}\limits}}
155 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
156 \CustomizeMathJax{\newcommand{\cirfnint}{\mathop{\unicode{x2A10}}\limits}}
157 \CustomizeMathJax{\newcommand{\awint}{\mathop{\unicode{x2A11}}\limits}}
158 \CustomizeMathJax{\newcommand{\rppolint}{\mathop{\unicode{x2A12}}\limits}}
159 \CustomizeMathJax{\newcommand{\scpolint}{\mathop{\unicode{x2A13}}\limits}}
160 \CustomizeMathJax{\newcommand{\npolint}{\mathop{\unicode{x2A14}}\limits}}
161 \CustomizeMathJax{\newcommand{\pointint}{\mathop{\unicode{x2A15}}\limits}}
162 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
163 \CustomizeMathJax{\newcommand{\intlarhk}{\mathop{\unicode{x2A17}}\limits}}
164 \CustomizeMathJax{\newcommand{\intx}{\mathop{\unicode{x2A18}}\limits}}
165 \CustomizeMathJax{\newcommand{\intcap}{\mathop{\unicode{x2A19}}\limits}}
166 \CustomizeMathJax{\newcommand{\intcup}{\mathop{\unicode{x2A1A}}\limits}}
167 \CustomizeMathJax{\newcommand{\upint}{\mathop{\unicode{x2A1B}}\limits}}
168 \CustomizeMathJax{\newcommand{\lowint}{\mathop{\unicode{x2A1C}}\limits}}
169 \CustomizeMathJax{\newcommand{\bigtriangleleft}{\mathop{\unicode{x2A1E}}\limits}}
170 \CustomizeMathJax{\newcommand{\zcmp}{\mathop{\unicode{x2A1F}}\limits}}
171 \CustomizeMathJax{\newcommand{\zpipe}{\mathop{\unicode{x2A20}}\limits}}
172 \CustomizeMathJax{\newcommand{\zproject}{\mathop{\unicode{x2A21}}\limits}}
173 \CustomizeMathJax{\newcommand{\biginterleave}{\mathop{\unicode{x2AFC}}\limits}}
174 \CustomizeMathJax{\newcommand{\bigtalloblong}{\mathop{\unicode{x2AFF}}\limits}}
175 \CustomizeMathJax{\newcommand{\arabicmaj}{\mathop{\unicode{x1EEF0}}\limits}}
176 \CustomizeMathJax{\newcommand{\arabicjad}{\mathop{\unicode{x1EEF1}}\limits}}
177
178 \end{warpMathJax}

```

---

File 534 **lwarp-units.sty**

§ 643 Package **units**

*(Emulates or patches code by AXEL REICHERT.)*

Pkg units units is patched for use by lwarp.

Values are not styled by css, and take the style of the surrounding HTML text.

Units are styled according to the print version, so they will be forced to upright roman in HTML if the print version does so. It may be necessary to adjust the document's body css to match the print version.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{units}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@unit}[2][]{%

```

```

3 \ifblank{#1}%
4 {\LWR@textcurrentfont{#2}}%
5 {%
6 #1%
7 \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
8 \LWR@textcurrentfont{#2}}%
9 }%
10 }
11 \LWR@formatted{unit}

12 \DeclareRobustCommand*\LWR@HTML@unitfrac[3][][{%
13 \ifblank{#1}%
14 {%
15 \nicefrac{#2}{#3}%
16 }%
17 {%
18 #1%
19 \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
20 \nicefrac{#2}{#3}}%
21 }%
22 }
23
24 \LWR@formatted{unitfrac}

```

For MATHJAX:

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][][#1 \mathinner{#2}]}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][][#1 \mathinner{{}^{\#2}\!/\/!_{\#3}}]}
28 \end{warpMathJax}

```

---

File 535 **lwarp-unitsdef.sty**

§ 644 Package **unitsdef**

(Emulates or patches code by PATRICK HAPPEL.)

Pkg unitsdef **unitsdef** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{unitsdef}[2005/01/04]

2 \renewcommand{\unitvaluesep}{\,%
3
4 \renewcommand{\unittimes}{\@@setunitsepfalse\HTMLUnicode{22c5}}% \cdot
5
6 \renewunit{\arcmin}{%
7 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
8 {\ensuremath{{}^{\prime}}}%
9 {\HTMLUnicode{2032}}% prime
10 }
11
12 \renewunit{\arcsec}{%

```

---

```

13 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
14 {\ensuremath{{}^{\prime}\prime}}}%
15 {\HTMLUnicode{2033}}% dbl prime
16 }
17
18 \renewrobustcmd{\SI}[2]{%
19 \begingroup%
20 \let\unit@xspace\relax%
21 \unitSIdef\selectfont%
22 \LWR@textcurrentfont{#1#2}% lwarp
23 \endgroup%
24 }

```

---

File 536 **lwarp-upgreek.sty**

§ 645 Package **upgreek**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg upgreek upgreek is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{upgreek}[2003/02/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{upgreek}}
4 \end{warpMathJax}

```

---

File 537 **lwarp-upref.sty**

§ 646 Package **upref**

Pkg upref upref is ignored.

**for HTML output:** Discard all options for lwarp-upref:

```

1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]

```

---

File 538 **lwarp-url.sty**

§ 647 Package **url**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg url url is patched for use by lwarp.

**for HTML output:**

```

1 \LetLtxMacro\LWR@url@orig@url\LWR@url
2
3 \LWR@ProvidesPackagePass{url}[2013/09/16]

4 \newcommand*\LWR@HTML@Url@FormatString{%
5 \expandafter\LWR@url@orig@url\expandafter{\Url@String}%
6 }
7 \LWR@formatted{Url@FormatString}

```

---

File 539 **lwarp-ushort.sty**

§ 648 Package **ushort**

*(Emulates or patches code by MARTIN VÄTH.)*

Pkg ushort **ushort** is used as-is, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{ushort}[2001/06/13]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\ushortdline}[1]{%
4 \kern{.1em}\underline{\underline{{#1}}}\kern{.1em}%
5 }}
6 \CustomizeMathJax{\newcommand{\ushort}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
7 \CustomizeMathJax{\newcommand{\ushortd}[1]{\ushortdline{#1}}}
8 \CustomizeMathJax{\newcommand{\ushortw}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
9 \CustomizeMathJax{\newcommand{\ushortdw}[1]{\ushortdline{#1}}}
10 \end{warpMathJax}

```

---

File 540 **lwarp-ospace.sty**

§ 649 Package **ospace**

Pkg ospace **ospace** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ospace}[2016/11/06]

```

---

File 541 **lwarp-varioref.sty**

§ 650 Package **varioref**

*(Emulates or patches code by FRANK MITTELBACH.)*

Pkg varioref **varioref** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{varioref}[2020/01/23]

```

Page-related output is not used for HTML output.

```

2 \def\reftextfaceafter {\unskip}%
3 \def\reftextfacebefore{\unskip}%
4 \def\reftextafter {\unskip}%
5 \def\reftextbefore {\unskip}%
6 \def\reftextcurrent {\unskip}%
7 \def\reftextfaraway#1{\unskip}%
8 \def\reftextpagerange#1#2{\unskip}%

```

---

File 542 **lwarp-verse.sty**

§ 651 Package **verse**

(Emulates or patches code by PETER WILSON.)

Pkg verse **verse** is supported and patched by **lwarp**.

**for HTML output:** Pass all options for **lwarp-verse**:

```
1 \LWR@ProvidesPackagePass{verse}[2009/09/04]
```

When using **verse** or **memoir**, always place a `\\` after each line.

`\attrib` The documentation for the **verse** and **memoir** packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. **lwarp** provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

Len `\vleftskip` These lengths are used by **verse** and **memoir** to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any **verse** environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

⚠ spacing Horizontal spacing relies on *pdftotext*’s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLvleftskip` the horizontal alignment may not work out exactly, in which case a

⚠ verse margin label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.

Env verse The verse environment will be placed inside a HTML <pre>.

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching verse.}
```

At the beginning of the verse environment:

```
4 \AtBeginEnvironment{verse}
5 {%
```

Use the original list environment inside a <pre> to attempt to preserve formatting.

```
6 \LWR@restoreoriglists%
```

Pkg verse The verse or memoir packages can place stanza numbers to the left with their  
Cls memoir \flagverse command. The following does not allow them to go into the left margin,  
which would cause *pdfcrop* to crop the entire page further to the left.

```
Len \vleftskip 7 \ifdef{\vleftskip}{%
8 \setlength{\vleftskip}{\HTMLvleftskip}
9 \setlength{\leftmargini}{\HTMLleftmargini}
10 }{}
11 \LWR@forcenewpage
12 \LWR@atbeginverbatim{verse}%
13 }
```

After the end of the verse environment, which places the <pre> tag at the regular left margin:

```
14 \AtEndEnvironment{verse}{%
15 \leavevmode%
16 \LWR@afterendverbatim%
17 }
```

Patch to place poemtitle inside an HTML <span> of class poemtitle:

```
18 \ifdef{\poemtitle}{
19 \DeclareDocumentCommand{\@vstypeptitle}{m}{%
20 \space{\beforepoemtitleskip}%
21 {\InlineClass{poemtitle}{\poemtitlefont #1}\par}%
22 \space{\afterpoemtitleskip}%
23 }
24 }{}
25
26 \LWR@traceinfo{Finished patching verse.}
27 }% AfterEndPreamble
```

---

File 543 **lwarp-versednotes.sty**

§ 652 Package **versednotes**

(Emulates or patches code by NORMAN GRAY.)



Pkg versonotes **versonotes** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{versonotes}[2019/07/06]

```
2 \newcommand{\versonote}[1]{\marginpar{#1}}
3 \newdimen\versotextwidth
4 \newdimen\versoleftmargin
5 \newcommand*\versolayout{}
```

In case the user changed the page number before loading versonotes:

```
6 \setcounter{page}{1}
```

File 544 **lwarp-vertbars.sty**

§ 653 Package **vertbars**

*(Emulates or patches code by PETER WILSON.)*

Pkg vertbars **vertbars** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vertbars}[2010/11/27]

```
2 \newlength{\barwidth}
3 \setlength{\barwidth}{0.4pt}
4 \newlength{\barspace}
5 \setlength{\barspace}{1em}
6
7 \newenvironment{vertbar}{
8 \LWR@forcenewpage
9 \LWR@forceminwidth{\barwidth}
10 \begin{BlockClass}%
11 border-left: \LWR@printlength{\LWR@atleastonept} solid black ; %
12 padding-left: \LWR@printlength{\barspace}%
13]{vertbar}
14 }{
15 \end{BlockClass}
16 }
```

File 545 **lwarp-vmargin.sty**

§ 654 Package **vmargin**

Pkg vmargin **vmargin** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vmargin}[2004/07/15]

```
2 \newcommand*\LWRVM@customsize}[2]{}
3 \newcommand*\setpapersize}[2][\ifstrequal{#2}{custom}{\LWRVM@customsize}{}]
```

---

```

4 \newcommand*\setmargins[8]{}
5 \newcommand*\setmarginsrb[8]{}
6 \newcommand*\setmargnohf[4]{}
7 \newcommand*\setmargnohfrb[4]{}
8 \newcommand*\setmarg[4]{}
9 \newcommand*\setmargrb[4]{}
10 \newlength\PaperWidth
11 \setlength\PaperWidth{8.5in}
12 \newlength\PaperHeight
13 \setlength\PaperHeight{11in}
14 \newif\ifLandscape

```

---

File 546 **lwarp-vowel.sty**

§ 655 Package **vowel**

*(Emulates or patches code by FUKUI REI.)*

Pkg vowel **vowel** is patched for use by **lwarp**.

This package has been tested with *pdf<sub>l</sub>atex* and the Type 1 TIPA fonts using the following package load sequence:

```

\usepackage[T3,T1]{fontenc}
\usepackage[utf8]{inputenc}
\usepackage[noenc]{tipa}
\usepackage{vowel}

```

**for HTML output:** 1 \LWR@ProvidesPackagePass{vowel}[2002/08/08]

```

2 \renewenvironment{vowel}[1]{}
3 {%
4 \begin{lateximage}[-vowel-~\PackageDiagramAltText]%
5 \@vowel[#1]%
6 }
7 {%
8 \@@vowel%
9 \end{lateximage}%
10 }

```

---

File 547 **lwarp-vpe.sty**

§ 656 Package **vpe**

Pkg vpe **vpe** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

File 548 **lwarp-vwcol.sty**

§ 657 Package **vwcol**

(Emulates or patches code by WILL ROBERTSON.)

Pkg vwcol vwcol is patched for use with lwarp.

The width option is ignored. All vwcol environments adjust to 1–3 equal-width columns, depending on the width of the browser window.

The remaining options are supported, except for lines and maxrecursion.

**for HTML output:** 1 \LWR@ProvidesPackagePass{vwcol}[2015/02/10]

Factored from \vwcol. Each is given a style tag to append to the final style.

```
\LWR@vwcol@addrule {<style tag>}
2 \newcommand*{\LWR@vwcol@addrule}[1]{%
3 \appto{\LWR@vwcolstyle}{%
4 #1: %
5 \LWR@printlength{\vwcol@rule} solid \LWR@origpound\LWR@vwcol@rulecolor ; %
6 }%
7 }
```

```
\LWR@vwcol@addrule {<style tag>}
8 \newcommand*{\LWR@vwcol@addgap}[1]{%
9 \appto{\LWR@vwcolstyle}{%
10 #1: %
11 \LWR@printlength{\vwcol@sep} ; %
12 }%
13 }
```

Env vwcol {<key/values>}

Redefine the environment to add a HTML style. The style is built depending on the required options.

```
14 \renewenvironment*{vwcol}[1][1]{%
```

New paragraph, and process the options:

```
15 \LWR@stoppars%
16 \vwcolsetup{#1}%
```

Begin with no style:

```
17 \newcommand*{\LWR@vwcolstyle}{}
```

presep and postsep are created with HTML margins:

```

18 \if@vwcol@presep
19 \appto{\LWR@vwcolstyle}{margin-left: 1em ; padding-left: .5em ; }
20 \fi
21 \if@vwcol@postsep
22 \appto{\LWR@vwcolstyle}{margin-right: 1em ; padding-right: .5em ; }
23 \fi

```

sep becomes column-gap:

```

24 \ifdimgreater{\vwcol@sep}{1sp}{
25 \LWR@vwcol@addgap{column-gap}
26 \LWR@vwcol@addgap{-moz-column-gap}
27 \LWR@vwcol@addgap{-webkit-column-gap}
28 }{}

```

rule become column-rule, while prerule and postrule become HTML borders:

```

29 \convertcolorspec{named}{\vwcol@rulecol}{HTML}\LWR@vwcol@rulecolor%
30 \ifdimgreater{\vwcol@rule}{0pt}{
31 \ifdimless{\vwcol@rule}{1pt}{
32 \setlength{\vwcol@rule}{1pt}
33 }{}
34 \LWR@vwcol@addrule{column-rule}
35 \LWR@vwcol@addrule{-moz-column-rule}
36 \LWR@vwcol@addrule{-webkit-column-rule}
37 \if@vwcol@prerule\LWR@vwcol@addrule{border-left}\fi
38 \if@vwcol@postrule\LWR@vwcol@addrule{border-right}\fi
39 }{}

```

Each of the justify options becomes a text-align. Indentation is added where appropriate.

```

40 \ifdefequal{\vwcol@justify}{\RaggedRight}{
41 \appto{\LWR@vwcolstyle}{text-align: left ; }
42 \ifdimgreater{\vwcol@parindent}{0pt}{
43 \appto{\LWR@vwcolstyle}{%
44 text-indent: \LWR@printlength{\vwcol@parindent} ; %
45 }
46 }{}
47 }{}

48 \ifdefequal{\vwcol@justify}{\RaggedLeft}{
49 \appto{\LWR@vwcolstyle}{text-align: right ; }
50 }{}

51 \ifdefequal{\vwcol@justify}{\Centering}{
52 \appto{\LWR@vwcolstyle}{text-align: center ; }
53 }{}

54 \ifdefequal{\vwcol@justify}{\justifying}{
55 \appto{\LWR@vwcolstyle}{text-align: justify ; }
56 \ifdimgreater{\vwcol@parindent}{0pt}{
57 \appto{\LWR@vwcolstyle}{%
58 text-indent: \LWR@printlength{\vwcol@parindent} ; %
59 }
60 }{}
61 }{}

```

Create the <div> with the assembled style:

```
62 \BlockClass[\LWR@vwcolstyle]{multicols}
63 }
```

When the environment ends:

```
64 {
65 \endBlockClass
66 \LWR@startpars
67 }
```

File 549 **lwarp-wallpaper.sty**

§ 658 Package **wallpaper**

*(Emulates or patches code by MICHAEL H.F. WILKINSON.)*

Pkg wallpaper **wallpaper** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{wallpaper}[2005/01/18]

```
2 \newcommand*\CenterWallPaper}[2]{}
3 \newcommand*\ThisCenterWallPaper}[2]{}
4 \newcommand*\TileWallPaper}[3]{}
5 \newcommand*\ThisTileWallPaper}[3]{}
6 \newcommand*\TileSquareWallPaper}[2]{}
7 \newcommand*\ThisTileSquareWallPaper}[2]{}
8 \newcommand*\ULCornerWallPaper}[2]{}
9 \newcommand*\ThisULCornerWallPaper}[2]{}
10 \newcommand*\LLCornerWallPaper}[2]{}
11 \newcommand*\ThisLLCornerWallPaper}[2]{}
12 \newcommand*\URCornerWallPaper}[2]{}
13 \newcommand*\ThisURCornerWallPaper}[2]{}
14 \newcommand*\LRCornerWallPaper}[2]{}
15 \newcommand*\ThisLRCornerWallPaper}[2]{}
16 \newcommand*\ClearWallPaper[1]{}
17 \newlength\wpXoffset
18 \newlength\wpYoffset
```

File 550 **lwarp-watermark.sty**

§ 659 Package **watermark**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg watermark **watermark** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{watermark}[2004/12/09]

```
2 \newcommand\watermark[1]{}
3 \newcommand\leftwatermark[1]{}
4 \newcommand\rightwatermark[1]{}

```

---

```
5 \newcommand{\thiswatermark}[1]{}
```

```
6 \newcommand{\thispageheading}[1]{}
```

---

File 551 **lwarp-widetable.sty**

§ 660 Package **widetable**

*(Emulates or patches code by CLAUDIO BECCARI.)*

Pkg widetable widetable is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{widetable}[2019-06-25]
```

```
2 \newenvironment{widetable}{\begin{tabular*}}{\end{tabular*}}
```

---

File 552 **lwarp-widows-and-orphans.sty**

§ 661 Package **widows-and-orphans**

Pkg widows-and-orphans widows-and-orphans is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{widows-and-orphans}[2018/09/01]
```

```
2 \NewDocumentCommand\Wa0setup{m}{}
3 \NewDocumentCommand\Wa0parameters{}{}
4 \NewDocumentCommand\Wa0ignorenext{}{}

```

---

File 553 **lwarp-witharrows.sty**

§ 662 Package **witharrows**

*(Emulates or patches code by F. PANTIGNY.)*

Pkg witharrows witharrows is patched for use by lwarp. Emulation is provided for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{witharrows}[2019/12/27]
```

```
2 \ifbool{mathjax}{
3 % For the hidden print version in the HTML:
4 \newcommand{\Arrow}[2][{}]{
5 \newcommand{\unicode}[1]{
6 \NewDocumentEnvironment { DispWithArrows } { ! d < > ! 0 { } +b}
7 {
8 \IfValueTF{#1}{
9 \begin{displaymath}
10 #1 \left\lbracket
```

```

11 \begin{align}
12 #3
13 \end{align}
14 \right .
15 \end{displaymath}
16 }{
17 \begin{displaymath}
18 \begin{align}
19 #3
20 \end{align}
21 \end{displaymath}
22 }
23 }
24 {}
25 \NewDocumentEnvironment { DispWithArrows* } { ! d < > ! 0 { } +b}
26 {
27 \IfValueTF{#1}{
28 \begin{displaymath}
29 #1 \left\lbracket
30 \begin{align*}
31 #3
32 \end{align*}
33 \right .
34 \end{displaymath}
35 }{
36 \begin{displaymath}
37 \begin{align*}
38 #3
39 \end{align*}
40 \end{displaymath}
41 }
42 }
43 {}
44 }{
45 % If not MathJax, use SVG images.
46 \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknownmathsize}}
47 \BeforeBeginEnvironment{DispWithArrows}{%
48 \begin{BlockClass}{displaymathnumbered}%
49 \begin{lateximage}%
50 }
51 \AfterEndEnvironment{DispWithArrows}{\end{lateximage}\end{BlockClass}}
52 \BeforeBeginEnvironment{DispWithArrows*}{%
53 \begin{BlockClass}{displaymath}%
54 \begin{lateximage}%
55 }
56 \AfterEndEnvironment{DispWithArrows*}{\end{lateximage}\end{BlockClass}}
57 }
58
59 \begin{warpMathJax}
60 \CustomizeMathJax{\newenvironment{WithArrows}[1][\begin{aligned}]{\end{aligned}}}
61 % Unable to make a sized box.
62 \CustomizeMathJax{\newcommand{\Arrow}[2][\Large\unicode{x2938}]{\textit{#2}}}
63 \end{warpMathJax}

```

File 554 **lwarp-wrapfig.sty**

§ 663 Package **wrapfig**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg wrapfig **wrapfig** is emulated.

```

for HTML output: 1 \LWR@ProvidesPackageDrop{wrapfig}[2003/01/31]

2 \newcommand*\LWR@wrapposition{}
3
4 \newcommand{\LWR@wrapfig@printHTMLwidth}{width:\LWR@printlength{\LWR@templengthone}}
5
6 \AtBeginDocument{
7 \ifpackageloaded{keyfloat}{
8 \renewcommand{\LWR@wrapfig@printHTMLwidth}{%
9 \ifboolexpr{
10 test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or
11 bool {KFLT@inkeysubfloats}
12 }%
13 {\LWR@printpercentlength{\LWR@templengthone}{\linewidth}\%; }%
14 {\LWR@printlength{\LWR@templengthone}}%
15 }%
16 }{}
17 }
18
19 \newcommand*\LWR@subwrapfigure[2]{%
20 \renewcommand*\LWR@wrapposition{}%
21 \ifthenelse{%
22 \equal{#1}{r}\OR\equal{#1}{R}\OR%
23 \equal{#1}{o}\OR\equal{#1}{O}%
24 }%
25 {\renewcommand*\LWR@wrapposition}{float:right}}%
26 {\renewcommand*\LWR@wrapposition}{float:left}}%
27 \setlength{\LWR@templengthone}{#2}%
28 \LWR@BlockClassWP{%
29 width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
30 margin:10pt%
31 }%
32 {%
33 width:\LWR@wrapfig@printHTMLwidth; %
34 \LWR@wrapposition; %
35 }%
36 (note)%
37 {marginblock}%

38 \setlength{\linewidth}{\LWR@templengthone}%
39 }
40

```



```

41
42 \NewDocumentEnvironment{wrapfigure}{o m o m}
43 {%
44 \begin{LWR@setvirtualpage}*%
45 \LWR@subwrapfigure{#2}{#4}%
46 \renewcommand*{\@capttype}{figure}%
47 }
48 {%
49 \endLWR@BlockClassWP%
50 \end{LWR@setvirtualpage}%
51 }
52
53
54 \NewDocumentEnvironment{wraptable}{o m o m}
55 {%
56 \begin{LWR@setvirtualpage}*%
57 \LWR@subwrapfigure{#2}{#4}%
58 \renewcommand*{\@capttype}{table}%
59 }
60 {%
61 \endLWR@BlockClassWP%
62 \end{LWR@setvirtualpage}%
63 }
64
65
66 \NewDocumentEnvironment{wrapfloat}{m o m o m}
67 {%
68 \begin{LWR@setvirtualpage}*%
69 \LWR@subwrapfigure{#3}{#5}%
70 \renewcommand*{\@capttype}{#1}%
71 }
72 {%
73 \endLWR@BlockClassWP%
74 \end{LWR@setvirtualpage}%
75 }
76
77 \newlength{\wrapoverhang}

```

---

File 555 **lwarp-xbmk.s sty**

§ 664 Package **xbmks**

Pkg xbmks xbmks is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

```

2 \newcommand{\xbmksetup}[1]{}
3 \NewDocumentCommand{\pdfbookmarkx}{o m o m}{}
4 \NewDocumentCommand{\currentpdfbookmarkx}{m o m}{}
5 \NewDocumentCommand{\subpdfbookmarkx}{m o m}{}
6 \NewDocumentCommand{\belowpdfbookmarkx}{m o m}{}

```

---

File 556 **lwarp-xcolor.sty**

§ 665 Package **xcolor**

(Emulates or patches code by DR. UWE KERN.)

Pkg xcolor xcolor is supported by lwarp.

### § 665.1 Limitations

`\colorboxBlock` and `\fcolorboxBlock` and they are identical to `\colorbox` and `\fcolorbox` in print mode. In HTML mode they place their contents into a `<div>` instead of a `<span>`. These `<div>`s are set to display: `inline-block` so adjacent `\colorboxBlock`s appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for `\colorboxBlock` and `\fcolorboxBlock` are created by lwarp's core if xcolor is loaded.

`background: none` `\colorbox` and `\fcolorboxBlock` allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.

`color support` Color definitions, models, and mixing are fully supported without any changes required.

`colored tables` `\rowcolors` is supported, except that the optional argument is ignored so far.

`colored text and boxes` `\textcolor`, `\colorbox`, and `\fcolorbox` are supported.

`\color` and `\pagecolor` `\color` and `\pagecolor` are ignored. Use `css` or `\textcolor` where possible.

### § 665.2 xcolor definitions: location and timing

The lwarp core and its lwarp-xcolor package are tightly integrated to allow comparable results for print, HTML, and print inside an HTML `lateximage`. This requires a number of definitions and redefinitions depending on whether each of xcolor and `lateximage` is being used, and whether print or HTML is being generated. Some of these actions are one-time when xcolor is loaded, and others are temporary as `lateximage` is used.

**When xcolor is loaded in print mode:** No special actions are taken at the time that xcolor is loaded in print mode, but see `\AtBeginDocument` below.

**When lwarp-xcolor is loaded in HTML mode:** xcolor's original definitions are saved for later restoration. `\LWR@restoreorigformatting` is appended to restore these definitions for use inside a `lateximage`. New HTML-mode definitions are created for `\textcolor`, `\pagecolor`, `\nopagecolor`, `\colorbox`, `\colorboxBlock`, `\fcolorbox`, `\fcolorboxBlock`, and `fcolorminipage`.

**\AtBeginDocument in print or HTML mode:** See Section 89. If xcolor has been loaded, the print-mode `\fcolorbox` is modified to accept a background color of none,

and additional definitions are created for `lwarp`'s new macros print-mode macros `\colorboxBlock`, `\fcolorboxBlock`, and `fcolorminipage`. The HTML versions of these macros will already have been created by `lwarp-xcolor` if it has been loaded.

For use inside an HTML `lateximage`, `\LWR@restoreorigformatting` is appended to temporarily set these functions to their print-mode versions.

**In a `lateximage` in HTML mode:** `\LWR@restoreorigformatting` temporarily restores the print-mode definitions of `xcolor`'s functions. See `\LWR@restoreorigformatting` on page 560.

#### `\color:`

**Print:** Used as-is.

**HTML:** Ignored by `pdftotext`, and will not appear.

**HTML `lateximage`:** Colors will appear in a `lateximage`.

#### `\textcolor:`

**Print:** Used as-is.

**HTML:** Redefined by `lwarp-xcolor`, page 1270.

**HTML `lateximage`:** Remembers and reuses the print version.

#### `\pagecolor:`

**Print:** Used as-is.

**HTML:** Ignored.

**HTML `lateximage`:** Colors will be picked up in a `lateximage`.

#### `\nopagecolor:`

**Print:** Used as-is.

**HTML:** Ignored.

**HTML `lateximage`:** Colors will be picked up in a `lateximage`.

#### `\colorbox:`

**Print:** Used as-is.

**HTML:** Redefined by `lwarp-xcolor`, page 1271.

**HTML `lateximage`:** Remembers and reuses the print version.

#### `\colorboxBlock:`

**Print:** Becomes `\colorbox`.

**HTML:** Newly defined by `lwarp-xcolor` to use a `<div>`, page 1271.

**HTML `lateximage`:** Remembers and reuses the print version `\colorbox`.

#### `\fcolorbox:`

**Print:** Modified to allow a background of none.

`\LWR@print@fcolorbox` at section 89

**HTML:** Redefined by `lwarp-xcolor`, page 1272.

**HTML lateximage:** Remembers and reuses the print version.

**\fcolorboxBlock:**

**Print:** Becomes \fcolorbox. Section 89

**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 1272.

**HTML lateximage:** Remembers and reuses the print version \fcolorbox.

**fcolorminipage:**

**Print:** Newly defined in the lwarp core.

LWR@print@fcolorminipage at section 89

**HTML:** Newly defined by lwarp-xcolor, page 1273.

**HTML lateximage:** Uses the print version.

**\boxframe:**

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1274.

**HTML lateximage:** Remembers and reuses the print version.

### § 665.3 Package loading

**for HTML output:** 1 \LWR@ProvidesPackagePass{xcolor}[2016/05/11]

### § 665.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a lateximage environment:

```
2 \LetLtxMacro\LWR@print@pagecolor\pagecolor
3 \LetLtxMacro\LWR@print@nopagecolor\nopagecolor
```

**\LWR@restoreorigformatting** Inside a lateximage the following gets restored to their print-mode actions:

```
4 \appto\LWR@restoreorigformatting{%
5 \LetLtxMacro\pagecolor\LWR@print@pagecolor%
6 \LetLtxMacro\nopagecolor\LWR@print@nopagecolor%
7 }
```

### § 665.5 \normalcolor

\normalcolor

```
8 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%
9
10 \LWR@formatted{normalcolor}
```

§ 665.6 **HTML color style**

`\LWR@findcurrenttextcolor` Sets `\LWR@tempcolor` to the current color.

```
11 \renewcommand*{\LWR@findcurrenttextcolor}{%
12 \LWR@traceinfo{\LWR@findcurrenttextcolor}%
13 \protect\colorlet{\LWR@current@color}{.}%
14 \LWR@traceinfo{\LWR@findcurrenttextcolor B}%
15 \protect\convertcolorspec{named}{\LWR@current@color}{HTML}\LWR@tempcolor%
16 \LWR@traceinfo{\LWR@findcurrenttextcolor: done}%
17 }
```

Prints a color style for the current color.

`\LWR@currenttextcolorstyle`

```
18 \newcommand*{\LWR@currenttextcolorstyle}{%
19 \LWR@findcurrenttextcolor%
20 \ifdefstring{\LWR@tempcolor}{000000}%
21 {}%
22 {color: \LWR@origpound\LWR@tempcolor ; }%
23 }
```

`\LWR@textcurrentcolor` `{<text>}` Like `\textcolor` but uses the current `\color` instead.

```
24 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
25 \begingroup%
26 \LWR@hook@processingtags%
27 \LWR@findcurrenttextcolor%
28 \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
29 \renewcommand*{\LWR@currenttextcolor}{\LWR@origpound\LWR@tempcolor}%
30 #1%
31 }%
32 \endgroup%
33 }
```

`\LWR@colorstyle` `{<1: model>} {<2: color>}`

For a color style, prints the color converted to HTML colors.

```
34 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
35 \begingroup%
36 \LWR@hook@processingtags%
```

Use the `xcolor` package to convert to an HTML color space:

```
37 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
```

Print the converted color:

```
38 \LWR@origpound\LWR@tempcolor%
39 \endgroup%
40 }
```

`\LWR@backgroundcolor` `[<model>] {<color>} {<text>}`

Similar to `\textcolor`, but prints black text against a color background.

Converted into an HTML hex color span.

```

41 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
42 \begingroup%
43 \LWR@hook@processingtags%
44 \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
45 #3%
46 }%
47 \endgroup%
48 }

```

### § 665.7 HTML border

`\LWR@borderpadding`  $\{\langle colorstyle \rangle\} \{\langle color \rangle\}$  Prints the HTML attributes for a black border and padding. `\LWR@forceminwidth` must be used first in order to set the border width.

```

49 \newcommand*{\LWR@borderpadding}[2]{%
50 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
51 padding:\LWR@printlength{\fboxsep}%
52 }

```

### § 665.8 High-level macros

`\color`  $[\langle model \rangle] \{\langle color \rangle\}$



The current `\color` is used by HTML rules and frames, but does not affect the current HTML text output, due to the lack of HTML states and scoping limitations. Use `\textcolor` if possible.

```

53 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
54 \IfValueTF{#1}{%
55 \LWR@print@color[#1]{#2}%
56 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
57 }{%
58 \LWR@print@color{#2}%
59 \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
60 }%
61 \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
62 }
63
64 \LWR@formatted{color}

```

`\textcolor`  $[\langle model \rangle] \{\langle color \rangle\} \{\langle text \rangle\}$

Converted into an HTML hex color span.

```

65 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
66 \begingroup%
67 \LWR@hook@processingtags%
68 \IfValueTF{#1}{%
69 \color[#1]{#2}%
70 }{%
71 \color{#2}%

```

```

72 }%
73 \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
74 \endgroup%
75 }%
76
77 \LWR@formatted{textcolor}

```

`\pagecolor` [*model*] {*color*}

Ignored. Use css instead.

```
78 \renewcommand*{\pagecolor}[2][named]{}
```

`\nopagecolor` Ignored.

```
79 \renewcommand*{\nopagecolor}{}

```

`\colorbox` [*model*] {*color*} {*text*}

Converted into an HTML hex background color `<span>`.

```

80 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%
81 \begingroup%
82 \LWR@hook@processingtags%
83 \InlineClass[%
84 background:\LWR@colorstyle{#1}{#2} ; %
85 padding:\LWR@printlength{\fboxsep}%
86]{colorbox}{#3}%
87 \endgroup%
88 }

```

`\colorboxBlock` [*model*] {*color*} {*text*}

Converted into an HTML hex background color `<div>`.

```

89 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
90 \begingroup%
91 \LWR@hook@processingtags%

92 \LWR@stoppars%

93 \begin{BlockClass}[%
94 background:\LWR@colorstyle{#1}{#2} ; %
95 padding:\LWR@printlength{\fboxsep}%
96]{colorboxBlock}
97 #3
98 \end{BlockClass}%
99 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
100 \global\booltrue{LWR@minipagethispar}%
101 }
```

`\fcolorbox` [*framemodel*] [*framecolor*] [*boxmodel*] [*boxcolor*] [*text*]

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```
102 \NewDocumentCommand{\LWR@HTML@fcolorbox}{O{named} m O{#1} m +m}{%
103 \LWR@traceinfo{HTML fcolorbox #2 #4}%
104 \begingroup%
105 \LWR@hook@processingtags%
106 \LWR@forceminwidth{\fboxrule}%
107 \ifthenelse{\equal{#4}{none}}{%
108 {% no background color
109 \InlineClass[%
110 \LWR@borderpadding{#1}{#2}%
111]{fcolorbox}{#5}%
112 }%
113 {% yes background color
114 \InlineClass[%
115 \LWR@borderpadding{#1}{#2} ; %
116 background:\LWR@colorstyle{#3}{#4}%
117]{fcolorbox}{#5}%
118 }%
119 \endgroup%
120 }
```

`\fcolorboxBlock` [*framemodel*] [*framecolor*] [*boxmodel*] [*boxcolor*] [*text*]

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```
121 \NewDocumentCommand{\LWR@HTML@fcolorboxBlock}{O{named} m O{#1} m +m}{%
122 \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
123 \begingroup%
124 \LWR@hook@processingtags%
125 \LWR@forceminwidth{\fboxrule}%

126 \LWR@stoppars%

127 \ifthenelse{\equal{#4}{none}}{%
128 {% no background color
129 \begin{BlockClass}[%
130 \LWR@borderpadding{#1}{#2}%
131]{fcolorboxBlock}
```



```

132 #5
133 \end{BlockClass}%
134]%
135 {% yes background color
136 \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
137 \begin{BlockClass}[%
138 background:\LWR@origpound\LWR@tempcolortwo\ ; %
139 \LWR@borderpadding{#1}{#2}%
140]{fcolorboxBlock}
141 #5
142 \end{BlockClass}%
143]%
144 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

145 \global\booltrue{LWR@minipagethispar}%
146 \LWR@traceinfo{HTML fcolorboxBlock done}%
147 }

```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the lwarp core: section 89

```

\LWR@subfcolorminipage {<1:framemodel>} {<2:framecolor>} {<3:background tag>} {<4:height>}
148 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%
149 \LWR@stoppars%
150 \begin{BlockClass}[%
151 #3%
152 \LWR@borderpadding{#1}{#2} ; %
153 \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
154 width:\LWR@printlength{\LWR@tempwidth}%
155]{fcolorminipage}%
156 }
Env fcolorminipage [<1:framemodel>] [<2:framecolor>] [<3:boxmodel>] {<4:boxcolor>} [<5:align>] [<6:height>]
[<7:inner-align>] {<8:width>}
157 \NewDocumentEnvironment{LWR@HTML@fcolorminipage}{O{named} m O{#1} m O{c} o o m}
158 {%
159 \LWR@hook@processingtags%
160 \setlength{\LWR@tempwidth}{#8}%
161 \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
162 \LWR@forceminwidth{\fboxrule}%
163 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
164 \ifthenelse{\equal{#4}{none}}%
165 {\LWR@subfcolorminipage{#1}{#2}{#6}}%
166 {%
167 \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%

```

```

168 \LWR@subfcolorminipage{#1}{#2}%
169 {background:\LWR@origpound\LWR@tempcolortwo\ ; }%
170 {#6}%
171 }%
172 }%
173 {%
174 \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

175 \global\booltrue{LWR@minipagethispar}%
176 }

```

`\boxframe`  $\langle width \rangle$   $\langle height \rangle$   $\langle depth \rangle$

The depth is added to the height, but the box is not decended below by the depth. `\textcolor` is honored.

```

177 \newcommand*{\LWR@HTML@boxframe}[3]{%
178 {%
179 \setlength{\LWR@tempwidth}{#1}%
180 \setlength{\LWR@tempheight}{#2}%
181 \addtolength{\LWR@tempheight}{#3}%
182 \LWR@forceminwidth{\fboxrule}%
183 \LWR@findcurrenttextcolor%
184 \InlineClass[%
185 display:inline-block ; %
186 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@currenttextcolor{} ; %
187 width:\LWR@printlength{\LWR@tempwidth} ; %
188 height:\LWR@printlength{\LWR@tempheight}%
189]{boxframe}{}%
190 }%
191 }
192
193 \LWR@formatted{boxframe}

```

## § 665.9 Row colors

`\rowcol@l@rs`  $\langle cmds \rangle$   $\langle startrow \rangle$   $\langle odd color \rangle$   $\langle even color \rangle$

```

194 \newcommand*{\LWR@xcolortempcolor}{}
195
196 \def\rowcol@l@rs[#1]#2#3#4%
197 {
198 \rownum=1%
199 \@rowcolorstrue%
200 \@ifxempty{#3}%
201 {\def\@oddrowcolor{\@norowcolor}}%
202 {%
203 \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor%
204 \edef\@oddrowcolor{%
205 \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%

```

```

206 }%
207 }%
208 \@ifxempty{#4}%
209 {\def\@evenrowcolor{\@norowcolor}}%
210 {%
211 \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor%
212 \edef\@evenrowcolor{%
213 \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
214 }%
215 }%
216 \if@rowcmd
217 \def\@rowcolors
218 {%
219 % #1%
220 \if@rowcolors
221 % \noalign{%
222 \relax\ifnum\rownum<#2\@norowcolor\else
223 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
224 % }%
225 \fi%
226 }%
227 \else
228 \def\@rowcolors
229 {%
230 \if@rowcolors
231 \ifnum\rownum<#2%
232 % \noalign{%
233 \@norowcolor
234 % }
235 \else
236 % #1%
237 % \noalign{%
238 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
239 % }%
240 \fi
241 \fi%
242 }%
243 \fi
244 \ignorespaces%
245 }

```

`\@norowcolor` Turns off color for this row.

```

246 \def\@norowcolor{%
247 \renewcommand{\LWR@xcolorrowHTMLcolor}{}%
248 }

```

`\@rowc@lors` Executed at the end of each row.

```

249 \def\@rowc@lors{%
250 % \noalign{%
251 \advance\rownum\@ne%
252 % }%
253 \@rowcolors%
254 }

```

---

File 557 **lwarp-xexchangebar.sty**

§ 666 Package **xexchangebar**

Pkg xexchangebar xexchangebar is ignored

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]  
2 \LWR@origRequirePackage{lwarp-changebar}

---

File 558 **lwarp-xellipsis.sty**

§ 667 Package **xellipsis**

*(Emulates or patches code by DONALD P. GOODMAN III.)*

Pkg xellipsis xellipsis is patched for use by lwarp.

When non-zero, each of the spaces is converted to an HTML thin unbreakable space.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xellipsis}[2015/11/01]

```

2 \newcommand*{\LWR@xellipsespace}[1]{%
3 \ifdim#1=0pt\else%
4 \ifdim#1<\fontdimen2\font%
5 \,%
6 \else%
7 ~%
8 \fi%
9 \fi%
10 }
11
12 \def\xelip{%
13 \mbox{%
14 \LWR@xellipsespace{\xelipprebef}%
15 \xelipprechar%
16 \LWR@xellipsespace{\xelippreaft}%
17 \LWR@xellipsespace{\xelipbef}%
18 \xelipchar%
19 \xel@loopi = 1%
20 \loop\ifnum\xelipnum>\xel@loopi%
21 \advance\xel@loopi by1%
22 \LWR@xellipsespace{\xelipgap}%
23 \xelipchar%
24 \repeat%
25 \LWR@xellipsespace{\xelipaft}%
26 \LWR@xellipsespace{\xelippostbef}%
27 \xelippostchar%
28 \LWR@xellipsespace{\xelippostaft}%

```

29 }%  
30 }%

---

File 559 **lwarp-xetexko.sty**

§ 668 Package **xetexko**

*(Emulates or patches code by DOHYUN KIM.)*

Pkg xetexko xetexko is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@Loadbefore{xetexko}
2
3 \LWR@ProvidesPackagePass{xetexko}[2021/03/22]

4 \renewcommand{\verticaltypesetting}{}
5 \renewenvironment{vertical}[1]{\BlockClass{verticalrl}}{\endBlockClass}
6 \renewenvironment{horizontal}[1]{\BlockClass{horizontaltb}}{\endBlockClass}
7 \renewcommand{\vertlatin}[1]{#1}
```

---

File 560 **lwarp-xevlna.sty**

§ 669 Package **xevlna**

*(Emulates or patches code by ZDENĚK WAGNER.)*

Pkg xevlna xevlna is patched for use by lwarp.

Non-breakable spaces are inserted into HTML.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{xevlna}[2016/09/05]

2 \def\ProcessCSpreposition{\ifx\next\xevlnaXeTeXspace\HTMLentity{nbsp}\fi}
3
4 \appto{\LWR@hook@processingtags}{\xevlnaDisable}%
```


---

File 561 **lwarp-xfakebold.sty**

§ 670 Package **xfakebold**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg xfakebold xfakebold is patched for use by lwarp, and additional underlying support is found in the lwarp core.

 **text mode** xfakebold is only used in svg math and lateximages. Text mode is not set bold, but \setBold in text will be applied to any following svg math.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xfakebold}[2020/06/24]
2 \newcommand*\LWR@HTML@setBold{\booltrue\LWR@xfakebold}
3 \LWR@formatted{setBold}
4
5 \newcommand*\LWR@HTML@unsetBold{\boolfalse\LWR@xfakebold}
6 \LWR@formatted{unsetBold}
7
8 \renewcommand*\LWR@applyxfakebold{%
9 \ifbool\LWR@xfakebold{\LWR@print@setBold}{\LWR@print@unsetBold}%
10 }

```

For MATHJAX, xfakebold is ignored.

```

11 \begin{warpMathJax}
12 \CustomizeMathJax{\newcommand{\setBold}[1][{}]}
13 \CustomizeMathJax{\newcommand{\unsetBold}{}]}
14 \end{warpMathJax}

```

---

File 562 **lwarp-xfrac.sty**

§ 671 Package **xfrac**

(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

Pkg xfrac Supported by adding xfrac instances, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xfrac}[2018-08-23]



**font size**

In the user's document preamble, lwarp should be loaded after font-related setup. During HTML conversion, this font is used by lwarp to generate its initial PDF output containing HTML tags, later to be converted by *pdftotext* to a plain text file. While the text may be in any font which *pdftotext* can read, the math is directly converted into SVG images using this same user-selected font. xfrac below is set for the Latin Modern (lmr) font. If another font is used, it may be desirable to redefine \xfracHTMLfontsize with a different em size.

\sfrac [*instance*] {*num*} [*sep*] {*denom*}

A text-mode instance for the default font is provided below. The numerator and denominator formats are adjusted to encase everything in HTML tags. \scalebox is made null inside the numerator and denominator, since the HTML tags should not be scaled, and we do not want to introduce additional HTML tags for scaling.

In math mode, which will appear inside a lateximage, no adjustments are necessary.

\xfracHTMLfontsize User-redefinable macro which controls the font size of the fraction.

```
2 \newcommand*\xfracHTMLfontsize{.6em}
```

**instances** Instances of xfrac for various font choices:

Produce css for a small raised numerator and a small denominator.

Scaling is turned off so that *pdftotext* correctly reads the result.

```

3 \DeclareInstance{xfrac}{default}{text}{
4 numerator-format = {%
5 \begingroup%
6 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
7 \InlineClass{numerator}{#1}\,%
8 \endgroup%
9 },
10 denominator-format = {%
11 \begingroup%
12 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
13 \InlineClass{denominator}{#1}%
14 \endgroup%
15 },

```

For *pdftotext*, do not scale the text:

```

16 scaling = false
17 }
18
19 \DeclareInstance{xfrac}{lmr}{text}{
20 numerator-format = {%
21 \begingroup%
22 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
23 \InlineClass{numerator}{#1}\,%
24 \endgroup%
25 },
26 denominator-format = {%
27 \begingroup%
28 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
29 \InlineClass{denominator}{#1}%
30 \endgroup%
31 },

```

For *pdftotext*, do not scale the text:

```

32 scaling = false
33 }
34
35 \DeclareInstance{xfrac}{lmss}{text}{
36 numerator-format = {%
37 \begingroup%
38 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
39 \InlineClass{numerator}{#1}\,%
40 \endgroup%
41 },
42 denominator-format = {%
43 \begingroup%
44 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
45 \InlineClass{denominator}{#1}%
46 \endgroup%
47 },

```

For *pdftotext*, do not scale the text:

```

48 scaling = false
49 }
50
51 \DeclareInstance{xfrac}{lmtt}{text}{
52 numerator-format = {%
53 \begingroup%
54 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
55 \InlineClass{numerator}{#1}\,%
56 \endgroup%
57 },
58 denominator-format = {%
59 \begingroup%
60 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
61 \InlineClass{denominator}{#1}%
62 \endgroup%
63 },

```

For *pdftotext*, do not scale the text:

```

64 scaling = false
65 }

```

For MATHJAX:

```

66 \begin{warpMathJax}
67 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][/]{\^LWRsfracnumerator\!#1}_{#2}}
68 \CustomizeMathJax{\newcommand{\sfrac}[2][\def\LWRsfracnumerator{#2}\LWRsfrac}}
69 \end{warpMathJax}

```

---


File 563 **lwarp-xltabular.sty**

§ 672 Package **xltabular**

(Emulates or patches code by ROLF NIEPRASCHK, HERBERT VOSS.)

Pkg xltabular xltabular is emulated by lwarp.

for HTML output: Relies on tabularx.

 **table numbering** At present, an xltabular without a caption or with only a \caption\* may be misnumbered in HTML, so it may be necessary to place at the end of the table:

```
\warpHTMLonly{\addtocounter{table}{-1}}
```

```

1 \RequirePackage{tabularx}
2 \RequirePackage{ltablex}
3
4 \LWR@ProvidesPackageDrop{xltabular}[2018/05/23]
5
6 \DeclareDocumentEnvironment{xltabular}{o m m}
7 {\longtable{#3}}

```



---

```
8 {\endlongtable}
```

---

File 564 **lwarp-xltextra.sty**

§ 673 Package **xltextra**

*(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)*

Pkg xltextra xltextra is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xltextra}[2016/01/21]

```
2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
4 \newcommand*\TeX@logo@spacing[6]{}
5
6 \newcommand*\vfrac[2]{%
7 #1/\textsubscript{#2}%
8 }
9
10 \newcommand\namedglyph[1]{%
11 \@tempcnta=\XeTeXglyphindex "#1"\relax
12 \ifnum\@tempcnta>0
13 \XeTeXglyph\@tempcnta
14 \else
15 \xxt@namedglyph@fallback{#1}%
16 \fi}
17
18 \newcommand\xxt@namedglyph@fallback[1][[#1]]
19
20 \DeclareDocumentCommand{\showhyphens}{m}{}

```

---

File 565 **lwarp-xmpincl.sty**

§ 674 Package **xmpincl**

*(Emulates or patches code by MAARTEN SNEEP.)*

Pkg xmpincl xmpincl is ignored.

**for HTML output:** Discard all options for lwarp-xmpincl:

```
1 \LWR@ProvidesPackageDrop{xmpincl}[2008/05/10]
2 \newcommand*\includemp[1]{}

```

File 566 **lwarp-xpiano.sty**

§ 675 Package **xpiano**

*(Emulates or patches code by ENRICO GREGORIO.)*

Pkg xpiano xpiano is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xpiano}

2 \ExplSyntaxOn
3 \NewDocumentCommand{\LWR@print@keyboard}{ O{}m }
4 {
5 \xpiano_keyboard:nn { #1 } { #2 }
6 }
7
8 \NewDocumentCommand{\LWR@HTML@keyboard}{ O{}m }
9 {
10 \begin{lateximage}*
11 [%
12 -xpiano-~\PackageDiagramAltText{}: \detokenize\expandafter{#2}%
13]
14 [\detokenize\expandafter{#1}]
15 \xpiano_keyboard:nn { #1 } { #2 }
16 \end{lateximage}
17 }
18 \ExplSyntaxOff
19
20 \LWR@formatted{keyboard}

```

File 567 **lwarp-xpinyin.sty**

§ 676 Package **xpinyin**

*(Emulates or patches code by SOBEN LEE.)*

Pkg xpinyin xpinyin is supported.

Pinyin is disabled for file names, the sideroc, and regular footnotes, but is left enabled for minipage footnotes, as per the print mode.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xpinyin}[2019-04-07]

```

The original's boxes are not used, instead the contents are used with <ruby>, <rb>, and <rt> tags per modern HTML. Color is detected. ratio is ignored for *pdfotext* to work correctly. Extra spaces are placed inside the tags to allow line breaks in the HTML text.

```

2 \ExplSyntaxOn
3 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_make_pinyin_box:nnn #1#2#3
4 {
5 \color_group_begin: \color_ensure_current:
6 \L__xpinyin_pinyin_box_hook_tl
7 \renewcommand*{\L__xpinyin_ratio_tl}{1}% for pdftotext
8 __xpinyin_select_font:
9 \clist_if_exist:cTF { c__xpinyin_multiple_ #1 _clist }
10 { \L__xpinyin_multiple_tl \L__xpinyin_format_tl }
11 { \L__xpinyin_format_tl }
12 \ifdefempty{\L__xpinyin_format_tl}
13 {#3}
14 {\LWR@textcurrentcolor{#3}}
15 \color_group_end:
16 }
17 \LWR@formatted{__xpinyin_make_pinyin_box:nnn}
18
19 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
20 {
21 __xpinyin_leavevmode:
22 \LWR@htmltagc{ruby}
23 \LWR@htmltagc{rb}
24 __xpinyin_save_CJKsymbol:n {#2}\null% \null removes extra space
25 \LWR@htmltagc{/rb\space}
26 \LWR@htmltagc{rp}{\LWR@htmltagc{/rp\space}
27 \LWR@htmltagc{rt}
28 __xpinyin_make_pinyin_box:nnn {#1} {#2} { \use:c { c__xpinyin_ #1 _tl } }
29 \LWR@htmltagc{/rt\space}
30 \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
31 \LWR@htmltagc{/ruby\space}\null
32 }
33 \LWR@formatted{__xpinyin_CJKsymbol:nn}
34
35 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_single_CJKsymbol:nn #1#2
36 {
37 __xpinyin_leavevmode:
38 \LWR@htmltagc{ruby}
39 \LWR@htmltagc{rb}
40 __xpinyin_save_CJKsymbol:n {#1}\null% \null removes extra space
41 \LWR@htmltagc{/rb\space}
42 \LWR@htmltagc{rp}{\LWR@htmltagc{/rp\space}
43 \LWR@htmltagc{rt}
44 __xpinyin_make_pinyin_box:xnn
45 { __xpinyin_to_unicode:n {#1} } {#1} { __xpinyin_pinyin:n {#2} }
46 \LWR@htmltagc{/rt\space}
47 \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
48 \LWR@htmltagc{/ruby\space}\null
49 }
50 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
51
52 \ExplSyntaxOff

```

The lwarp core uses the following to disable CJK xpinyin for filenames, sideroc, and footnotes.

---

```
53 \renewcommand*{\LWR@disablepinyin}{\disablepinyin}
54
55 \FilenameNullify{\LWR@disablepinyin}
```

---

File 568 **lwarp-xr.sty**§ 677 Package **xr**

*(Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.)*

Pkg xr xr is patched for use by lwarp. The \*\_html.aux file is used. \externaldocument is modified to also accept the optional arguments for xr-hyper, which currently uses xr for HTML output.

See section 5.17.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{xr}[2019/07/22]%
2 \LetLtxMacro\LWR@orig@externaldocument\externaldocument
3
4 \RenewDocumentCommand{\externaldocument}{O{} O{} m O{}}{%
5 \ifblank{#1}{%
6 \LWR@orig@externaldocument{#3_html}%
7 }{%
8 \LWR@orig@externaldocument[#1]{#3_html}%
9 }%
10 }
```

---

File 569 **lwarp-xr-hyper.sty**§ 678 Package **xr-hyper**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg xr-hyper xr-hyper is replaced by xr, which is modified to accept the optional arguments for \externaldocument. So far, no hyperlinks are provided for citations.

See section 5.17.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{xr-hyper}[2019/10/03]%
2
3 \LWR@origRequirePackage{lwarp-xr}
```

---

File 570 **lwarp-xtab.sty**§ 679 Package **xtab**

*(Emulates or patches code by PETER WILSON.)*

Pkg xtab **xtab** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{xtab}[2011/07/31]

⚠ Misplaced alignment tab character &

```

\StartDefiningTabulars
\tablefirsthead
. . .
\StopDefiningTabulars

```

See section 8.10.1.

⚠ lateximage supertabular and xtab are not supported inside a lateximage.

```

2 \newcommand{\LWRXT@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRXT@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9
10 \newcommand{\tablelasthead}[1]{}
11
12 \newcommand{\notablelasthead}{}
13
14 \newcommand{\tabletail}[1]{}
15
16 \newcommand{\LWRXT@lasttail}{}
17
18 \newcommand{\tablelasttail}[1]{%
19 \long\gdef\LWRXT@lasttail{#1}%
20 }

21 \newcommand{\tablecaption}[2][{}]{%
22 \long\gdef\LWRXT@caption{%
23 \ifblank{#1}%
24 {\caption{#2}}%
25 {\caption[#1]{#2}}%
26 }%
27 }
28
29 \let\topcaption\tablecaption
30 \let\bottomcaption\tablecaption

31 \newcommand*{\LWRXT@caption}{}
32
33 \newcommand*{\shrinkheight}[1]{}
34
35 \newcommand*{\xentrystretch}[1]{}
36
37 \NewDocumentEnvironment{xtabular}{s o m}
38 {%
39 \LWR@traceinfo{xtabular}%

```

```

40 \table%
41 \LWRXT@caption%
42 \begin{tabular}{#3}%
43 \TabularMacro\ifdefvoid{\LWRXT@firsthead}%
44 {\LWR@getmynexttoken}%
45 {\expandafter\LWR@getmynexttoken\LWRXT@firsthead}%
46 }%
47 {%
48 \ifdefvoid{\LWRXT@lasttail}%
49 }%
50 {%
51 \TabularMacro\ResumeTabular%
52 \LWRXT@lasttail%
53 }%
54 \end{tabular}%
55 \endtable%

56 \gdef\LWRXT@caption{%

57 \LWR@traceinfo{xtabular done}%
58 }
59
60 \NewDocumentEnvironment{mpxtabular}{s o m}
61 {\minipage{\linewidth}\xtabular{#3}}
62 {\endxtabular\endminipage}

```

---

File 571 **lwarp-xunicode.sty**

§ 680 Package **xunicode**

Pkg xunicode Error if xunicode is loaded after lwarp.

Patch lwarp-xunicode, but also verify that it was loaded before lwarp:

**for HTML output:**

```

1 \LWR@loadbefore{xunicode}%
2
3 \LWR@ProvidesPackagePass{xunicode}[2011/09/09]

```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `textcomp`.

```

4 \providecommand*\LWR@HTML@textcircled[1]{%
5 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
6 }
7
8 \LWR@formatted{textcircled}

```

Nullify xunicode macros when generating filenames:

```

9 \FilenameNullify{%
10 \renewcommand*\textdegree{}%

```

```

11 \renewcommand*\textcelsius{}%
12 \renewcommand*\textohm{}%
13 \renewcommand*\textmu{}%
14 \renewcommand*\textlquill{}%
15 \renewcommand*\extrquill{}%
16 \renewcommand*\textcircledP{}%
17 \renewcommand*\texttwelveudash{}%
18 \renewcommand*\textthreequartersemdash{}%
19 \renewcommand*\textmho{}%
20 \renewcommand*\textnaira{}%
21 \renewcommand*\textpeso{}%
22 \renewcommand*\textrecipe{}%
23 \renewcommand*\textinterrobang{}%
24 \renewcommand*\textinterrobangdown{}%
25 \renewcommand*\textperthousand{}%
26 \renewcommand*\textpertenthousand{}%
27 \renewcommand*\textbaht{}%
28 \renewcommand*\textdiscount{}%
29 \renewcommand*\textservicemark{}%
30 \renewcommand*\textcircled}[1]{#1}%
31 \renewcommand*\capitalcedilla}[1]{#1}%
32 \renewcommand*\capitalogonek}[1]{#1}%
33 \renewcommand*\capitalgrave}[1]{#1}%
34 \renewcommand*\capitalacute}[1]{#1}%
35 \renewcommand*\capitalcircumflex}[1]{#1}%
36 \renewcommand*\capitaltilde}[1]{#1}%
37 \renewcommand*\capitaldieresis}[1]{#1}%
38 \renewcommand*\capitalhungarumlaut}[1]{#1}%
39 \renewcommand*\capitalring}[1]{#1}%
40 \renewcommand*\capitalcaron}[1]{#1}%
41 \renewcommand*\capitalbreve}[1]{#1}%
42 \renewcommand*\capitalmacron}[1]{#1}%
43 \renewcommand*\capitaldotaccent}[1]{#1}%
44 % FilenameNullify

```

---

### File 572 **lwarp-xurl.sty**

#### § 681 Package **xurl**

Pkg xurl xurl is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]
2
3 \def\useOriginalUrlSetting{}

```

---

### File 573 **lwarp-xy.sty**

#### § 682 Package **xy**

(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)

Pkg xy xy is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{xy}[2013/10/06]

After xy modules have been loaded:

```
2 \AtBeginDocument{
```

The original definitions without a lateximage:

```
3 \LetLtxMacro\LWR@orig@xy\xy
4 \LetLtxMacro\LWR@orig@endxy\endxy
```

The outer-most xy environment is placed in a lateximage, but not more than one level deep, which would conflict with xy:

```
5 \renewcommand*{\xy}{%
6 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7 {\addtocounter{LWR@lateximagedepth}{1}}%
8 {\begin{lateximage}[-xy-~\PackageDiagramAltText]}%
9 \LWR@orig@xy%
10 }
11
12 \renewcommand*{\endxy}{%
13 \LWR@orig@endxy%
14 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
15 {\addtocounter{LWR@lateximagedepth}{-1}}%
16 {\end{lateximage}}%
17 }
```

The \xybox must use the original definitions of \xy, \endxy:

```
18 \def\xybox#1{%
19 \LWR@orig@xy#1\LWR@orig@endxy%
20 \Edge@c={\rectangleEdge}\computeLeftUpness@%
21 }
```

If \xygraph is used, it is placed inside a lateximage:

```
22 \@ifundefined{xygraph}{}{
23
24 \LetLtxMacro\LWR@origxygraph\xygraph
25
26 \renewcommand{\xygraph}[1]{%
27 \begin{lateximage}[-xy- xygraph \PackageDiagramAltText]
28 \LWR@origxygraph{#1}
29 \end{lateximage}
30 }
31
32 }% xygraph defined
33
34 }% AtBeginDocument
```



---

File 574 **lwarp-zhlineskip.sty**

§ 683 Package **zhlineskip**

Pkg zhlineskip zhlineskip is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{zhlineskip}[2019/05/15]

```
2 \newcommand*\SetTextEnvironmentSinglespace[1]{}
3 \newcommand*\RestoreTextEnvironmentLeading[1]{}
4 \newcommand*\SetMathEnvironmentSinglespace[1]{}
5 \newcommand*\RestoreMathEnvironmentLeading[1]{}

```

---

File 575 **lwarp-zwpagelayout.sty**

§ 684 Package **zwpagelayout**

*(Emulates or patches code by ZDENĚK WAGNER.)*

Pkg zwpagelayout zwpagelayout is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{zwpagelayout}[2013/01/13]

```
2 \def\noBboxes{}
3 \@onlypreamble\noBboxes
4
5 \expandafter\ifx\csname definecolor\endcsname\relax \else
6 \definecolor{cmykblack}{cmyk}{0,0,0,1}
7 \definecolor{grblack}{gray}{0}
8 % \ifzwpl@redefineblack
9 % \definecolor{black}{cmyk}{0,0,0,1}\color{black}
10 % \fi
11 \definecolor{cmykred}{cmyk}{0,1,1,0}
12 \definecolor{cmykgreen}{cmyk}{1,0,1,0}
13 \definecolor{cmykblue}{cmyk}{1,1,0,0}
14 \definecolor{rgbred}{rgb}{1,0,0}
15 \definecolor{rgbgreen}{rgb}{0,1,0}
16 \definecolor{rgbbblue}{rgb}{0,0,1}
17 % \ifzwpl@redefinetcmyk
18 % \definecolor{red}{cmyk}{0,1,1,0}
19 % \definecolor{green}{cmyk}{1,0,1,0}
20 % \definecolor{blue}{cmyk}{1,1,0,0}
21 % \fi
22 \fi
23
24 \let\OverprintXeTeXExtGState\relax
25
26 \DeclareRobustCommand\SetOverprint{\ignorespaces}

```

```

27 \DeclareRobustCommand\SetKnockout{\ignorespaces}
28 \DeclareRobustCommand\textoverprint[1]{\SetOverprint#1}}
29 \DeclareRobustCommand\textknockout[1]{\SetKnockout#1}}
30
31 \def\SetPDFminorversion#1{}
32 \@onlypreamble\SetPDFminorversion
33
34 \newcommand*\Vcorr{}
35
36 \DeclareRobustCommand\vb[1][{}]{
37 \NewDocumentCommand{\NewOddPage}{* o}{}
38 \NewDocumentCommand{\NewEvenPage}{* o}{}
39 \def\SetOddPageMessage#\gdef\ZW@oddwarning}
40 \def\SetEvenPageMessage#\gdef\ZW@evenwarning}
41 \def\ZW@oddwarning{Empty page inserted}\let\ZW@evenwarning\ZW@oddwarning
42
43 \def\clap#1{#1}
44
45 \def\CropFlap{2in}
46 \def\CropSpine{1in}
47 \def\CropXSpine{1in}
48 \def\CropXtrim{.25in}
49 \def\CropYtrim{.25in}
50 \def\UserWidth{5in}
51 \def\UserLeftMargin{1in}
52 \def\UserRightMargin{1in}
53 \def\UserTopMargin{1in}
54 \def\UserBotMargin{1in}
55 \def\thePageNumber{\LWR@origpound\,\arabic{page}}
56 \ifXeTeX
57 \def\ifcaseZWdriver{\ifcase2}
58 \else
59 \def\ifcaseZWdriver{\ifcase1}
60 \fi
61 \DeclareRobustCommand\ZWifdriver[2]{}

```

---

File 576 **lwarp-patch-komascript.sty**

§ 685 Package **patch-komascript**

Pkg lwarp-patch-komascript Patches for komascript classes.

lwarp loads this package when scrbook, scrartcl, or screprt classes are detected.

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

\captionformat, \figureformat, and \tableformat are not yet emulated.

 **Not fully tested!** [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

**for HTML output:** 1 \ProvidesPackage{lwarp-patch-komascript}

typearea is emulated.

```
2 \RequirePackage{lwarp-typearea}
```

tocbasic is emulated.

```
3 \RequirePackage{lwarp-tocbasic}
```

scrextend patches most of the new macros.

```
4 \RequirePackage{lwarp-scrextend}
```

Indexing macros, simplified for lwarp:

```
5 \AtBeginDocument{
6
7 \renewcommand*{\idx@heading}{%
8 \idx@@heading{\indexname}%
9 }
10
11 \renewenvironment{theindex}{%
12 \idx@heading%
13 \index@preamble\par\nobreak
14 \let\item\LWR@indexitem%
15 \let\subitem\LWR@indexsubitem%
16 \let\subsubitem\LWR@indexsubsubitem%
17 }
18 {}
19
20 \renewcommand*\indexspace{}
21
22 }% AtBeginDocument
```

The \minisec is placed inside a <div> of class minisec.

```
23 \renewcommand*\minisec[1]{
24 \begin{BlockClass}{minisec}
25 #1
26 \end{BlockClass}
27 }
```

The part and chapter preambles are placed as plain text just after each heading.

```
28 \@ifundefined{setpartpreamble}{}{
29 \RenewDocumentCommand{\setpartpreamble}{o o +m}{%
30 \renewcommand{\part@preamble}{#3}%
31 }
32 }
33
34 \@ifundefined{setchapterpreamble}{}{
35 \RenewDocumentCommand{\setchapterpreamble}{o o +m}{%
36 \renewcommand{\chapter@preamble}{#3}%
37 }
```

```
37 }
38 }
```

Do not use `\chaptername`:

```
39 \renewcommand*{\LWR@printchaptername}{}
```

Simple captions are used in all cases.

```
40 \AtBeginDocument{
41 \AtBeginDocument{
42 \LetLtxMacro\captionbelow\caption
43 \LetLtxMacro\captionabove\caption
44
45 \LetLtxMacro\captionofbelow\captionof
46 \LetLtxMacro\captionofabove\captionof
47 }
48 }
49
50 \RenewDocumentEnvironment{captionbeside}{o m o o s}
51 {}
52 {%
53 \IfValueTF{#1}%
54 {\caption[#1]{#2}}%
55 {\caption{#2}}%
56 }
57
58 \RenewDocumentEnvironment{captionofbeside}{m o m o o s}
59 {}
60 {%
61 \IfValueTF{#2}%
62 {\captionof{#1}[#2]{#3}}%
63 {\captionof{#1}{#3}}%
64 }
65
66 \RenewDocumentCommand{\setcapindent}{s m}{}
67 \renewcommand*{\setcaphanging}{}
68 \renewcommand*{\setcapwidth}[2][{}]{
69 \renewcommand*{\setcapdynwidth}[2][{}]{
70 \RenewDocumentCommand{\setcapmargin}{s o m}{}

```

---

File 577 **lwarp-patch-memoir.sty**

§ 686 Package **patch-memoir**

*(Emulates or patches code by PETER WILSON.)*

Pkg lwarp-patch-memoir Patches for memoir class.

 **Not fully tested!** [Please send bug reports!](#)

lwarp loads this package when the memoir class is detected.

⚠ **captions** `lwarp` uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.

⚠ **options clash** While emulating `memoir`, `lwarp` pre-loads a number of packages (section 686.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading `lwarp`:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}
```

⚠ **version numbers** `memoir` emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since `lwarp` is intended to support the freestanding packages, which are often newer than the date declared by `memoir`, it is hoped that `memoir` will update and change its emulated version numbers to match.

`\label{bookmark}{tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in HTML.

⚠ **comment** The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with `\newcomment` use `memoir`'s definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

⚠ **verbatim footnotes** `\verbfootnote` is not supported.

⚠ **\newfootnoteseries** `\newfootnoteseries`, etc. are not supported.

⚠ **page notes** `lwarp` loads `pagenote` to perform `memoir`'s `pagenote` functions, but there are minor differences in `\pagenotesubhead` and related macros.

**page notes with cleveref** To add support for `pagenotes` with `cleveref`, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

**page note \nameref** Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

⚠ **poems** Poem numbering is not supported.

⚠ **verbatim** The `verbatim` environment does not yet support the `memoir` enhancements. It is currently recommended to load and use `fancyvrb` instead.

⚠ **glossaries** The `memoir` glossary system is not yet supported by `lwarpmk`. The `glossaries` package may be used instead, but does require the glossary entries be changed from the `memoir` syntax to the `glossaries` syntax.

for HTML output: 1 \ProvidesPackage{lwarp-patch-memoir}

## § 686.1 Packages

These are pre-loaded to provide emulation for many of memoir's functions. memoir pretends that abstract, etc. are already loaded, via its “emulated” package mechanism, but lwarp is directly loading the “lwarp-” version of each, which happens to avoid memoir's emulation system.

```

2 \RequirePackage{lwarp-abstract}% req'd
3 % \RequirePackage{lwarp-array}% no longer req'd
4 \RequirePackage{lwarp-booktabs}% req'd
5 % \RequirePackage{lwarp-ccaption}% emulated below
6 \RequirePackage{lwarp-changepage}% req'd
7 \RequirePackage{lwarp-crop}
8 % \RequirePackage{lwarp-dcolumn}% no longer req'd
9 \RequirePackage{lwarp-enumerate}% req'd
10 \RequirePackage{lwarp-epigraph}% req'd
11 \RequirePackage{lwarp-fancyvrb}% req'd
12 \RequirePackage{lwarp-footmisc}% req'd

13 \let\framed\relax \let\endframed\relax
14 \let\shaded\relax \let\endshaded\relax
15 \let\leftbar\relax \let\endleftbar\relax
16 \let\snugshade\relax \let\endsnugshade\relax
17 \RequirePackage{lwarp-framed}% req'd
18
19 \RequirePackage{lwarp-hanging}% req'd
20 \RequirePackage{lwarp-makeidx}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{lwarp-moreverb}
23 \RequirePackage{lwarp-mparhack}
24 \RequirePackage{lwarp-needspace}% req'd
25 \RequirePackage{lwarp-nextpage}% req'd
26 \RequirePackage{lwarp-pagenote}% req'd
27 \RequirePackage{lwarp-parskip}
28 \RequirePackage{lwarp-setspace}% req'd
29 \RequirePackage{lwarp-showidx}

30 \makeindex

31 % \RequirePackage{lwarp-tabularx}% no longer req'd
32 \RequirePackage{lwarp-titling}% req'd
33 % \RequirePackage{lwarp-tocbibind}% not emulated by memoir
34 \RequirePackage{lwarp-tocloft}% req'd
35 \RequirePackage{lwarp-verse}% req'd

```

## § 686.2 Label handling

Insert the lwarp label mechanism into the memoir package mechanism:

- `\@mem@old@label` is the L<sup>A</sup>T<sub>E</sub>X definition of `\label`.
- `\LWR@orig@label` becomes the memoir definition.
- lwarp's `\LWR@new@label` uses `\LWR@orig@label`.
- Want memoir's `\label` to use lwarp's `\label`, which then would use L<sup>A</sup>T<sub>E</sub>X's `\label`.
- So:
  - `\@mem@old@label` is set to `\LWR@new@label`.
  - `\LWR@orig@label` is set to `\@mem@old@label`.
- `cleveref` then encapsulates all the above with `\cref@old@label`.
- For a subcaption, `cleveref` modifies memoir's `\sf@memsub@label`, but that change is undone by lwarp.

```
36 \LetLtxMacro\LWR@orig@label\@mem@old@label
37 \LetLtxMacro\@mem@old@label\LWR@new@label
```

Patches for subfloats to support additional lwarp labels. This is the non-hyperref version from memoir.

```
38 \AtBeginDocument{
39 \renewcommand*\sf@memsub@label}[1]{%
40 \@bsphack
41 \sf@memsub@label@hook{#1}%
42 % \@memoldlabel{#1}%
43 \cref@label{#1}% lwarp
44 \LWR@label@createtag{sub@#1}% lwarp
45 \protected@write\auxout{}{%
46 \string\newlabel{sub@#1}%
47 {{\@nameuse{@@thesub\@capttype}}}%
48 {\thepage}}}%
49 \LWR@write@lwarplabel{sub@#1}% lwarp
50 \@esphack
51 }
52 }
```

### § 686.3 Page layout

memoir already set the page size to a default, so it must be forced large for lwarp's use, to avoid tag overflows off the page.

```

53 \setstocksize{190in}{20in}
54 \setlrmarginsandblock{2in}{2in}{*}
55 \setulmarginsandblock{1in}{1in}{*}

56 \renewcommand*\stockavi{}
57 \renewcommand*\stockav{}
58 \renewcommand*\stockaiv{}
59 \renewcommand*\stockaiii{}
60 \renewcommand*\stockavii{}
61 \renewcommand*\stockbvi{}
62 \renewcommand*\stockbv{}
63 \renewcommand*\stockbiv{}
64 \renewcommand*\stockbiii{}
65 \renewcommand*\stockbvii{}
66 % \renewcommand*\stockmetriccrownvo{}% in docs but not in the package
67 \renewcommand*\stockmlargecrownvo{}
68 \renewcommand*\stockmdemyvo{}
69 \renewcommand*\stocksmallroyalvo{}
70 \renewcommand*\pageavi{}
71 \renewcommand*\pageavii{}
72 \renewcommand*\pageav{}
73 \renewcommand*\pageaiv{}
74 \renewcommand*\pageaiii{}
75 \renewcommand*\pagebvi{}
76 \renewcommand*\pagebvii{}
77 \renewcommand*\pagebv{}
78 \renewcommand*\pagebiv{}
79 \renewcommand*\pagebiii{}
80 % \renewcommand*\pagemetriccrownvo{}% in docs but not in the package
81 \renewcommand*\pagemlargecrownvo{}
82 \renewcommand*\pagemdemyvo{}
83 \renewcommand*\pagemsmallroyalvo{}
84
85 \renewcommand*\stockdbill{}
86 \renewcommand*\stockstatement{}
87 \renewcommand*\stockexecutive{}
88 \renewcommand*\stockletter{}
89 \renewcommand*\stockold{}
90 \renewcommand*\stocklegal{}
91 \renewcommand*\stockledger{}
92 \renewcommand*\stockbroadsheet{}
93 \renewcommand*\pagedbill{}
94 \renewcommand*\pagestatement{}
95 \renewcommand*\pageexecutive{}
96 \renewcommand*\pageletter{}
97 \renewcommand*\pageold{}
98 \renewcommand*\pagelegal{}
99 \renewcommand*\pageledger{}
100 \renewcommand*\pagebroadsheet{}
101

```



```
102 \renewcommand*\stockpottvo{}
103 \renewcommand*\stockfoolscapvo{}
104 \renewcommand*\stockcrownvo{}
105 \renewcommand*\stockpostvo{}
106 \renewcommand*\stocklargecrownvo{}
107 \renewcommand*\stocklargepostvo{}
108 \renewcommand*\stocksmalldemyvo{}
109 \renewcommand*\stockdemyvo{}
110 \renewcommand*\stockmediumvo{}
111 \renewcommand*\stocksmallroyalvo{}
112 \renewcommand*\stockroyalvo{}
113 \renewcommand*\stocksuperroyalvo{}
114 \renewcommand*\stockimperialvo{}
115 \renewcommand*\pagepottvo{}
116 \renewcommand*\pagefoolscapvo{}
117 \renewcommand*\pagecrownvo{}
118 \renewcommand*\pagepostvo{}
119 \renewcommand*\pagelargecrownvo{}
120 \renewcommand*\pagelargepostvo{}
121 \renewcommand*\pagesmalldemyvo{}
122 \renewcommand*\pagedemyvo{}
123 \renewcommand*\pagemediumvo{}
124 \renewcommand*\pagesmallroyalvo{}
125 \renewcommand*\pageroyalvo{}
126 \renewcommand*\pagesuperroyalvo{}
127 \renewcommand*\pageimperialvo{}
128
129 \renewcommand*\memfontfamily{}
130 \renewcommand*\memfontenc{}
131 \renewcommand*\memfontpack{}
132
133 \renewcommand*\anyptfilebase{}
134 \renewcommand*\anyptsize{10}
135
136 \renewcommand*\setstocksize[2]{}
137 \renewcommand*\settrimmedsize[3]{}
138 \renewcommand*\settrims[2]{}
139
140 % \newlength{\lxvchars}
141 % \setlength{\lxvchars}{305pt}
142 % \newlength{\xlvchars}
143 % \setlength{\xlvchars}{190pt}
144 \renewcommand*\setxlvchars[1]{}
145 \renewcommand*\setlxvchars[1]{}
146
147 \renewcommand*\settypeblocksize[3]{}
148 \renewcommand*\setlrmargins[3]{}
149 \renewcommand*\setlrmarginsandblock[3]{}
150 \renewcommand*\setbinding[1]{}
151 \renewcommand*\setulmargins[3]{}
152 \renewcommand*\setulmarginsandblock[3]{}
153 \renewcommand*\setcolsepandrulere[2]{}
154
155 \renewcommand*\setheadfoot[2]{}
156 \renewcommand*\setheaderspaces[3]{}

```

```

157 \renewcommand*{\setmarginnotes}[3]{}
158 \renewcommand*{\setfootins}[2]{}
159 \renewcommand*{\checkandfixthelayout}[1][{}]{
160 \renewcommand*{\checkthelayout}[1]{}
161 \renewcommand*{\fixthelayout}{}
162 %
163 % \newlength{\stockheight}
164 % \newlength{\trimtop}
165 % \newlength{\trimedge}
166 % \newlength{\stockwidth}
167 % \newlength{\spinemargin}
168 % \newlength{\foremargin}
169 % \newlength{\uppermargin}
170 % \newlength{\headmargin}
171 %
172 \renewcommand*{\typeoutlayout}{}
173 \renewcommand*{\typeoutstandardlayout}{}
174 \renewcommand*{\settypeoutlayoutunit}[1][{}]{
175 \renewcommand*{\fixpdflayout}{}
176 \renewcommand*{\fixdvipslayout}{}
177
178 \renewcommand*{\medievalpage}[1][{}]{
179 \renewcommand*{\isopage}[1][{}]{
180 \renewcommand*{\semiisopage}[1][{}]{
181
182 \renewcommand{\setpagebl}[3]{}
183 \renewcommand{\setpageml}[3]{}
184 \renewcommand{\setpagetl}[3]{}
185 \renewcommand{\setpagetm}[3]{}
186 \renewcommand{\setpagetr}[3]{}
187 \renewcommand{\setpagemr}[3]{}
188 \renewcommand{\setpagebr}[3]{}
189 \renewcommand{\setpagebm}[3]{}
190 \renewcommand{\setpagecc}[3]{}

```

## § 686.4 Text and fonts

```

191 \let\miniscule\tiny
192 \let\HUGE\Huge
193
194 \renewcommand*{\abnormalparskip}[1]{}
195 \renewcommand*{\nonzeroparskip}{}
196 \renewcommand*{\traditionalparskip}{}
197
198 \let\onelineskip\baselineskip
199
200 \let\OnehalfSpacing\onehalfspacing
201 \let\DoubleSpacing\doublespacing
202 \renewcommand*{\setPagenoteSpacing}[1]{}
203 \renewcommand*{\setFloatSpacing}[1]{}

204 \renewcommand{\SingleSpacing}{\@ifstar\singlespacing\singlespacing}

205 \let\setSingleSpace\SetSingleSpace
206 \let\SingleSpace\singleSpace

```

```

207 \let\endSingleSpace\endsinglespace
208 \let\Spacing\spacing
209 \let\endSpacing\endspacing
210 \let\OnehalfSpace\onehalfspace
211 \let\endOnehalfSpace\endonehalfspace
212 \csletcs{OnehalfSpace*}{onehalfspace}
213 \csletcs{endOnehalfSpace*}{endonehalfspace}
214 \let\DoubleSpace\doublespace
215 \let\endDoubleSpace\enddoubleSPACE
216 \csletcs{DoubleSpace*}{doublespace}
217 \csletcs{endDoubleSpace*}{enddoubleSPACE}
218 \renewcommand*\setDisplayskipStretch[1]{}
219 \renewcommand*\memdskipstretch{}
220 \renewcommand*\noDisplayskipStretch{}
221 \renewcommand*\memdskips{}
222
223 \renewcommand*\midslippy{}
224 \renewenvironment*{midslippypar}{}{}
225
226 \renewcommand*\slippybottom{}

```

## § 686.5 Titles

```

227 \csletcs{titlingpage*}{titlingpage}
228 \csletcs{endtitlingpage*}{endtitlingpage}
229 \let\titlingpageend\relax
230 \newcommand{\titlingpageend}[2]{}
231 \let\andnext\and
232 \renewcommand*\thanksmarkstyle[1]{}
233
234 \renewcommand{\thanksfootmark}{%
235 \thanksscript{\tmark}%
236 }
237
238 % \newlength{\thanksmarksep}% already provided by memoir

239 \renewcommand\titlingpageend[2]{}

```

## § 686.6 Abstracts

```

240 % \newlength{\absindent}
241 % \newlength{\absparsep}
242 \renewcommand*\abstractcol{}
243 \renewcommand*\abstractintoc{}
244 \renewcommand*\abstractnum{}
245 \renewcommand*\abstractrunin{}

```

## § 686.7 Document divisions

```

\book * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

246 \DeclareDocumentCommand{\book}{s d() o o d() m}{%
247 \LWR@section{#1}{#3}{#6}{book}%
248 }

```

```
249 \def\@apppage{%
250 \part*\appendixpagename}
251 }
252 \renewcommand\mempreaddapppagetotochook{}
253 \renewcommand\mempostaddapppagetotochook{}
254
255 \def\@sapppage{%
256 \part*\appendixpagename}
257 }

258 \DeclareDocumentCommand{\mainmatter}{s}{%
259 \booltrue{LWR@mainmatter}%
260 }
261
262 \DeclareDocumentCommand{\frontmatter}{s}{%
263 \boolfalse{LWR@mainmatter}%
264 }

265 \renewcommand*\raggedbottomsection{}
266 \renewcommand*\normalbottomsection{}
267 \renewcommand*\bottomsectionskip{}
268 \renewcommand*\bottomsectionpenalty{}
269 \csletcs{appendixpage*}{appendixpage}
270 \renewcommand*\namedsubappendices{}
271 \renewcommand*\unnamedsubappendices{}
272 \renewcommand*\beforebookskip{}
273 \renewcommand*\afterbookskip{}
274 \renewcommand*\beforepartskip{}
275 \renewcommand*\afterpartskip{}
276 \renewcommand*\midbookskip{}
277 \renewcommand*\midpartskip{}
278 \renewcommand*\printbookname{}
279 \renewcommand*\booknamefont{}
280 \renewcommand*\booknamenum{}
281 \renewcommand*\printbooknum{}
282 \renewcommand*\booknumfont{}
283 \renewcommand*\printpartname{}
284 \renewcommand*\partnamefont{}
285 \renewcommand*\partnamenum{}
286 \renewcommand*\printpartnum{}
287 \renewcommand*\partnumfont{}
288 \renewcommand*\printbooktitle[1]{}
289 \renewcommand*\booktitlefont{}
290 \renewcommand*\printparttitle[1]{}
291 \renewcommand*\parttitlefont{}
292 \renewcommand*\bookpageend{}
293 \renewcommand*\bookblankpage{}
294 \renewcommand*\nobookblankpage{}
295 \renewcommand*\partpageend{}
296 \renewcommand*\partblankpage{}
297 \renewcommand*\nopartblankpage{}
298 \RenewDocumentCommand{\newleadpage}{s o m m}{%} todo
299 \RenewDocumentCommand{\renewleadpage}{s o m m}{%} todo
300 \renewcommand*\leadpagetoclevel{chapter}
```

```
301
302 \renewcommand*\openright{}
303 \renewcommand*\openleft{}
304 \renewcommand*\openany{}
305 \renewcommand*\clearforchapter{}
306 \renewcommand*\memendofchapterhook{}
307 \renewcommand*\chapterheadstart{}
308 % \newlength{\beforechapskip}
309 \renewcommand*\afterchapternum{}
310 % \newlength{\midchapskip}
311 \renewcommand*\afterchaptertitle{}
312 % \newlength{\afterchapskip}
313 \renewcommand*\printchaptername{}
314 \renewcommand*\chapnamefont{}
315 \renewcommand*\chapternamenum{}
316 \renewcommand*\printchapternum{}
317 \renewcommand*\chapnumfont{}
318 \renewcommand{\printchaptertitle}[1]{}
319 \renewcommand*\chaptitlefont{}
320 \renewcommand*\printchapternonum{}
321 \renewcommand*\indentafterchapter{}
322 \renewcommand*\noindentafterchapter{}
323 \renewcommand*\insertchapterspace{}
324
325 \renewcommand*\chapterstyle}[1]{}
326 \renewcommand{\makechapterstyle}[2]{}
327 \renewcommand*\chapindent{}
328 \let\chapterprecis\cftchapterprecis
329 \let\chapterprecishere\cftchapterprecishere
330 \let\chapterprecistoc\cftchapterprecistoc
331 \renewcommand*\precisfont{}
332 \renewcommand*\prechapterprecis{}
333 \renewcommand*\postchapterprecis{}
334 \renewcommand{\precistotext}[1]{}
335 \renewcommand*\precistocfont{}
336 \renewcommand*\precistocformat{}
337 % \newlength{\prechapterprecisshift}
338
339 \renewcommand*\setbeforesecskip}[1]{}
340 \renewcommand*\setaftersecskip}[1]{}
341 \renewcommand*\setsecindent}[1]{}
342 \renewcommand*\setsecheadstyle}[1]{}
343 \renewcommand*\setbeforesubsecskip}[1]{}
344 \renewcommand*\setaftersubsecskip}[1]{}
345 \renewcommand*\setsubsecindent}[1]{}
346 \renewcommand*\setsubsecheadstyle}[1]{}
347 \renewcommand*\setbeforesubsubsecskip}[1]{}
348 \renewcommand*\setaftersubsubsecskip}[1]{}
349 \renewcommand*\setsubsubsecindent}[1]{}
350 \renewcommand*\setsubsubsecheadstyle}[1]{}
351 \renewcommand*\setbeforeparaskip}[1]{}
352 \renewcommand*\setafterparaskip}[1]{}
353 \renewcommand*\setparaindent}[1]{}
354 \renewcommand*\setparaheadstyle}[1]{}
355 \renewcommand*\setbeforesubparaskip}[1]{}

```

```

356 \renewcommand*\setaftersubparaskip}[1]{}
357 \renewcommand*\setsubparaindent}[1]{}
358 \renewcommand*\setsubparaheadstyle}[1]{}
359 \renewcommand{\@hangfrom}[1]{#1}
360 \renewcommand{\sethangfrom}[1]{}
361 \renewcommand{\setsecnumformat}[1]{}
362
363 \renewcommand*\hangsecnum{}
364 \renewcommand*\defaultsecnum{}
365
366 \renewcommand*\sechook{}
367 \renewcommand{\setsechook}[1]{}
368 \renewcommand*\subsechook{}
369 \renewcommand{\setsubsechook}[1]{}
370 \renewcommand*\subsubsechook{}
371 \renewcommand{\setsubsubsechook}[1]{}
372 \renewcommand*\parahook{}
373 \renewcommand{\setparahook}[1]{}
374 \renewcommand*\subparahook{}
375 \renewcommand{\setsubparahook}[1]{}
376
377 \RenewDocumentCommand{\plainbreak}{s m}{\begin{center}~\end{center}}
378
379 \RenewDocumentCommand{\fancybreak}{s +m}{%
380 \begin{center}#2\end{center}%
381 }
382
383 \RenewDocumentCommand{\plainfancybreak}{s m m +m}{%
384 \begin{center}#4\end{center}%
385 }
386
387 \RenewDocumentCommand{\pfbreak}{s}{%
388 \begin{center}
389 \pfbreakdisplay
390 \end{center}
391 }
392
393 % \newlength{\pfbreakskip}
394 \renewcommand{\pfbreakdisplay}{*\quad*\quad*}
395
396 \renewcommand{\makeheadstyles}[2]{}
397 \renewcommand*\headstyles}[1]{}

```

## § 686.8 **Pagination and headers**

```

398 \renewcommand*\savepagenumber{}
399 \renewcommand*\restorepagenumber{}
400 \renewcommand*\uppercaseheads{}
401 \renewcommand*\nouppercaseheads{}
402
403 \renewcommand*\bookpagemark}[1]{}
404 \renewcommand*\partmark}[1]{}
405 \renewcommand*\bibmark{}
406 \renewcommand*\indexmark{}
407 \renewcommand*\glossarymark{}
408

```

```

409 \LWR@origpagestyle{empty}
410 \renewcommand*{\ps@empty}{}
411 \renewcommand*{\makepagestyle}[1]{}
412 \renewcommand*{\emptyshook}{}%
413 % \renewcommand*{\empty@oddhead}{}
414 % \renewcommand*{\empty@oddfoot}{}
415 % \renewcommand*{\empty@evenhead}{}
416 % \renewcommand*{\empty@evenfoot}{}
417 \renewcommand*{\@oddhead}{}
418 \renewcommand*{\@oddfoot}{}
419 \renewcommand*{\@evenhead}{}
420 \renewcommand*{\@evenfoot}{}
421 \renewcommand*{\aliaspagestyle}[2]{}
422 \renewcommand*{\copypagestyle}[2]{}
423
424 \renewcommand*{\makeevenhead}[4]{}
425 \renewcommand*{\makeoddhead}[4]{}
426 \renewcommand*{\makeevenfoot}[4]{}
427 \renewcommand*{\makeoddfoot}[4]{}
428 \renewcommand*{\makerunningwidth}[3]{}
429 % \newlength{\headwidth}
430 \renewcommand*{\makeheadrule}[3]{}
431 \renewcommand*{\makefootrule}[3]{}
432 \renewcommand*{\makeheadfootruleprefix}[3]{}
433 % \newlength{\normalrulethickness}
434 % \setlength{\normalrulethickness}{.4pt}
435 % \newlength{\footruleheight}
436 % \newlength{\footruleskip}
437 \renewcommand*{\makeheadposition}[5]{}
438 \renewcommand*{\makepsmarks}[2]{}
439 \renewcommand*{\makeheadfootstrut}[3]{}

440 \renewcommand{\createmark}[5]{\csdef{#1mark}[1]{} }
441 \renewcommand{\createplainmark}[3]{\csdef{#1mark}{} }

442 \renewcommand{\memUHead}[1]{}
443 \renewcommand*{\clearplainmark}[1]{}
444 \renewcommand*{\clearmark}[1]{}
445 \renewcommand{\addtopsmarks}[3]{}
446 \renewcommand{\ifonlyfloats}[2]{#2}
447 \renewcommand*{\mergepagefloatstyle}[3]{}
448
449 \renewcommand*{\framepichead}{}
450 \renewcommand*{\framepicfoot}{}
451 \renewcommand*{\framepichook}{}
452 \renewcommand*{\showheadfootlocoff}{}
453 \renewcommand*{\showtextblocklocoff}{}

```

## § 686.9 Paragraphs and lists

```

454 \renewcommand{\hangfrom}[1]{#1}
455 \let\centerfloat\centering
456 \renewcommand*{\raggedyright}[1]{}
457 % \newlength{\ragrparindent}
458 \renewcommand{\sourceatright}[2]{}{\attribution{#2}}

```

```

459 \let\memorigdbs\LWR@endofline
460 \let\memorigpar\par
461 \let\atcentercr\LWR@endofline
462
463 \renewcommand*\linenottooshort}[1][{}
464 \renewcommand*\russianpar}{
465 \renewcommand*\lastlinerulefill}{
466 \renewcommand*\lastlineparrule}{
467 \renewcommand*\justlastraggedleft}{
468 \renewcommand*\raggedrightthenleft}{
469 \renewcommand*\leftcenterright}{
470
471 \renewcommand{\leftspringright}[4]{%
472 \begin{minipage}{#1\linewidth}#3\end{minipage}\quad%
473 \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
474 }
475
476 \renewenvironment*{blockdescription}
477 {\LWR@descriptionstart\LWR@origdescription}
478 {\enddescription}
479
480 \renewcommand*\blockdescriptionlabel}[1]{\textbf{#1}}
481 \renewenvironment*{labelled}[1]{\begin{description}}{\end{description}}
482 \renewenvironment*{flexlabelled}[6]{\begin{description}}{\end{description}}
483 \renewcommand*\tightlists}{
484 \renewcommand*\defaultlists}{
485 \RenewDocumentCommand{\firmlists}{s}{
486 \renewcommand*\firmlist}{
487 \renewcommand*\tightlist}{
488 \renewcommand*\zerotrivseps}{
489 \renewcommand*\savetrivseps}{
490 \renewcommand*\restoretrivseps}{

```

## § 686.10 Contents lists

```

491 \csletcs{tableofcontents*}{tableofcontents}
492 \csletcs{listoffigures*}{listoffigures}
493 \csletcs{listoftables*}{listoftables}
494 \renewenvironment{KeepFromToc}{}{}
495 \renewcommand*\onecoltocetc}{
496 \renewcommand*\twocoltocetc}{
497 \renewcommand*\ensureonecol}{
498 \renewcommand*\restorefromonecol}{
499 \renewcommand*\doccoltocetc}{
500
501 \renewcommand{\toheadstart}{
502 \renewcommand{\printtoctitle}[1]{
503 \renewcommand{\tocmark}{
504 \renewcommand{\aftertoctitle}{
505 \renewcommand{\lofheadstart}{
506 \renewcommand{\printloftitle}[1]{
507 \renewcommand{\lofmark}{
508 \renewcommand{\afterloftitle}{
509 \renewcommand{\lotheadstart}{
510 \renewcommand{\printlottitle}[1]{
511 \renewcommand{\lotmark}{

```



```

512 \renewcommand{\afterlottitle}{}
513
514 \renewcommand*\setpnumwidth[1]{}
515 \renewcommand*\setmarg[1]{}
516 \renewcommand*\cftbookbreak{}
517 \renewcommand*\cftpartbreak{}
518 \renewcommand*\cftchapterbreak{}

519 % \newlength{\cftbeforebookskip}
520 % \newlength{\cftbookindent}
521 % \newlength{\cftbooknumwidth}
522 \renewcommand*\cftbookfont{}
523 \renewcommand*\cftbookname{}
524 \renewcommand*\cftbookpresnum{}
525 \renewcommand*\cftbookaftersnum{}
526 \renewcommand*\cftbookaftersnumb{}
527 \renewcommand*\cftbookleader{}
528 \renewcommand*\cftbookdotsep{1}
529 \renewcommand*\cftbookpagefont{}
530 \renewcommand*\cftbookafterpnum{}
531 \renewcommand*\cftbookformatpnum[1]{}
532 \renewcommand*\cftbookformatpnumhook[1]{}

```

Part is already defined by tocloft.

```

533 % \newlength{\cftbeforechapterskip}
534 % \newlength{\cftchapterindent}
535 % \newlength{\cftchapternumwidth}
536 \renewcommand*\cftchapterfont{}
537 \renewcommand*\cftchaptername{}
538 \renewcommand*\cftchapterpresnum{}
539 \renewcommand*\cftchapteraftersnum{}
540 \renewcommand*\cftchapteraftersnumb{}
541 \renewcommand*\cftchapterleader{}
542 \renewcommand*\cftchapterdotsep{1}
543 \renewcommand*\cftchapterpagefont{}
544 \renewcommand*\cftchapterafterpnum{}
545 \renewcommand*\cftchapterformatpnum[1]{}
546 \renewcommand*\cftchapterformatpnumhook[1]{}

547 % \newlength{\cftbeforesectionsip}
548 % \newlength{\cftsectionindent}
549 % \newlength{\cftsectionnumwidth}
550 \renewcommand*\cftsectionfont{}
551 \renewcommand*\cftsectionname{}
552 \renewcommand*\cftsectionpresnum{}
553 \renewcommand*\cftsectionaftersnum{}
554 \renewcommand*\cftsectionaftersnumb{}
555 \renewcommand*\cftsectionleader{}
556 \renewcommand*\cftsectiondotsep{1}
557 \renewcommand*\cftsectionpagefont{}
558 \renewcommand*\cftsectionafterpnum{}
559 \renewcommand*\cftsectionformatpnum[1]{}
560 \renewcommand*\cftsectionformatpnumhook[1]{}

561 % \newlength{\cftbeforesubsectionsip}

```

```
562 % \newlength{\cftsubsectionindent}
563 % \newlength{\cftsubsectionnumwidth}
564 \renewcommand*{\cftsubsectionfont}{}
565 \renewcommand*{\cftsubsectionname}{}
566 \renewcommand*{\cftsubsectionpresnum}{}
567 \renewcommand*{\cftsubsectionaftersnum}{}
568 \renewcommand*{\cftsubsectionaftersnumb}{}
569 \renewcommand*{\cftsubsectionleader}{}
570 \renewcommand*{\cftsubsectiondotsep}{1}
571 \renewcommand*{\cftsubsectionpagefont}{}
572 \renewcommand*{\cftsubsectionafterpnum}{}
573 \renewcommand*{\cftsubsectionformatpnum}[1]{}
574 \renewcommand*{\cftsubsectionformatpnumhook}[1]{}

575 % \newlength{\cftbeforesubsubsectionsip}
576 % \newlength{\cftsubsubsectionindent}
577 % \newlength{\cftsubsubsectionnumwidth}
578 \renewcommand*{\cftsubsubsectionfont}{}
579 \renewcommand*{\cftsubsubsectionname}{}
580 \renewcommand*{\cftsubsubsectionpresnum}{}
581 \renewcommand*{\cftsubsubsectionaftersnum}{}
582 \renewcommand*{\cftsubsubsectionaftersnumb}{}
583 \renewcommand*{\cftsubsubsectionleader}{}
584 \renewcommand*{\cftsubsubsectiondotsep}{1}
585 \renewcommand*{\cftsubsubsectionpagefont}{}
586 \renewcommand*{\cftsubsubsectionafterpnum}{}
587 \renewcommand*{\cftsubsubsectionformatpnum}[1]{}
588 \renewcommand*{\cftsubsubsectionformatpnumhook}[1]{}

589 % \newlength{\cftbeforeparagraphskip}
590 % \newlength{\cftparagraphindent}
591 % \newlength{\cftparagraphnumwidth}
592 \renewcommand*{\cftparagraphfont}{}
593 \renewcommand*{\cftparagraphname}{}
594 \renewcommand*{\cftparagraphpresnum}{}
595 \renewcommand*{\cftparagraphaftersnum}{}
596 \renewcommand*{\cftparagraphaftersnumb}{}
597 \renewcommand*{\cftparagraphleader}{}
598 \renewcommand*{\cftparagraphdotsep}{1}
599 \renewcommand*{\cftparagraphpagefont}{}
600 \renewcommand*{\cftparagraphafterpnum}{}
601 \renewcommand*{\cftparagraphformatpnum}[1]{}
602 \renewcommand*{\cftparagraphformatpnumhook}[1]{}

603 % \newlength{\cftbeforesubparagraphskip}
604 % \newlength{\cftsubparagraphindent}
605 % \newlength{\cftsubparagraphnumwidth}
606 \renewcommand*{\cftsubparagraphfont}{}
607 \renewcommand*{\cftsubparagraphname}{}
608 \renewcommand*{\cftsubparagraphpresnum}{}
609 \renewcommand*{\cftsubparagraphaftersnum}{}
610 \renewcommand*{\cftsubparagraphaftersnumb}{}
611 \renewcommand*{\cftsubparagraphleader}{}
612 \renewcommand*{\cftsubparagraphdotsep}{1}
613 \renewcommand*{\cftsubparagraphpagefont}{}
614 \renewcommand*{\cftsubparagraphafterpnum}{}

```

```
615 \renewcommand*{\cftsubparagraphformatpnum}[1]{
616 \renewcommand*{\cftsubparagraphformatpnumhook}[1]{

617 % \newlength{\cftbeforefigureskip}
618 % \newlength{\cftfigureindent}
619 % \newlength{\cftfigurenumwidth}
620 \renewcommand*{\cftfigurefont}{}
621 \renewcommand*{\cftfigurename}{}
622 \renewcommand*{\cftfigurepresnum}{}
623 \renewcommand*{\cftfigureaftersnum}{}
624 \renewcommand*{\cftfigureaftersnumb}{}
625 \renewcommand*{\cftfigureleader}{}
626 \renewcommand*{\cftfiguredotsep}{1}
627 \renewcommand*{\cftfigurepagefont}{}
628 \renewcommand*{\cftfigureafterpnum}{}
629 \renewcommand*{\cftfigureformatpnum}[1]{
630 \renewcommand*{\cftfigureformatpnumhook}[1]{

631 % \newlength{\cftbeforesubfigureskip}
632 % \newlength{\cftsubfigureindent}
633 % \newlength{\cftsubfigurenumwidth}
634 \newcommand*{\cftsubfigurefont}{}
635 \newcommand*{\cftsubfigurename}{}
636 \newcommand*{\cftsubfigurepresnum}{}
637 \newcommand*{\cftsubfigureaftersnum}{}
638 \newcommand*{\cftsubfigureaftersnumb}{}
639 \newcommand*{\cftsubfigureleader}{}
640 \newcommand*{\cftsubfiguredotsep}{1}
641 \newcommand*{\cftsubfigurepagefont}{}
642 \newcommand*{\cftsubfigureafterpnum}{}
643 \newcommand*{\cftsubfigureformatpnum}[1]{
644 \newcommand*{\cftsubfigureformatpnumhook}[1]{

645 % \newlength{\cftbeforetablesip}
646 % \newlength{\cfttableindent}
647 % \newlength{\cfttablenumwidth}
648 \renewcommand*{\cfttablefont}{}
649 \renewcommand*{\cfttablename}{}
650 \renewcommand*{\cfttablepresnum}{}
651 \renewcommand*{\cfttableaftersnum}{}
652 \renewcommand*{\cfttableaftersnumb}{}
653 \renewcommand*{\cfttableleader}{}
654 \renewcommand*{\cfttabledotsep}{1}
655 \renewcommand*{\cfttablepagefont}{}
656 \renewcommand*{\cfttableafterpnum}{}
657 \renewcommand*{\cfttableformatpnum}[1]{
658 \renewcommand*{\cfttableformatpnumhook}[1]{

659 % \newlength{\cftbeforesubtablesip}
660 % \newlength{\cftsubtableindent}
661 % \newlength{\cftsubtablenumwidth}
662 \newcommand*{\cftsubtablefont}{}
663 \newcommand*{\cftsubtablename}{}
664 \newcommand*{\cftsubtablepresnum}{}
665 \newcommand*{\cftsubtableaftersnum}{}
666 \newcommand*{\cftsubtableaftersnumb}{}

```

```

667 \newcommand*\cftsubtableleader{}
668 \newcommand*\cftsubtabledotsep{1}
669 \newcommand*\cftsubtablepagefont{}
670 \newcommand*\cftsubtableafterpnum{}
671 \newcommand*\cftsubtableformatpnum[1]{}
672 \newcommand*\cftsubtableformatpnumhook[1]{}

673 \renewcommand*\booknumberline[1]{}
674 \renewcommand*\partnumberline[1]{}
675 \renewcommand*\chapternumberline[1]{}
676 \renewcommand*\numberlinehook[1]{}
677 % \renewcommand*\cftwhatismyname{}%
678 \renewcommand*\booknumberlinehook[1]{}
679 \renewcommand*\partnumberlinehook[1]{}
680 \renewcommand*\chapternumberlinehook[1]{}
681 \renewcommand*\numberlinebox[2]{}
682 \renewcommand*\booknumberlinebox[2]{}
683 \renewcommand*\partnumberlinebox[2]{}
684 \renewcommand*\chapternumberlinebox[2]{}
685 %
686 % \newlength\cftparfillskip
687 \renewcommand*\cftpagenumbersoff[1]{}
688 \renewcommand*\cftpagenumberon[1]{}
689 \renewcommand*\cftlocalchange[3]{}
690 \renewcommand*\cftaddtitleline[4]{}
691 \renewcommand*\cftaddnumtitleline[4]{}
692 \renewcommand*\cftinsertcode[2]{}
693 \renewcommand*\cftinserthook[2]{}
694 \renewcommand*\settocpreprocessor[2]{}
695 \DeclareRobustCommand*\cftpagenumbersoff[1]{}
696 \DeclareRobustCommand*\cftpagenumberon[1]{}

```

## § 686.11 Floats and captions

\xfloat

\@xdblfloat Reestablish lwarp's takeover the float handing, which memoir tried to grab:

```

697 \AtBeginDocument{
698 \def\xfloat #1[#2]{%
699 \LWR@floatbegin{#1}[#2]
700 \normalsize
701 \@nameuse{#1adjustment}%
702 \LWR@futureenonspaclet\LWR@mynexttoken\LWR@floatalignment%
703 }
704 \def\@xdblfloat #1[#2]{%
705 \LWR@floatbegin{#1}[#2]
706 \normalsize
707 \@nameuse{#1adjustment}%
708 \LWR@futureenonspaclet\LWR@mynexttoken\LWR@floatalignment%
709 }
710 }

```

\newfloat [*1: within*] [*2: type*] [*3: ext*] [*4: capname*]

```

711 \RenewDocumentCommand*\newfloat{o m m m}{%

```

```

712 \def\LWR@tempone{#4}%
713 \def\LWR@temptwo{\@nameuse{#2name}}%
714 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{% recursive name, already defined
715 \IfValueTF{#1}%
716 {\DeclareFloatingEnvironment[fileext=#3,within=#1]{#2}}%
717 {\DeclareFloatingEnvironment[fileext=#3]{#2}}%
718 }{% not recursive name
719 \IfValueTF{#1}%
720 {\DeclareFloatingEnvironment[fileext=#3,within=#1,name={#4}]{#2}}%
721 {\DeclareFloatingEnvironment[fileext=#3,name={#4}]{#2}}%
722 }%

```

**newfloat** package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```

723 \cslet{listof#2s}\relax%
724 \cslet{listof#2es}\relax%
725 }

```

`\newlistof` [*<within>*] [*<type>*] [*<ext>*] [*<listofname>*]

Emulated through the `\newfloat` mechanism. Note that `memoir` uses a different syntax than `tocloft` for the name.

```

726 \RenewDocumentCommand{\newlistof}{o m m m}
727 {%
728 \IfValueTF{#1}%
729 {\newlistentry[#1]{#2}{#3}{0}}%
730 {\newlistentry{#2}{#3}{0}}%
731 \@namedef{ext@#2}{#3}%
732 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
733 \setcounter{#3depth}{1}%
734 \@namedef{#3mark}{}%
735 \@namedef{#2}{\LWR@listof{#2}{#4}}%
736 \@namedef{cftmake#3title}{}%
737 \@ifundefined{cftbefore#3titleskip}{%
738 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
739 \expandafter\newlength\csname cftafter#3titleskip\endcsname%
740 }{}%
741 \@namedef{cft#3titlefont}{}%
742 \@namedef{cftafter#3title}{}%
743 \@namedef{cft#3prehook}{}%
744 \@namedef{cft#3posthook}{}%
745 }

```

```

746 \renewcommand{\setfloatadjustment}[2]{}

```

Borrowed from the `lwarp` version of `keyfloat`:

```

747 \NewDocumentEnvironment{KFLTmemoir@marginfloat}{0{-1.2ex} m}
748 {% start
749 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}(note){marginblock}%
750 \renewcommand*{\@capttype}{#2}%
751 }
752 {%
753 \endLWR@BlockClassWP%

```

```

754 }
755
756 \DeclareDocumentEnvironment{marginfigure}{o}
757 {\begin{KFLTmemoir@marginfloat}{figure}}
758 {\end{KFLTmemoir@marginfloat}}
759
760 \DeclareDocumentEnvironment{margintable}{o}
761 {\begin{KFLTmemoir@marginfloat}{table}}
762 {\end{KFLTmemoir@marginfloat}}

763 \renewcommand{\setmarginfloatcaptionadjustment}[2]{}
764 \renewcommand{\setmpjustification}[2]{}
765 \renewcommand*{\mpjustification}{}
766 \renewcommand*{\setfloatlocations}[2]{}
767 \DeclareDocumentCommand{\suppressfloats}{o}{}
768 \renewcommand*{\FloatBlock}{}
769 \renewcommand*{\FloatBlockAllowAbove}{}
770 \renewcommand*{\FloatBlockAllowBelow}{}
771 \renewcommand*{\setFloatBlockFor}{}
772
773 \renewcommand{\captiontitlefinal}[1]{}

```

`\flegtable`, `\flegfigure`, `\flegtocfigure` are defined by memoir using `\newfloat`. These are defined with an @ in ccaption.

```

774 \renewcommand{\flegtable}{\tablename}
775 \renewcommand{\flegfigure}{\figurename}
776 \renewcommand{\flegtocfigure}{}
777 \renewcommand{\flegtocfigure}{}

778 \renewcommand{@makesubfloatcaption}[2]{%
779 \minipagefullwidth
780 \begin{minipage}{\linewidth}%
781 #1 \ignorespaces #2 \unskip%
782 \end{minipage}
783 }
784
785 \renewcommand*{\tightsubcaptions}{}
786 \renewcommand*{\loosesubcaptions}{}
787
788 \renewcommand*{\subcaptionsize}[1]{}
789 \renewcommand*{\subcaptionlabelfont}[1]{}
790 \renewcommand*{\subcaptionfont}[1]{}
791 \renewcommand*{\subcaptionstyle}[1]{}
792
793 \renewcommand*{\hangsubcaption}{}
794 \renewcommand*{\shortsubcaption}{}
795 \renewcommand*{\normalsubcaption}{}
796
797 \RenewDocumentEnvironment{sidecaption}{o m o}
798 {}
799 {%
800 \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
801 \IfValueT{#3}{\label{#3}}%

```

```

802 }
803
804 % \newlength{\sidecapwidth}
805 % \newlength{\sidecapsep}
806 \renewcommand*\setsidecaps[2]{}
807 \renewcommand*\sidecapmargin[1]{}
808 % \newif\ifscapmargleft
809 \scapmargleftfalse
810 \renewcommand*\setsidecappos[1]{}

```

Env sidecontcaption

```

811 \RenewDocumentEnvironment{sidecontcaption}{m o}
812 {}
813 {%
814 \ifdef{\ContinuedFloat}%
815 {\ContinuedFloat}%
816 {\addtocounter{\@capttype}{-1}}%
817 \caption{#1}%

```

Without \@capttype, the section is referred to instead.

```

818 \IfValueT{#2}{\label[\@capttype]{#2}}%
819 }

```

\sidenamedlegend does not appear to use the toc argument.

```

820 \renewenvironment{sidenamedlegend}[2][]{
821 \begin{center}
822 \@nameuse{\@capttype name}\CaptionSeparator#2
823 \end{center}
824 }
825 {}
826
827 \renewenvironment{sidelegend}[1]
828 {\begin{center}
829 #1
830
831 }
832 {\end{center}}
833
834 \renewcommand*\sidecapstyle{}
835 \renewcommand*\overridescapmargin[1]{}
836 % \newlength{\sidecapraise}
837 \renewcommand*\sidecapfloatwidth{\linewidth}
838
839 \LetLtxMacro\ctabular\ctabular
840 \LetLtxMacro\endctabular\endctabular
841
842 \renewcommand{\autorows}[5][]{%
843 #5%
844 }
845
846 \renewcommand{\autocols}[5][]{%
847 #5%
848 }

```

§ 686.12 **Footnotes and page notes**

```

849 \renewcommand*{\feetabovefloat}{}
850 \renewcommand*{\feetbelowfloat}{}
851 \renewcommand*{\feetatbottom}{}
852
853 \renewcommand*{\verbfootnote}[2][{}%
854 \PackageError{lwarp, memoir}%
855 {Verbatim footnotes are not yet supported by lwarp}%
856 {This may be improved some day.}%
857 }
858
859 \renewcommand*{\plainfootnotes}{}
860 \renewcommand*{\twocolumnfootnotes}{}
861 \renewcommand*{\threecolumnfootnotes}{}
862 \renewcommand*{\paragraphfootnotes}{}
863 \renewcommand*{\footfudgefiddle}{}
864
865 \renewcommand*{\newfootnoteseries}[1]{%
866 \PackageError{lwarp, memoir}%
867 {Memoir footnote series are not yet supported by lwarp}%
868 {This may be improved some day.}%
869 }
870
871 \renewcommand*{\plainfootstyle}[1]{}
872 \renewcommand*{\twocolumnfootstyle}[1]{}
873 \renewcommand*{\threecolumnfootstyle}[1]{}
874 \renewcommand*{\paragraphfootstyle}[1]{}
875
876 \renewcommand*{\footfootmark}{}
877 \renewcommand*{\footmarkstyle}[1]{}
878
879 % \newlength{\footmarkwidth}
880 % \newlength{\footmarksep}
881 % \newlength{\footparindent}
882
883 \renewcommand*{\foottextfont}{}
884
885 \renewcommand*{\marginparmargin}[1]{}
886 \renewcommand*{\sideparmargin}[1]{}
887
888 \LetLtxMacro\sidepar\marginpar
889 \renewcommand*{\sideparfont}{}
890 \renewcommand*{\sideparform}{}
891 \LWR@providelength{\sideparvshift}
892
893 \renewcommand*{\parnopar}{}
894
895 \renewcommand{\sidebar}[1]{\begin{quote}#1\end{quote}}
896 \renewcommand*{\sidebarmargin}[1]{}
897 \renewcommand*{\sidebarfont}{}
898 \renewcommand*{\sidebarform}{}
899 % \newlength{\sidebarhsep}
900 % \newlength{\sidebarmvsep}
901 % \newlength{\sidebarwidth}
902 % \newlength{\sidebartopsep}

```



```

903 \renewcommand{\setsidebarheight}[1]{}
904 \renewcommand*\setsidebars[6]{}
905 \renewcommand*\footnotesatfoot{}
906 \renewcommand*\footnotesinmargin{}
907
908 \LetLtxMacro\sidefootnote\footnote
909 \LetLtxMacro\sidefootnotemark\footnotemark
910 \LetLtxMacro\sidefootnotetext\footnotetext
911
912 \renewcommand*\sidefootmargin[1]{}
913 % \newlength{\sidefootsep}
914 % \newlength{\sidefootvsep}
915 % \newlength{\sidefootwidth}
916 % \newlength{\sidefootadjust}
917 % \newlength{\sidefootheight}
918 \renewcommand*\setsidefootheight[1]{}
919 % \renewcommand*\sidefootfont{}% in docs but not in the package
920 \renewcommand*\setsidefeet[6]{}
921 \renewcommand*\sidefootmarkstyle[1]{}
922 \renewcommand*\sidefoottextfont{}
923 \renewcommand*\sidefootform{}

924 \renewcommand*\continuousnotenums{\pncontopttrue}% from pagenote
925 \renewcommand*\notepageref{}
926 \renewcommand*\prenotetext{}
927 \renewcommand*\postnotetext{}
928 \LetLtxMacro\printpageinnoteshyperref\printpageinnotes
929 \renewcommand*\foottopagenote{}
930 \renewcommand*\pagetofootnote{}


```

`\m@m@wrpnote`

`\startnoteentrystart` To have `cleveref` work with page note labels, the following patch writes `\thepagenote` and also adds `\arabic{pagenote}` to the first argument written to the `.ent` file:

```
\startnoteentry{\thepagenote}{\arabic{pagenote}} . . .
```

The arabic value is required for `cleveref`. `\thepagenote` becomes `\@firstoftwo#1` and the arabic value becomes `\@secondoftwo#1`.

 `\nameref` Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

```

931 \xpatchcmd{\m@m@wrpnote}
932 {\string\startnoteentry{\thepagenote}}
933 {\string\startnoteentry{\thepagenote}{\arabic{pagenote}}}}
934 {}
935 {\LWR@patcherror{memoir}{m@m@wrpnote}}
936
937 \renewcommand\startnoteentrystart[4]{%
938 \prenoteinnotes%
939 \noteidinnotes{\@firstoftwo#1}{#2}%
940 \ifmtarg{#2}{%
941 % \phantomsection\def\@currentlabel{#1}% original
942 \def\@currentlabel{\@firstoftwo#1}% lwarp
943 \def\cref@currentlabel{% lwarp

```

```

944 [pagenote][\@secondoftwo#1][\@firstoftwo#1% lwarp
945 }% lwarp
946 }{}%
947 \pagenoteanchor{#4}%
948 \pageinnotes{#3}%
949 \prenotetext%
950 }

```

### § 686.13 **Decorative text**

```

951 \renewcommand*\epigraphposition}[1]{}
952 \renewcommand*\epigraphtextposition}[1]{}
953 \renewcommand*\epigraphsourceposition}[1]{}
954 \renewcommand*\epigraphfontsize}[1]{}
955 \renewcommand*\epigraphforheader}[2]{}
956 \renewcommand*\epigraphpicture{}

```

### § 686.14 **Poetry**

```

957 \renewcommand*\vinphantom{}
958 \renewcommand*\vleftofline}[1]{#1}
959 % \let\linenumberfrequency\poemlines
960 % \renewcommand*\linenumberfont}[1]{}
961
962 \DeclareDocumentCommand{\PoemTitle}{s o o m}{%
963 \IfValueTF{#2}%
964 {\poemtitle[#2]{#4}}%
965 {\poemtitle{#4}}%
966 }
967
968 \renewcommand*\NumberPoemTitle{}
969 \renewcommand*\PlainPoemTitle{}
970 \renewcommand*\poemtitlestyle{}
971 \renewcommand*\poemtitlestarmark}[1]{}
972 \renewcommand*\poemtitlestarpstyle{}
973 \renewcommand*\PoemTitleheadstart{}
974 \renewcommand*\printPoemTitlenum{}
975 \renewcommand*\printPoemTitlenum{}
976 \renewcommand*\afterPoemTitlenum{}
977 \renewcommand*\printPoemTitletitle}[1]{}
978 \renewcommand*\afterPoemTitle{}
979 \newlength{\midpoemtitleskip}
980 \renewcommand*\PoemTitlenumfont{}
981 \renewcommand*\PoemTitlefont{}

```

### § 686.15 **Boxes, verbatims and files**

```

982 \renewenvironment{qframe}{\framed}{\endframed}
983 \renewenvironment{qshade}{\shaded}{\endshaded}

984 \renewcommand*\setverbatimfont}[1]{}
985 \renewcommand*\tabson}[1]{}
986 \renewcommand*\tabsoff{}
987 \renewcommand*\wrappingon{}
988 \renewcommand*\wrappingoff{}

```

```

989 \renewcommand*\verbatimindent{}
990 \renewcommand*\verbatimbreakchar}[1]{}

991 \DefineVerbatimEnvironment{fboxverbatim}{Verbatim}{frame=single}

```

boxedverbatim is already defined by moreverb. boxedverbatim\* does not appear to work at all, even in a minimal print memoir document.

```

992 \renewcommand*\bvbox{}
993 \renewcommand*\bvtopandtail{}
994 \renewcommand*\bvtopandtail{}
995 \renewcommand*\nobvbox{}
996 % \newlength\bvboxsep
997 \renewcommand*\bvtoprulehook{}
998 \renewcommand*\bvtopmidhook{}
999 \renewcommand*\bvendrulehook{}
1000 \renewcommand*\bvleftsidehook{}
1001 \renewcommand*\bvrightsidehook{}
1002 \renewcommand*\bvperpagetrue{}
1003 \renewcommand*\bvperpagefalse{}
1004 \renewcommand*\bvtopofpage}[1]{}
1005 \renewcommand*\bvendofpage}[1]{}
1006 \renewcommand*\linenumberfrequency}[1]{}
1007 \renewcommand*\resetbvlinenumber{}
1008 \renewcommand*\setbvlinenums}[2]{}
1009 \renewcommand*\linenumberfont}[1]{}
1010 \renewcommand*\bvnumbersinside{}
1011 \renewcommand*\bvnumbersoutside{}

```

## § 686.16 Cross referencing

```

1012 \renewcommand*\fref}[1]{\cref{#1}}
1013 \renewcommand*\tref}[1]{\cref{#1}}
1014 \renewcommand*\pref}[1]{\cpageref{#1}}
1015 \renewcommand*\Aref}[1]{\cref{#1}}
1016 \renewcommand*\Bref}[1]{\cref{#1}}
1017 \renewcommand*\Pref}[1]{\cref{#1}}
1018 \renewcommand*\Sref}[1]{\cref{#1}}
1019 \renewcommand*\figurerefname{Figure}
1020 \renewcommand*\tablerefname{Table}
1021 \renewcommand*\pagerefname{page}
1022 \renewcommand*\bookrefname{Book~}
1023 \renewcommand*\partrefname{Part~}
1024 \renewcommand*\chapterrefname{Chapter~}
1025 \renewcommand*\sectionrefname{\S}
1026 \renewcommand*\appendixrefname{Appendix~}
1027 \LetLtxMacro\titleref\nameref
1028 \renewcommand*\headnameref{}
1029 \renewcommand*\tocnameref{}
1030
1031 \providecounter{LWR@currenttitle}
1032
1033 \renewcommand*\currenttitle{%
1034 \addtocounter{LWR@currenttitle}{1}%
1035 \label{currenttitle\arabic{LWR@currenttitle}}%

```

```

1036 \nameref{currenttitle\arabic{LWR@currenttitle}}%
1037 }
1038
1039 \renewcommand*\theTitleReference}[2]{
1040 \renewcommand*\namerefon}{
1041 \renewcommand*\namerefoff}{

```

### § 686.17 **Back matter**

`\@wrindexhyp` Redefined to write the `LWR@autoindex` counter instead of page. Note that memoir has two versions, depending on the use of `hyperref`.

```

1042 \AtBeginDocument{
1043
1044 \def\@wrindexhyp#1||\{
1045 \addtocounter{LWR@autoindex}{1}%
1046 \label{LWRindex-\arabic{LWR@autoindex}}%
1047 % \ifshowindexmark\@showidx{#1}\fi
1048 \protected@write\@auxout{
1049 % {\string\@wrindexm@m{\@idxfile}{#1}{\thepage}}%
1050 {\string\@wrindexm@m{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%
1051 \endgroup
1052 \@esphack}%

```

`\@wrspindexhyp` `\specialindex` behaves like a regular `\index`, pointing to where `\specialindex` is used. If `\specialindex` is used inside a figure or table after the `\caption`, then the hyperlink will be given the name of that particular figure or table.

```

1053 \def\@wrspindexhyp#1||\{
1054 \addtocounter{LWR@autoindex}{1}%
1055 \label{LWRindex-\arabic{LWR@autoindex}}%
1056 % \ifshowindexmark\@showidx{#1}\fi
1057 \protected@write\@auxout{
1058 % {\string\@wrindexm@m{\@idxfile}{#1}{\@nameuse{the\@sptheid}}}%
1059 {\string\@wrindexm@m{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%
1060 \endgroup
1061 \@esphack}%
1062
1063 }% \AtBeginDocument

```

`\@spindex` Patched to append `_html` to the file:

```

1064 \renewcommand{\@spindex}[2]{
1065 \ifundefined{#1@idxfile}%
1066 {\ifreportnoidxfile
1067 \memwarn{Undefined index file #1}%
1068 \fi
1069 \begingroup
1070 \@sanitize
1071 \@nowrindex}%
1072 {\def\@idxfile{#1_html}%
1073 \def\@sptheid{#2}%
1074 \begingroup
1075 \@sanitize
1076 \@wrspindex}}

```

`\makeindex` Patched to use `_html` filename and `\BaseJobname`:

```

1077 \catcode'_ =12%
1078 \renewcommand*\makeindex}[1][\BaseJobname]{%
1079 \if@filesw
1080 \def\gindex{\@bsphack%
1081 \@ifnextchar [{\@index}{\@index[\BaseJobname]}}
1082 \def\specialindex{\@bsphack\@spindex}%
1083 \makememindexhook
1084 \expandafter\newwrite\csname #1@idxfile\endcsname
1085 \expandafter\immediate\openout \csname #1@idxfile\endcsname #1_html.idx\relax
1086 \typeout{Writing index file #1_html.idx }%
1087 \fi}
1088 \catcode'_ =8%
```

`\printindex` Patched to use `_html` filename and `\BaseJobname`. This will later be patched by the `lwarp` core.

```

1089 \catcode'_ =12%
1090 \renewcommand{\printindex}[1][\BaseJobname]{\input@{#1_html.idx}}
1091 \catcode'_ =8%

1092 \DeclareDocumentCommand{\newblock}{}{}
1093 %
1094 \renewcommand*\showindexmarks{}
1095 \renewcommand*\hideindexmarks{}
1096
1097 \renewcommand*\xindyindex{}
```

## § 686.18 Miscellaneous

```

1098 \renewcommand*\changemarks{}
1099 \renewcommand*\nochangemarks{}
1100 \renewcommand*\added}[1]{}
1101 \renewcommand*\deleted}[1]{}
1102 \renewcommand*\changed}[1]{}
1103
1104 \renewcommand*\showtrimsoff{}
1105 \renewcommand*\showtrimson{}
1106 \renewcommand*\trimXmarks{}
1107 \renewcommand*\trimLmarks{}
1108 \renewcommand*\trimFrame{}
1109 \renewcommand*\trimNone{}
1110 \renewcommand*\trimmarkscolor{}
1111 \renewcommand*\trimmarks{}
1112 \renewcommand*\tmarktl{}
1113 \renewcommand*\tmarktr{}
1114 \renewcommand*\tmarkbr{}
1115 \renewcommand*\tmarkbl{}
1116 \renewcommand*\tmarktm{}
1117 \renewcommand*\tmarkmr{}
1118 \renewcommand*\tmarkbm{}
1119 \renewcommand*\tmarkml{}
1120 \renewcommand*\trimmark{}
```

```

1121 \renewcommand*\quarkmarks{}
1122 \renewcommand*\registrationColour[1]{}
1123
1124 \renewcommand*\leavespergathering[1]{}
1125
1126 \renewcommand*\noprelistbreak{}
1127
1128 \renewcommand*\cleartorecto{}
1129 \renewcommand*\cleartoverso{}
1130
1131 \renewenvironment{vplace}[1][1]{}{}

```

### § 686.19 **caption emulation**

```

1132 \renewcommand*\captiondelim[1]{\renewcommand*\CaptionSeparator}{#1}}
1133 \renewcommand*\captionnamefont[1]{}
1134 \renewcommand*\captiontitlefont[1]{}
1135 \renewcommand*\flushleft{}
1136 \renewcommand*\centerlastline{}
1137 \renewcommand*\captionstyle[2][1]{}
1138 \DeclareDocumentCommand\captionwidth{m}{}
1139 \renewcommand*\changecaptionwidth{}
1140 \renewcommand*\normalcaptionwidth{}
1141 \renewcommand*\hangcaption{}
1142 \renewcommand*\indentcaption[1]{}
1143 \renewcommand*\normalcaption{}
1144 \renewcommand\precaption[1]{}
1145 \renewcommand\postcaption[1]{}
1146 \renewcommand\midbicapTION[1]{}
1147 \renewcommand\contcaption[1]{%
1148 % \ContinuedFloat%
1149 % \caption{#1}%
1150 \begin{LWR@figcaption}% later becomes \caption*
1151 \LWR@isolate{\@nameuse{\@capttype name}}~%
1152 \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#1}%
1153 \end{LWR@figcaption}%
1154 }

1155 \newlength{\abovelegendskip}
1156 \setlength{\abovelegendskip}{0.5\baselineskip}
1157 \newlength{\belowlegendskip}
1158 \setlength{\belowlegendskip}{\abovelegendskip}

```

The extra `\\` here forces a `<br>` in HTML when `\legend` is used in a `\marginpar`.

```

1159 \renewcommand{\legend}[1]{\begin{center}#1\\end{center}}
1160
1161 \renewcommand\namedlegend[2][1]{%
1162 \begin{center}
1163 \@nameuse{fleg\@capttype}\CaptionSeparator#2\\
1164 \end{center}
1165 \@nameuse{flegtoc\@capttype}{#1}
1166 }

```

`\flegtable`, `\flegfigure`, `\flegtocfigure`, `\flegtocfigure` are defined by memoir using `\newfloat`. These are defined with an @ in `ccaption`.

```

1167 \renewcommand{\newfixedcaption}[3][\caption]{%
1168 \renewcommand{#2}{\def\@capttype{#3}#1}}
1169 \renewcommand{\renewfixedcaption}[3][\caption]{%
1170 \renewcommand{#2}{\def\@capttype{#3}#1}}
1171 \renewcommand{\providefixedcaption}[3][\caption]{%
1172 \providecommand{#2}{\def\@capttype{#3}#1}}
1173
1174 \renewcommand{\bitwonumcaption}[6][]{%
1175 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1176 \addtocounter{\@capttype}{-1}%
1177 \begingroup%
1178 \csdef{\@capttype name}{#4}%
1179 \ifblank{#5}{\caption{#6}}{\caption[#5]{#6}}%
1180 \endgroup%
1181 \ifblank{#1}{\label{#1}}%
1182 }
1183
1184 \LetLtxMacro\bionenumcaption\bitwonumcaption% todo
1185
1186 \renewcommand{\bicaption}[5][]{%
1187 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1188 \begin{LWR@figcaption}% later becomes \caption*
1189 \LWR@isolate{#4} % space
1190 \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#5}%
1191 \end{LWR@figcaption}%
1192 \ifblank{#1}{\label{#1}}%
1193 }
1194
1195 \renewcommand{\bicontcaption}[3]{%
1196 \contcaption{#1}%
1197 \begingroup%
1198 \csdef{\@capttype name}{#2}%
1199 \contcaption{#3}%
1200 \endgroup%
1201 }

```

Only in `ccaption`, not in memoir:

```

1202 % \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1203 % \LetLtxMacro\longbionenumcaption\bitwonumcaption%
1204 % \LetLtxMacro\longbicaption\bicaption%

```

Patches for subfloats to support additional lwarp labels:

```

1205 \renewcommand{\@memsubbody}{%
1206 \bgroup
1207 \let\label=\memsub@label
1208 \ifdonemaincaption\else
1209 \advance\csname c@\@capttype\endcsname\@ne
1210 \fi
1211 % \refstepcounter{sub\@capttype}\@contkeep%
1212 % \leavevmode% lwarp
1213 \@ifnextchar [%

```

```

1214 {\@memsubfig}%
1215 {\@memsubfig[\@empty]}
1216
1217 \renewcommand{\@memcontsubbody}{%
1218 \bgroup
1219 \let\label=\memsub@label
1220 \@contset
1221 % \refstepcounter{sub\@capttype}\@contkeep%
1222 % \leavevmode% lwarp
1223 \@ifnextchar [%
1224 {\@memsubfig}%
1225 {\@memsubfig[\@empty]}
1226
1227
1228 \long\def\@memsubfloat#1[#2][#3]#4{%
1229 % \@tempcnta=\@ne
1230 % \if@tightsubcap
1231 % \if@minipage
1232 % \@tempcnta=\z@
1233 % \else
1234 % \ifdim\lastskip=\z@
1235 % \@tempcnta=\@ne
1236 % \else
1237 % \@tempcnta=\tw@
1238 % \fi
1239 % \fi
1240 % \fi
1241 % \if@contbotsub
1242 % \def\subfig@top{\subfloattopskip}%
1243 % \def\subfig@bottom{\subfloatbottomskip}%
1244 % \else
1245 % \def\subfig@top{\subfloatbottomskip}%
1246 % \def\subfig@bottom{\subfloattopskip}%
1247 % \fi
1248 % \setbox\@tempboxa \hbox{#4}%
1249 % \@tempdima=\wd\@tempboxa
1250 % \vbox
1251 % \bgroup%
1252 % \mem@step@subcounter%
1253 % \vbox
1254 % \LWR@stoppars%
1255 % \minipagefullwidth% lwarp
1256 % \begin{minipage}{\linewidth}% lwarp
1257 % \bgroup
1258 % \ifcase\@tempcnta
1259 % \@minipagefalse
1260 % \or
1261 % \vspace{\subfig@top}
1262 % \or
1263 % \ifdim \lastskip=\z@ \else
1264 % \@tempskip\subfig@top\@xaddvskip
1265 % \fi
1266 % \fi
1267 % \if@contbotsub
1268 % #4% \box\@tempboxa

```



```

1269 \egroup
1270 \ifx \@empty#3\relax \else
1271 % \vskip\subfloatcapskip
1272 \@memsubcaption{#1}{#2}{#3}%
1273 \fi
1274 \else
1275 \ifx \@empty#3\relax \else
1276 \@memsubcaption{#1}{#2}{#3}%
1277 % \vskip\subfloatcapskip
1278 % \vskip\subfloatcaptopadj
1279 \fi\egroup
1280 #4% \box\@tempboxa
1281 \fi
1282 % \vspace{\subfig@bottom}
1283 \end{minipage}% lwarp
1284 \LWR@startpars% lwarp
1285 \egroup
1286 \egroup
1287 }

```

## § 686.20 Final patchwork

```

1288 \newlistof{tableofcontents}{toc}{\contentsname}
1289 \newlistof{listoffigures}{lof}{\listfigurename}
1290 \newlistof{listoftables}{lot}{\listtablename}

```

---

File 578 **lwarp-common-multimedia.sty**

§ 687 Package **common-multimedia**

Pkg lwarp-common-multimedia Common code for multimedia, movie15, and media9.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each addressource=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

for HTML output:

```

1 \ProvidesPackage{lwarp-common-multimedia}[2019/04/22]
2 \RequirePackage{xkeyval}
3
4 \define@key{LWR@multimedia}{width}{\setlength{\LWR@multimedia@width}{#1}}
5 \define@key{LWR@multimedia}{height}{\setlength{\LWR@multimedia@height}{#1}}
6 \define@key{LWR@multimedia}{totalheight}{\setlength{\LWR@multimedia@height}{#1}}
7 \newlength{\LWR@multimedia@width}
8 \newlength{\LWR@multimedia@height}
9 \newlength{\LWR@multimedia@maxdimension}

```

`\LWR@multimedia@printsiz`

Proportional to `\linewidth` and the viewport’s smaller dimension. This scales each object such that it will always fit on the screen, even if a tall or wide object inside a tall or wide viewport.

```

10 \newcommand*{\LWR@multimedia@printsiz}{%
11 \setlength{\LWR@multimedia@maxdimension}{%
12 \maxof%
13 {\linewidth}%
14 {\maxof{\LWR@multimedia@width}{\LWR@multimedia@height}}%
15 }%
16 \setlength{\LWR@multimedia@maxdimension}{1.1\LWR@multimedia@maxdimension}%
17 \ifdimgreater{\LWR@multimedia@width}{0pt}{%
18 width:%
19 \LWR@printpercentlength%
20 {\LWR@multimedia@width}%
21 {\LWR@multimedia@maxdimension}vmin ; % space
22 }{%
23 \ifdimgreater{\LWR@multimedia@height}{0pt}{%
24 height:%
25 \LWR@printpercentlength%
26 {\LWR@multimedia@height}%
27 {\LWR@multimedia@maxdimension}vmin ; % space
28 }{%
29 }

```

`\LWR@multimedia@fileAV` `{\langle poster text \rangle}{\langle filename \rangle}{\langle audio/video \rangle}{\langle mimetype \rangle}`

Creates a video or audio from a file. The 2019/10 update of the L<sup>A</sup>T<sub>E</sub>X kernel may cause extra quotes to be added in the filenames. They are removed here.

```
30 \newcommand*\LWR@multimedia@fileAV}[4]{%
31 \IfFileExists{#2}{% also sets \@filef@und
32 \StrSubstitute[100]{\@filef@und}{"}{}}[\LWR@parsedfilename]%
```

The container <div> is sized as desired.

```
33 \ifstrequal{#3}{audio}{%
34 \begin{BlockClass}{AVviewport}
35 }{%
36 \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
37 }
```

Paragraph tags are unnecessary for the A/V tags.

```
38 \LWR@stoppars
```

The A/V element is 100% of the container.

```
39 \LWR@htmltag{%
40 #3\ % space
41 \ifstrequal{#3}{audio}{%
42 width=\textquotedbl{}100%\textquotedbl\ % space
43 height=\textquotedbl{}100%\textquotedbl\ % space
44 }%
45 controls%
46 }\LWR@orignewline
```

The file source and type:

```
47 \LWR@htmltag{%
48 source % space
49 src=\textquotedbl%
50 \LWR@parsedfilename\unskip\textquotedbl\ % space
51 type=\textquotedbl{}#4\textquotedbl}
```

The poster text inside paragraph tags, along with a reference to the file.

```
52 \LWR@startpars
53 \LWR@href{\LWR@parsedfilename}{#1}
54 \LWR@stoppars
```

Finish.

```
55 \LWR@htmltag{/#3}\LWR@orignewline
56 \end{BlockClass}
57 }{%
58 \PackageError{lwarp-common-multimedia}
59 {File '#2' not found}
60 {Perhaps an incorrect path?}
61 }%
62 }
```

```
\LWR@multimedia@httpAV {<poster text>} {<filename>} {<audio/video>} {<mimetype>}
```

Creates a video or audio from a URL link.

```
63 \newcommand*\LWR@multimedia@httpAV}[4]{%
```

The container `<div>` is sized as desired.

```

64 \ifstrequal{#3}{audio}{%
65 \begin{BlockClass}{AVviewport}
66 }{%
67 \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
68 }
```

Paragraph tags are unnecessary for the A/v tags.

```
69 \LWR@stoppars
```

The A/v element is 100% of the container.

```

70 \LWR@htmltag{%
71 #3\ % space
72 \ifstrequal{#3}{audio}{}{%
73 width=\textquotedbl{}100%\textquotedbl\ % space
74 height=\textquotedbl{}100%\textquotedbl\ controls%
75 }%
76 }\LWR@orignewline
```

The file source and type:

```

77 \LWR@htmltag{%
78 source % space
79 src=\textquotedbl#2\textquotedbl\ % space
80 type=\textquotedbl#4\textquotedbl}
```

The poster text inside paragraph tags, along with a reference to the URL.

```

81 \LWR@startpars
82 \LWR@href{#2}{#1}
83 \LWR@stoppars
```

Finish.

```

84 \LWR@htmltag{/#3}\LWR@orignewline
85 \end{BlockClass}
86 }
```

```
\LWR@multimedia@AV {<poster text>} {<filename>} {<audio/video>} {<mimetype>}
```

Creates an audio or video from a file or a URL.

```

87 \newcommand*\LWR@multimedia@AV[4]{%
88 \IfBeginWith{#2}{http}%
89 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
90 {%
91 \IfBeginWith{#2}{HTTP}%
92 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
93 {\LWR@multimedia@fileAV{#1}{#2}{#3}{#4}}%
94 }%
95 }
```

```
\LWR@multimedia@embed {<poster text>} {<URL or filename>} {<mime type>}
```

Embeds multimedia of an arbitrary type. The poster text is not used, as it would appear along with the video if the `<embed>` element is supported.

```
96 \newcommand*\LWR@multimedia@embed[3]{%
```

```

97 \begin{BlockClass}[width:100\%]{AVviewport}%
98 \LWR@stoppars
99 \LWR@htmltag{%
100 embed % space
101 \ifblank{#3}{\type=\textquotedbl#3\textquotedbl\ }%
102 style=\textquotedbl\LWR@multimedia@printsizemargin:auto\textquotedbl\ % space
103 src=\textquotedbl#2\textquotedbl\ % space
104 }%
105 \LWR@startpars
106 \end{BlockClass}
107 }

```

Error message if the comment character is used among the arguments of \LWR@multimedia.

\LWR@multimedia@percenterror

```

108 \newcommand*{\LWR@multimedia@percenterror}{%
109 \PackageError{lwarp-media9}
110 {%
111 Do not use a percent comment between\MessageBreak
112 \protect\includemedia\space arguments%
113 }
114 {%
115 Percent is changed to a regular character\MessageBreak
116 to allow its use inside a URL.%
117 }
118 }

```

\LWR@multimedia [⟨options⟩] {⟨poster text⟩} {⟨filename⟩}

Creates multimedia. Examines the file extension to determine the type. If not a supported type, creates an embedded object if it has a URL. If neither, create a link to the unsupported object.

```
119 \newcommand*{\LWR@multimedia}[3][\fi%
```

Error if the percent character appears among the arguments. This could happen since the comment character has been temporarily disabled, for use in a URL.

```

120 \if#1\@percentchar\LWR@multimedia@percenterror\fi%
121 \if#2\@percentchar\LWR@multimedia@percenterror\fi%
122 \if#3\@percentchar\LWR@multimedia@percenterror\fi%

```

Paragraph handling:

```
123 \LWR@stoppars%
```

Record the desired size.

```

124 \setlength{\LWR@multimedia@width}{0pt}%
125 \setlength{\LWR@multimedia@height}{0pt}%
126 \setkeys*{\LWR@multimedia}{#1}%

```

If a known A/V type, create an HTML5 <video> or <audio>.

```

127 \IfEndWith{#3}{.mp4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
128 \IfEndWith{#3}{.MP4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
129 \IfEndWith{#3}{.mp3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%
130 \IfEndWith{#3}{.MP3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%

```

If an arbitrary URL, embed it.

```

131 \IfBeginWith{#3}{http}{\LWR@multimedia@embed{#2}{#3}}{%
132 \IfBeginWith{#3}{HTTP}{\LWR@multimedia@embed{#2}{#3}}{%
133 \IfBeginWith{#3}{ftp}{\LWR@multimedia@embed{#2}{#3}}{%
134 \IfBeginWith{#3}{FTP}{\LWR@multimedia@embed{#2}{#3}}{%

```

If unknown, create a link to it.

```

135 \LWR@href{#3}{#2}% unknown format
136 }}}}]}%

```

Paragraph handling:

```

137 \LWR@startpars%
138 \endgroup%
139 }

```

Catcodes which may appear in a URL.

```

140 \newrobustcmd*{\LWR@multimedia}{%
141 \begingroup%
142 \LWR@linkmediacatcodes%
143 \LWR@multimediab%
144 }

```

File 579 **lwarp-common-mathjax-letters.sty**

§ 688 Package **common-mathjax-letters**

Pkg Common code used by a number of packages to generate Greek math characters for  
 lwarp-common-mathjax-letters MATHJAX.

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-letters}[2020/08/10]

\LWR@mathjax@addletter \* {<2: capitalize name?>} {<3: prefix>} {<4: postfix>} {<5: name>} {<6: unicode>}

Star to italicize the result, used when the unicode character does not exist.

```

2 \begin{warpMathJax}
3
4 \NewDocumentCommand{\LWR@mathjax@addletter}{s m m m m m}{
5 \IfBooleanTF{#2}%
6 {\edef\LWR@tempone{\LWRtexttitlecase{#5}}}%
7 {\edef\LWR@tempone{#5}}%
8 \xdef\LWR@customizedMathJax{%
9 \LWR@customizedMathJax%
10 \LWRbackslash%
11 \LWRbackslash def\LWRbackslash%
12 #3% prefix
13 \LWR@tempone%name
14 #4% postfix
15 \LWRleftbrace%
16 }%
17 \IfBooleanTF{#1}{%
18 \xdef\LWR@customizedMathJax{%

```

```

19 \LWR@customizedMathJax%
20 \LWRbackslash mathit\LWRleftbrace%
21 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
22 \LWRrightbrace%
23 }%
24 }{%
25 \xdef\LWR@customizedMathJax{%
26 \LWR@customizedMathJax%
27 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
28 }%
29 }%
30 \xdef\LWR@customizedMathJax{%
31 \LWR@customizedMathJax%
32 \LWRrightbrace\LWRbackslash)\par%
33 }%
34 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@l@up

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase upright.

```

35 \NewDocumentCommand{\LWR@mathjax@addgreek@l@up}{s m m}{
36 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{03B1}
37 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{03B2}
38 \LWR@mathjax@addLetter{#1}{#2}{#3}{varbeta}{03D0}
39 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{03B3}
40 \LWR@mathjax@addLetter{#1}{#2}{#3}{digamma}{03DD}
41 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{03B4}
42 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{03F5}
43 \LWR@mathjax@addLetter{#1}{#2}{#3}{varepsilon}{03B5}
44 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{03B6}
45 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{03B7}
46 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{03B8}
47 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{03D1}
48 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{03B9}
49 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{03BA}
50 \LWR@mathjax@addLetter{#1}{#2}{#3}{varkappa}{03F0}
51 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{03BB}
52 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{03BC}
53 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{03BD}
54 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{03BE}
55 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{03BF}
56 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{03C0}
57 \LWR@mathjax@addLetter{#1}{#2}{#3}{varpi}{03D6}
58 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{03C1}
59 \LWR@mathjax@addLetter{#1}{#2}{#3}{varrho}{03F1}
60 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{03C3}
61 \LWR@mathjax@addLetter{#1}{#2}{#3}{varsigma}{03C2}
62 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{03C4}
63 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{03C5}
64 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{03D5}
65 \LWR@mathjax@addLetter{#1}{#2}{#3}{varphi}{03C6}
66 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{03C7}

```

```

67 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{03C8}
68 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{03C9}
69 }

```

\* *{<2: prefix>} {<3: postfix>}*

\LWR@mathjax@addgreek@u@up

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase upright.

```

70 \NewDocumentCommand{\LWR@mathjax@addgreek@u@up}{s m m}{
71 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{0391}
72 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{0392}
73 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{0393}
74 \LWR@mathjax@addLetter{#1}{#2}{#3}{digamma}{03DC}
75 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{0394}
76 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{0395}
77 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{0396}
78 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{0397}
79 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{0398}
80 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{03F4}
81 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{0399}
82 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{039A}
83 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{039B}
84 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{039C}
85 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{039D}
86 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{039E}
87 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{039F}
88 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{03A0}
89 \LWR@mathjax@addLetter{#1}{#2}{#3}{varpi}{03D6}
90 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{03A1}
91 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{03A3}
92 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{03A4}
93 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{03A5}
94 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{03A6}
95 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{03A7}
96 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{03A8}
97 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{03A9}
98 }

```

\* *{<2: prefix>} {<3: postfix>}*

\LWR@mathjax@addgreek@l@it

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase italic.

```

99 \NewDocumentCommand{\LWR@mathjax@addgreek@l@it}{s m m}{
100 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D6FC}
101 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D6FD}
102 \LWR@mathjax@addLetter{#1}{#2}{#3}{varbeta}{03D0}
103 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D6FE}
104 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DD}
105 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D6FF}
106 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D716}
107 \LWR@mathjax@addLetter{#1}{#2}{#3}{varepsilon}{1D700}

```



```

108 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D701}
109 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D702}
110 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D703}
111 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D717}
112 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D704}
113 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D705}
114 \LWR@mathjax@addLetter{#1}{#2}{#3}{varkappa}{1D718}
115 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D706}
116 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D707}
117 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D708}
118 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D709}
119 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D70A}
120 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D70B}
121 \LWR@mathjax@addLetter{#1}{#2}{#3}{varpi}{1D71B}
122 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D70C}
123 \LWR@mathjax@addLetter{#1}{#2}{#3}{varrho}{1D71A}
124 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D70E}
125 \LWR@mathjax@addLetter{#1}{#2}{#3}{varsigma}{1D70D}
126 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D70F}
127 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{1D710}
128 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{1D719}
129 \LWR@mathjax@addLetter{#1}{#2}{#3}{varphi}{1D711}
130 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{1D712}
131 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{1D713}
132 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{1D714}
133 }

```

\* *{2: prefix}* {3: postfix}

\LWR@mathjax@addgreek@u@it

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase italic.

```

134 \NewDocumentCommand{\LWR@mathjax@addgreek@u@it}{s m m}{
135 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D6E2}
136 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D6E3}
137 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D6E4}
138 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DC}
139 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D6E5}
140 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D6E6}
141 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D6E7}
142 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D6E8}
143 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D6E9}
144 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D6F3}
145 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D6EA}
146 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D6EB}
147 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D6EC}
148 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D6ED}
149 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D6EE}
150 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D6EF}
151 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D6F0}
152 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D6F1}
153 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D6F2}
154 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D6F4}
155 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D6F5}

```

```

156 \LWR@mathjax@addLetter{#1}{#2}{#3}{\upsilon}{1D6F6}
157 \LWR@mathjax@addLetter{#1}{#2}{#3}{\phi}{1D6F7}
158 \LWR@mathjax@addLetter{#1}{#2}{#3}{\chi}{1D6F8}
159 \LWR@mathjax@addLetter{#1}{#2}{#3}{\psi}{1D6F9}
160 \LWR@mathjax@addLetter{#1}{#2}{#3}{\omega}{1D6FA}
161 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

`\LWR@mathjax@addgreek@l@bfit`

Star to capitalize the macro names.

Adds `\CustomizeMathjax` expressions to define a set of macros for Greek letters, lowercase boldface italic.

```

162 \NewDocumentCommand{\LWR@mathjax@addgreek@l@bfit}{s m m}{
163 \LWR@mathjax@addLetter{#1}{#2}{#3}{\alpha}{1D736}
164 \LWR@mathjax@addLetter{#1}{#2}{#3}{\beta}{1D737}
165 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varbeta}{03D0}
166 \LWR@mathjax@addLetter{#1}{#2}{#3}{\gamma}{1D738}
167 \LWR@mathjax@addLetter*{#1}{#2}{#3}{\digamma}{03DD}
168 \LWR@mathjax@addLetter{#1}{#2}{#3}{\delta}{1D739}
169 \LWR@mathjax@addLetter{#1}{#2}{#3}{\epsilon}{1D750}
170 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varepsilon}{1D73A}
171 \LWR@mathjax@addLetter{#1}{#2}{#3}{\zeta}{1D73B}
172 \LWR@mathjax@addLetter{#1}{#2}{#3}{\eta}{1D73C}
173 \LWR@mathjax@addLetter{#1}{#2}{#3}{\theta}{1D73D}
174 \LWR@mathjax@addLetter{#1}{#2}{#3}{\vartheta}{1D751}
175 \LWR@mathjax@addLetter{#1}{#2}{#3}{\iota}{1D73E}
176 \LWR@mathjax@addLetter{#1}{#2}{#3}{\kappa}{1D73F}
177 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varkappa}{1D752}
178 \LWR@mathjax@addLetter{#1}{#2}{#3}{\lambda}{1D740}
179 \LWR@mathjax@addLetter{#1}{#2}{#3}{\mu}{1D741}
180 \LWR@mathjax@addLetter{#1}{#2}{#3}{\nu}{1D742}
181 \LWR@mathjax@addLetter{#1}{#2}{#3}{\xi}{1D743}
182 \LWR@mathjax@addLetter{#1}{#2}{#3}{\omicron}{1D744}
183 \LWR@mathjax@addLetter{#1}{#2}{#3}{\pi}{1D745}
184 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varpi}{1D755}
185 \LWR@mathjax@addLetter{#1}{#2}{#3}{\rho}{1D746}
186 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varrho}{1D754}
187 \LWR@mathjax@addLetter{#1}{#2}{#3}{\sigma}{1D748}
188 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varsigma}{1D747}
189 \LWR@mathjax@addLetter{#1}{#2}{#3}{\tau}{1D749}
190 \LWR@mathjax@addLetter{#1}{#2}{#3}{\upsilon}{1D74A}
191 \LWR@mathjax@addLetter{#1}{#2}{#3}{\phi}{1D753}
192 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varphi}{1D74B}
193 \LWR@mathjax@addLetter{#1}{#2}{#3}{\chi}{1D74C}
194 \LWR@mathjax@addLetter{#1}{#2}{#3}{\psi}{1D74D}
195 \LWR@mathjax@addLetter{#1}{#2}{#3}{\omega}{1D74E}
196 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

`\LWR@mathjax@addgreek@u@bfit`

Star to capitalize the macro names.

Adds `\CustomizeMathjax` expressions to define a set of macros for Greek letters, uppercase boldface italic.

```

197 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfit}{s m m}{
198 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D71C}
199 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D71D}
200 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D71E}
201 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DC}
202 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D71F}
203 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D720}
204 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D721}
205 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D722}
206 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D723}
207 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D72D}
208 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D724}
209 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D725}
210 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D726}
211 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D727}
212 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D728}
213 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D729}
214 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D72A}
215 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D72B}
216 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D72C}
217 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D72E}
218 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D72F}
219 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{1D730}
220 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{1D731}
221 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{1D732}
222 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{1D733}
223 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{1D734}
224 }

```

`\LWR@mathjax@addgreek@u@bfup` is not needed.

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

`\LWR@mathjax@addgreek@u@bfup`

Star to capitalize the macro names.

Adds `\CustomizeMathjax` expressions to define a set of macros for Greek letters, uppercase boldface upright.

```

225 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfup}{s m m}{
226 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D6A8}
227 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D6A9}
228 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D6AA}
229 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DC}
230 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D6AB}
231 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D6AC}
232 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D6AD}
233 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D6AE}
234 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D6AF}
235 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D6B9}
236 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D6B0}
237 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D6B1}
238 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D6B2}
239 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D6B3}
240 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D6B4}
241 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D6B5}
242 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D6B6}

```

```

243 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D6B7}
244 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D6B8}
245 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D6BA}
246 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D6BB}
247 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{1D6BC}
248 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{1D6BD}
249 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{1D6BE}
250 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{1D6BF}
251 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{1D6C0}
252 }

```

{<prefix>}

\LWR@mathjax@addLatin@u@bfit

Adds \CustomizeMathjax expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

253 \NewDocumentCommand{\LWR@mathjax@addLatin@u@bfit}{m}{
254 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{A}{1D468}
255 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{B}{1D469}
256 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{C}{1D46A}
257 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{D}{1D46B}
258 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{E}{1D46C}
259 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{F}{1D46D}
260 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{G}{1D46E}
261 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{H}{1D46F}
262 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{I}{1D470}
263 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{J}{1D471}
264 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{K}{1D472}
265 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{L}{1D473}
266 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{M}{1D474}
267 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{N}{1D475}
268 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{O}{1D476}
269 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{P}{1D477}
270 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{Q}{1D478}
271 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{R}{1D479}
272 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{S}{1D47A}
273 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{T}{1D47B}
274 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{U}{1D47C}
275 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{V}{1D47D}
276 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{W}{1D47E}
277 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{X}{1D47F}
278 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{Y}{1D480}
279 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{Z}{1D481}
280 }

```

{<prefix>}

\LWR@mathjax@addLatin@l@bfit

Adds \CustomizeMathjax expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

281 \NewDocumentCommand{\LWR@mathjax@addLatin@l@bfit}{m}{
282 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{a}{1D482}
283 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{b}{1D483}
284 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{c}{1D484}
285 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{d}{1D485}
286 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{e}{1D486}

```

```

287 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{f}{1D487}
288 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{g}{1D488}
289 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{h}{1D489}
290 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{i}{1D48A}
291 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{j}{1D48B}
292 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{k}{1D48C}
293 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{l}{1D48D}
294 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{m}{1D48E}
295 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{n}{1D48F}
296 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{o}{1D490}
297 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{p}{1D491}
298 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{q}{1D492}
299 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{r}{1D493}
300 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{s}{1D494}
301 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{t}{1D495}
302 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{u}{1D496}
303 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{v}{1D497}
304 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{w}{1D498}
305 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{x}{1D499}
306 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{y}{1D49A}
307 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{z}{1D49B}
308 }

309 \end{warpMathJax}

```

---

File 580 **lwarp-common-mathjax-newpctxmath.sty**

§ 689 Package **common-mathjax-newpctxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg Common code used by newpctxmath, newtxmath, and newtxsf for MATHJAX.

lwarp-common-mathjax-newpctxmath

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-newpctxmath}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
3 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
4
5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\fAlt}{f}}
7 \CustomizeMathJax{\newcommand{\rhoAlt}{\rho}}
8
9 \CustomizeMathJax{\newcommand{\imathscr}{\mathord{\mathscr{i}}}}
10 \CustomizeMathJax{\newcommand{\jmathscr}{\mathord{\mathscr{j}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

11 \CustomizeMathJax{\let\llbracket\lBrack}
12 \CustomizeMathJax{\let\rrbracket\rBrack}
13

```

```

14 \CustomizeMathJax{\let\smlbrace\{ }
15 \CustomizeMathJax{\let\smrbrace\}}
16 \CustomizeMathJax{\newcommand{\Perp}{\mathrel{\unicode{x02AEB}}}}
17 \CustomizeMathJax{\newcommand{\nPerp}{\mathrel{\not{\!\unicode{x02AEB}}}}}
18 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x01B5}}}}
19 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x212B}}}}
20 \CustomizeMathJax{\newcommand{\Euler}{\mathord{\unicode{x2107}}}}
21 \CustomizeMathJax{\newcommand{\transp}{\mathord{\unicode{xFF34}}}}
22 \CustomizeMathJax{\newcommand{\hermtransp}{\mathord{\unicode{xFF28}}}}
23 \CustomizeMathJax{\let\htransp=\hermtransp}
24 \CustomizeMathJax{\newcommand{\circledplus}{\mathbin{\unicode{x2295}}}}
25 \CustomizeMathJax{\newcommand{\circledminus}{\mathbin{\unicode{x2296}}}}
26 \CustomizeMathJax{\newcommand{\circledtimes}{\mathbin{\unicode{x2297}}}}

27 \CustomizeMathJax{\newcommand{\circledslash}{\mathbin{\unicode{x2298}}}}
28 %
29 \CustomizeMathJax{\newcommand{\circleddot}{\mathbin{\unicode{x2299}}}}
30 \CustomizeMathJax{\let\overgroup\overparen}
31 \CustomizeMathJax{\let\overgrouppra\overrightarrow}
32 \CustomizeMathJax{\let\undergroup\underparen}
33 \CustomizeMathJax{\let\undergrouppla\underleftarrow}
34 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\unicode{x2218}}{\overgroup{#1}}}}
35 \CustomizeMathJax{\let\widearc\overparen}
36 \CustomizeMathJax{\let\wideOarc\overrightarrow}
37 \CustomizeMathJax{\newcommand{\LWRvstar}[2]{\overrightarrow{#1}_{#2}}}
38 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRvstar\overrightarrow}}
39 %
40 \CustomizeMathJax{\let\smallintsl\smallint}
41 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\unicode{x222C}}\limits}}
42 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x222D}}\limits}}
43 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x2A0C}}\limits}}
44 \CustomizeMathJax{\newcommand{\smalllointsl}{\mathop{\unicode{x222E}}\limits}}
45 \CustomizeMathJax{\newcommand{\smalllointsl}{\mathop{\unicode{x222F}}\limits}}
46 \CustomizeMathJax{\newcommand{\smallloiiintsl}{\mathop{\unicode{x2230}}\limits}}
47 \CustomizeMathJax{\newcommand{\smallvarointclockwisel}{\mathop{\unicode{x2232}}\limits}}
48 \CustomizeMathJax{\newcommand{\smalllointctrlockwisel}{\mathop{\unicode{x2233}}\limits}}
49 \CustomizeMathJax{\newcommand{\smallsumintsl}{\mathop{\unicode{x2A0B}}\limits}}
50 \CustomizeMathJax{\newcommand{\smallfintsl}{\mathop{\unicode{x2A0F}}\limits}}
51 \CustomizeMathJax{\newcommand{\smallsqintsl}{\mathop{\unicode{x2A16}}\limits}}
52 %
53 \CustomizeMathJax{\let\smallintup\smallint}
54 \CustomizeMathJax{\newcommand{\smalliintup}{\mathop{\unicode{x222C}}\limits}}
55 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x222D}}\limits}}
56 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x2A0C}}\limits}}
57 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\unicode{x222E}}\limits}}
58 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\unicode{x222F}}\limits}}
59 \CustomizeMathJax{\newcommand{\smallloiiintup}{\mathop{\unicode{x2230}}\limits}}
60 \CustomizeMathJax{\newcommand{\smallvarointclockwiseup}{\mathop{\unicode{x2232}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalllointctrlockwiseup}{\mathop{\unicode{x2233}}\limits}}
62 \CustomizeMathJax{\newcommand{\smallsumintup}{\mathop{\unicode{x2A0B}}\limits}}
63 \CustomizeMathJax{\newcommand{\smallfintup}{\mathop{\unicode{x2A0F}}\limits}}
64 \CustomizeMathJax{\newcommand{\smallsqintup}{\mathop{\unicode{x2A16}}\limits}}
65 %
66 \CustomizeMathJax{\newcommand{\iint}{\mathop{\unicode{x222C}}\limits}}
67 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\unicode{x222D}}\limits}}

```

```

68 \CustomizeMathJax{\newcommand{\iiiint}{\mathop{\unicode{x2A0C}}\limits}}
69 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
70 \CustomizeMathJax{\newcommand{\oiiint}{\mathop{\unicode{x2230}}\limits}}
71 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
72 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
73 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
74 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
75 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
76 %
77 \CustomizeMathJax{\let\intsl\int}
78 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\unicode{x222C}}\limits}}
79 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\unicode{x222D}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
81 \CustomizeMathJax{\let\ointsl\oint}
82 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\unicode{x222F}}\limits}}
83 \CustomizeMathJax{\newcommand{\oiiintsl}{\mathop{\unicode{x2230}}\limits}}
84 \CustomizeMathJax{\newcommand{\varointclockwisel}{\mathop{\unicode{x2232}}\limits}}
85 \CustomizeMathJax{\newcommand{\ointctrlockwisel}{\mathop{\unicode{x2233}}\limits}}
86 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\unicode{x2A0B}}\limits}}
87 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\unicode{x2A0F}}\limits}}
88 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\unicode{x2A16}}\limits}}
89 %
90 \CustomizeMathJax{\let\intup\int}
91 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\unicode{x222C}}\limits}}
92 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\unicode{x222D}}\limits}}
93 \CustomizeMathJax{\newcommand{\iiiintup}{\mathop{\unicode{x2A0C}}\limits}}
94 \CustomizeMathJax{\let\ointup\oint}
95 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\unicode{x222F}}\limits}}
96 \CustomizeMathJax{\newcommand{\oiiintup}{\mathop{\unicode{x2230}}\limits}}
97 \CustomizeMathJax{\newcommand{\varointclockwiseup}{\mathop{\unicode{x2232}}\limits}}
98 \CustomizeMathJax{\newcommand{\ointctrlockwiseup}{\mathop{\unicode{x2233}}\limits}}
99 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\unicode{x2A0B}}\limits}}
100 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\unicode{x2A0F}}\limits}}
101 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\unicode{x2A16}}\limits}}
102 %
103 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
104 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\unicode{x2A04}}}}
105 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
106 %
107 %
108 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}}}
109 \CustomizeMathJax{\let\varprod\bigtimes}
110 %
111 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\unicode{x021A4}}}}
112 \CustomizeMathJax{\let\mappedfromchar\mappedfrom}
113 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
114 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\unicode{x027FB}}}}
115 %
116 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\unicode{x02907}}}}
117 \CustomizeMathJax{\let\Mapstochar\Mapsto}
118 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
119 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\unicode{x02906}}}}

```

```

120 \CustomizeMathJax{\let\Mappedfromchar\Mappedfrom}
121 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\unicode{x02906}}}}
122 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\unicode{x27FD}}}}
123 %

124 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\unicode{x025CB}}}}
125 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\unicode{x025CF}}}}
126 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\unicode{x02AFD}}}}
127 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\unicode{x244A}}}}
128 \CustomizeMathJax{\newcommand{\nvarparallel}{\mathrel{\LWROverlaysymbols{-}{\unicode{x02AFD}}}}}
129 \CustomizeMathJax{\newcommand{\nvarparallelinv}{\mathrel{\LWROverlaysymbols{-}{\unicode{x244A}}}}}
130 %

131 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
132 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
133 %
134 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x22AB}}}}

135 %
136 \CustomizeMathJax{\newcommand{\preceq}{\mathrel{\unicode{x02AB3}}}}
137 \CustomizeMathJax{\newcommand{\succeq}{\mathrel{\unicode{x02AB4}}}}
138 %
139
140 \CustomizeMathJax{\newcommand{\nprec}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0227E}}}}}
141 \CustomizeMathJax{\newcommand{\nsucc}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0227F}}}}}
142 \CustomizeMathJax{\newcommand{\nless}{\mathrel{\unicode{x02274}}}}
143 \CustomizeMathJax{\newcommand{\ngtr}{\mathrel{\unicode{x02275}}}}
144 %

145 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
146 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
147 \CustomizeMathJax{\newcommand{\notni}{\mathrel{\unicode{x220C}}}}
148 \CustomizeMathJax{\let\notowns\notni}
149 %
150 \CustomizeMathJax{\newcommand{\nlessapprox}{\mathrel{\LWROverlaysymbols{/}{\unicode{x02A85}}}}}
151 \CustomizeMathJax{\newcommand{\ngtrapprox}{\mathrel{\LWROverlaysymbols{/}{\unicode{x02A86}}}}}
152 %
153 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0227C}}}}}
154 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0227D}}}}}
155 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
156 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x2278}}}}
157 \CustomizeMathJax{\newcommand{\nbump}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0224F}}}}}
158 \CustomizeMathJax{\newcommand{\nBump}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0224E}}}}}
159 %
160 \CustomizeMathJax{\newcommand{\nbacksim}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0223D}}}}}
161 \CustomizeMathJax{\newcommand{\nbacksimeq}{\mathrel{\LWROverlaysymbols{/}{\unicode{x022CD}}}}}
162 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x226D}}}}
163 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x2262}}}}
164 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x2249}}}}
165 %
166 \CustomizeMathJax{\newcommand{\nll}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0226A}}}}}
167 \CustomizeMathJax{\newcommand{\ngg}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0226B}}}}}
168 \CustomizeMathJax{\newcommand{\nthickapprox}{\%

```



```

169 \mathrel{\LWOverlaysymbols{/}{\mathbf{\unicode{x02248}}}}%
170 }}
171 \CustomizeMathJax{\newcommand{\napproxq}{\mathrel{\LWOverlaysymbols{/}{\unicode{x0224A}}}}
172 \CustomizeMathJax{\newcommand{\nprecapprox}{\mathrel{\LWOverlaysymbols{/}{\unicode{x02AB7}}}}
173 \CustomizeMathJax{\newcommand{\nsuccapprox}{\mathrel{\LWOverlaysymbols{/}{\unicode{x02AB8}}}}
174 \CustomizeMathJax{\newcommand{\npreceqq}{\mathrel{\LWOverlaysymbols{/}{\unicode{x02AB3}}}}
175 \CustomizeMathJax{\newcommand{\nsucceqq}{\mathrel{\LWOverlaysymbols{/}{\unicode{x02AB4}}}}
176 \CustomizeMathJax{\newcommand{\nsimeq}{\mathrel{\unicode{x02244}}}}
177 %
178 \CustomizeMathJax{\newcommand{\nSubset}{\mathrel{\LWOverlaysymbols{/}{\unicode{x022D0}}}}
179 \CustomizeMathJax{\newcommand{\nSupset}{\mathrel{\LWOverlaysymbols{/}{\unicode{x022D1}}}}
180 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\unicode{x022E2}}}}
181 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\unicode{x022E3}}}}
182 %
183 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\unicode{x02254}}}}
184 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{\unicode{x02255}}}}
185 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\unicode{x02A74}}}}
186 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\unicode{x2237}-}}}
187 \CustomizeMathJax{\newcommand{\Eqcolon}{\mathrel{-\unicode{x2237}}}}
188 %
189 \CustomizeMathJax{\newcommand{\lvec}[1]{\mathord{\overset{\unicode{x02190}}{\#1}}}}
190 \CustomizeMathJax{\newcommand{\lrvect}[1]{\mathord{\overset{\unicode{x2194}}{\#1}}}}
191 \CustomizeMathJax{\newcommand{\harpoonacc}[1]{\mathord{\overset{\unicode{x021C0}}{\#1}}}}
192 \CustomizeMathJax{\newcommand{\lharpoonacc}[1]{\mathord{\overset{\unicode{x021BC}}{\#1}}}}
193 \CustomizeMathJax{\newcommand{\lrrharpoonacc}[1]{\mathord{\overset{\unicode{x0294E}}{\#1}}}}
194 \CustomizeMathJax{\newcommand{\barbar}[1]{\mathord{\overset{=}{\#1}}}}
195 \CustomizeMathJax{\newcommand{\bartilde}[1]{\mathord{\overset{\simeq}{\#1}}}}
196 \CustomizeMathJax{\newcommand{\barhat}[1]{\mathord{\hat{\bar{\#1}}}}}
197 \CustomizeMathJax{\newcommand{\tildebar}[1]{\mathord{\overset{\eqsim}{\#1}}}}
198 \CustomizeMathJax{\newcommand{\tildetilde}[1]{\mathord{\overset{\approx}{\#1}}}}
199 \CustomizeMathJax{\newcommand{\tildehat}[1]{\mathord{\hat{\tilde{\#1}}}}}
200 \CustomizeMathJax{\newcommand{\hatbar}[1]{\mathord{\bar{\hat{\#1}}}}}
201 \CustomizeMathJax{\newcommand{\hattilde}[1]{\mathord{\tilde{\hat{\#1}}}}}
202 \CustomizeMathJax{\newcommand{\hathat}[1]{\mathord{\hat{\hat{\#1}}}}}
203
204 \CustomizeMathJax{\newcommand{\cdotB}{\mathord{\boldsymbol{\cdot}}}}
205 \CustomizeMathJax{\newcommand{\cdotBB}{\mathord{\unicode{x2022}}}}
206 \CustomizeMathJax{\newcommand{\circS}{\boldsymbol{\circ}}}
207 \CustomizeMathJax{\newcommand{\bulletSSS}{\bullet}}
208 \CustomizeMathJax{\newcommand{\bulletSS}{\mathord{\unicode{x025CF}}}}
209 \CustomizeMathJax{\newcommand{\bulletS}{\mathord{\unicode{x02B24}}}}
210 \CustomizeMathJax{\newcommand{\primeS}{\prime}}
211
212 \CustomizeMathJax{\newcommand{\invamp}{\mathbin{\unicode{x0214B}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

213 \CustomizeMathJax{\newcommand{\Lbag}{\mathopen{\Large\unicode{x027C5}}}}
214 \CustomizeMathJax{\newcommand{\Rbag}{\mathclose{\Large\unicode{x027C6}}}}
215 \CustomizeMathJax{\newcommand{\circledless}{\mathrel{\unicode{x029C0}}}}
216 \CustomizeMathJax{\newcommand{\circledgtr}{\mathrel{\unicode{x029C1}}}}
217 \CustomizeMathJax{\newcommand{\circledbllash}{\mathbin{\unicode{x029B8}}}}

218 \CustomizeMathJax{\newcommand{\lJoin}{\mathrel{\unicode{x22C9}}}}
219 \CustomizeMathJax{\newcommand{\rJoin}{\mathrel{\unicode{x22CA}}}}

```

```

220 \CustomizeMathJax{\newcommand{\lrJoin}{\mathrel{\unicode{x2A1D}}}}
221
222 \CustomizeMathJax{\newcommand{\lRtimes}{\mathrel{\unicode{x2A1D}}}}
223 \CustomizeMathJax{\newcommand{\Diamondblack}{\mathord{\unicode{x025C6}}}}
224 \CustomizeMathJax{\newcommand{\npluss}{\mathrel{\LWOverlaysymbols{+}{\unicode{x02229}}}}}
225 \CustomizeMathJax{\newcommand{\nsqsubset}{\mathrel{\LWOverlaysymbols{/}{\unicode{x0228F}}}}}
226 \CustomizeMathJax{\newcommand{\nsqsupset}{\mathrel{\LWOverlaysymbols{/}{\unicode{x02290}}}}}
227 \CustomizeMathJax{\newcommand{\dasharrow}{\mathrel{\unicode{x021E2}}}}
228 \CustomizeMathJax{\newcommand{\leftsquigarrow}{\mathrel{\unicode{x021DC}}}}
229 \CustomizeMathJax{\newcommand{\ntwoheadrightarrow}{\mathrel{\unicode{x02900}}}}
230 \CustomizeMathJax{\newcommand{\ntwoheadleftarrow}{\mathrel{\unicode{x02B34}}}}
231 \CustomizeMathJax{\newcommand{\boxast}{\mathbin{\unicode{x029C6}}}}
232 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x29C5}}}}
233 \CustomizeMathJax{\newcommand{\boxbar}{\mathbin{\unicode{x025EB}}}}
234 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x029C4}}}}
235
236 \CustomizeMathJax{\newcommand{\varclubsuit}{\mathord{\unicode{x02667}}}}
237 \CustomizeMathJax{\newcommand{\vardiamondsuit}{\mathord{\unicode{x02666}}}}
238 \CustomizeMathJax{\newcommand{\varheartsuit}{\mathord{\unicode{x02665}}}}
239 \CustomizeMathJax{\newcommand{\varspadesuit}{\mathord{\unicode{x02664}}}}
240
241 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
242 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
243 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
244 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
245 \CustomizeMathJax{\newcommand{\Top}{\mathord{\unicode{x02AEA}}}}
246 \CustomizeMathJax{\newcommand{\Bot}{\mathord{\unicode{x02AEB}}}}
247
248 \CustomizeMathJax{\newcommand{\leadstoext}{\mathrel{\unicode{xFF5E}}}}
249
250 \CustomizeMathJax{\newcommand{\sqcupplus}{\mathbin{\LWOverlaysymbols{+}{\unicode{x02294}}}}}
251 \CustomizeMathJax{\newcommand{\sqcapplus}{\mathbin{\LWOverlaysymbols{+}{\unicode{x02293}}}}}
252
253 \CustomizeMathJax{\newcommand{\dlb}{\mathopen{\unicode{x027E6}}}}
254 \CustomizeMathJax{\newcommand{\drb}{\mathopen{\unicode{x027E7}}}}
255
256 \CustomizeMathJax{\newcommand{\varg}{g}}
257 \CustomizeMathJax{\newcommand{\vary}{y}}
258 \CustomizeMathJax{\newcommand{\varv}{v}}
259 \CustomizeMathJax{\newcommand{\varw}{w}}
260
261 \CustomizeMathJax{\newcommand{\nexistsAlt}{\mathord{\unicode{x02204}}}}
262 \CustomizeMathJax{\newcommand{\existsAlt}{\mathord{\unicode{x02203}}}}
263 \CustomizeMathJax{\newcommand{\forallAlt}{\mathord{\unicode{x02200}}}}
264 \CustomizeMathJax{\newcommand{\emptysetAlt}{\mathord{\unicode{x02205}}}}
265
266 \CustomizeMathJax{\newcommand{\uppartial}{\mathord{\unicode{x02202}}}}% not upright
267
268 \CustomizeMathJax{\let\varmathbb\mathbb}
269 \CustomizeMathJax{\let\vmathbb\mathbb}
270 \CustomizeMathJax{\let\vmathbb\mathbb}
271
272 \CustomizeMathJax{\let\smallprod\prod}
273 \CustomizeMathJax{\let\smallsum\sum}
274 \CustomizeMathJax{\let\smallcoprod\coprod}

```

```

275
276 \CustomizeMathJax{\newcommand{\openbox}{\mathord{\unicode{x25FD}}}}
277 \CustomizeMathJax{\let\textsquare\openbox}

278 \CustomizeMathJax{\let\varepsilon\emptyset}
279 %
280 % for newpixmap:
281 \CustomizeMathJax{\newcommand{\mathsterling}{\mathord{\unicode{x000A3}}}}
282 \CustomizeMathJax{\newcommand{\mathcent}{\mathord{\unicode{x000A2}}}}
283
284 \end{warpMathJax}

```

---

File 581 **lwarp-common-mathjax-nonunicode.sty**

§ 690 Package **common-mathjax-nonunicode**

*(Emulates or patches code by DANIEL FLIPO, MICHAEL SHARPE.)*

Pkg Common code used by newpixmap, newtxmath, newtxsf, kpfonts-otf for MATHJAX.

lwarp-common-mathjax-nonunicode These are symbols not found in UNICODE.

Factored from lwarp-common-mathjax-newpixmap.

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-nonunicode}[2020/09/20]

For MATHJAX:

```

2 \LWROrigRequirePackage{lwarp-common-mathjax-overlaysymbols}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\mmapsto}{\mathrel{\unicode{x021A6}}}}
6 \CustomizeMathJax{\let\mmapstochar\mmapsto}
7 \CustomizeMathJax{\newcommand{\longmmapsto}{\mathrel{\unicode{x021A6}}}}
8 \CustomizeMathJax{\newcommand{\mmappedfrom}{\mathrel{\unicode{x021A4}}}}
9 \CustomizeMathJax{\let\mmappedfromchar\mmappedfrom}
10 \CustomizeMathJax{\newcommand{\longmmappedfrom}{\mathrel{\unicode{x021A4}}}}
11 \CustomizeMathJax{\let\mmapsfrom\mmappedfrom}% from kpfonts-otf
12 \CustomizeMathJax{\let\longmmapsfrom\longmmappedfrom}% from kpfonts-otf
13
14 \CustomizeMathJax{\newcommand{\Mmapsto}{\mathrel{\unicode{x02907}}}}
15 \CustomizeMathJax{\let\Mmapstochar\Mmapsto}
16 \CustomizeMathJax{\newcommand{\Longmmapsto}{\mathrel{\unicode{x027FE}}}}
17 \CustomizeMathJax{\newcommand{\Mmappedfrom}{\mathrel{\unicode{x02906}}}}
18 \CustomizeMathJax{\let\Mmappedfromchar\Mmappedfrom}
19 \CustomizeMathJax{\newcommand{\Longmmappedfrom}{\mathrel{\unicode{x027FD}}}}
20 \CustomizeMathJax{\let\Mmapsfrom\Mmappedfrom}% from kpfonts-otf
21 \CustomizeMathJax{\let\Longmmapsfrom\Longmmappedfrom}% from kpfonts-otf
22 %
23 \CustomizeMathJax{\newcommand{\boxright}{\mathrel{\unicode{x025A1}}\!\!\unicode{x02192}}}}
24 \CustomizeMathJax{\newcommand{\boxleft}{\mathrel{\unicode{x02190}}\!\!\unicode{x025A1}}}}
25 \CustomizeMathJax{\newcommand{\boxdotright}{\mathrel{\unicode{x022A1}}\!\!\unicode{x02192}}}}
26 \CustomizeMathJax{\newcommand{\boxdotleft}{\mathrel{\unicode{x02190}}\!\!\unicode{x022A1}}}}

```

```

27
28 \CustomizeMathJax{\newcommand{\Diamondright}{\mathrel{\unicode{x025C7}\!\!\unicode{x02192}}}}
29 \CustomizeMathJax{\newcommand{\Diamondleft}{\mathrel{\unicode{x02190}\!\!\unicode{x025C7}}}}
30 \CustomizeMathJax{\newcommand{\Diamonddotright}{\mathrel{\unicode{x027D0}\!\!\unicode{x02192}}}}
31 \CustomizeMathJax{\newcommand{\Diamonddotleft}{\mathrel{\unicode{x02190}\!\!\unicode{x027D0}}}}
32
33 \CustomizeMathJax{\newcommand{\boxRight}{\mathrel{\unicode{x025A1}\!\!\unicode{x021D2}}}}
34 \CustomizeMathJax{\newcommand{\boxLeft}{\mathrel{\unicode{x021D0}\!\!\unicode{x025A1}}}}
35 \CustomizeMathJax{\newcommand{\boxdotRight}{\mathrel{\unicode{x022A1}\!\!\unicode{x021D2}}}}
36 \CustomizeMathJax{\newcommand{\boxdotLeft}{\mathrel{\unicode{x021D0}\!\!\unicode{x022A1}}}}
37
38 \CustomizeMathJax{\newcommand{\DiamondRight}{\mathrel{\unicode{x025C7}\!\!\unicode{x021D2}}}}
39 \CustomizeMathJax{\newcommand{\DiamondLeft}{\mathrel{\unicode{x021D0}\!\!\unicode{x025C7}}}}
40 \CustomizeMathJax{\newcommand{\DiamonddotRight}{\mathrel{\unicode{x027D0}\!\!\unicode{x021D2}}}}
41 \CustomizeMathJax{\newcommand{\DiamonddotLeft}{\mathrel{\unicode{x021D0}\!\!\unicode{x027D0}}}}
42 \CustomizeMathJax{\newcommand{\Diamonddot}{\mathrel{\unicode{x027D0}}}}
43
44 \CustomizeMathJax{\newcommand{\circleright}{\mathrel{\unicode{x025CB}\!\!\unicode{x02192}}}}
45 \CustomizeMathJax{\newcommand{\circleleft}{\mathrel{\unicode{x02190}\!\!\unicode{x025CB}}}}
46 \CustomizeMathJax{\newcommand{\circledotright}{\mathrel{\unicode{x02299}\!\!\unicode{x02192}}}}
47 \CustomizeMathJax{\newcommand{\circledotleft}{\mathrel{\unicode{x02190}\!\!\unicode{x02299}}}}
48 \CustomizeMathJax{\let\circleddotright\circledotright}
49 \CustomizeMathJax{\let\circleddotleft\circledotleft}
50
51 \CustomizeMathJax{\newcommand{\multimapinv}{\mathrel{\unicode{x027DC}}}}
52 \CustomizeMathJax{\newcommand{\multimapboth}{\mathrel{\unicode{x029DF}}}}
53 \CustomizeMathJax{\newcommand{\multimapdot}{\mathrel{-\!\bullet}}}
54 \CustomizeMathJax{\newcommand{\multimapdotinv}{\mathrel{\bullet\!-\!}}}
55 \CustomizeMathJax{\newcommand{\multimapdotboth}{\mathrel{\{\bullet\!-\!\!-\!\bullet\}}}}
56 \CustomizeMathJax{\newcommand{\multimapdotbothA}{\mathrel{\unicode{x022B6}}}}
57 \CustomizeMathJax{\newcommand{\multimapdotbothB}{\mathrel{\unicode{x22B7}}}}
58
59 \CustomizeMathJax{\newcommand{\multimapbothvert}{%
60 \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CB}}{\!|\!}}}}%
61 }}
62 \CustomizeMathJax{\newcommand{\multimapdotbothvert}{%
63 \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CF}}{\!|\!}}}}%
64 }}
65 \CustomizeMathJax{\newcommand{\multimapdotbothBvert}{% bug in kpfonts-otf
66 \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CB}}{\!|\!}}}}%
67 }}
68 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{% bug in kpfonts-otf
69 \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CF}}{\!|\!}}}}%
70 }}
71
72 \CustomizeMathJax{\newcommand{\bignplus}{%
73 \mathop{\LWOverlaysymbols{\unicode{xFF0B}}{\unicode{x22C2}}}}%
74 }}
75 \CustomizeMathJax{\let\bigcapplus\bignplus}
76 \CustomizeMathJax{\let\capplus\bignplus}% from kpfonts-otf
77
78 \CustomizeMathJax{\newcommand{\bigsqcapplus}{%
79 \mathop{\LWOverlaysymbols{\unicode{xFF0B}}{\unicode{x2A05}}}}
80 }}
81 \CustomizeMathJax{\let\sqcapplus\bigsqcapplus}% from kpfonts-otf

```

```

82
83 \CustomizeMathJax{\newcommand{\bigscupplus}{%
84 \mathop{\LWROverlaysymbols{\unicode{xFF0B}}{\unicode{x2A06}}}
85 }}
86 \CustomizeMathJax{\let\scupplus\bigscupplus}% from kpfonts-otf
87
88 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
89 \CustomizeMathJax{\newcommand{\parallelbackslant}{%
90 \mathrel{\unicode{x0005C}}\!\!\unicode{x0005C}}%
91 }}
92
93 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=\!\unicode{x2237}}}}
94 \CustomizeMathJax{\let\eqqColon\Eqqcolon}% for kpfonts-otf
95 \CustomizeMathJax{\newcommand{\dashColon}{\mathrel{-\unicode{x2237}}}}
96 \CustomizeMathJax{\newcommand{\Colondash}{\mathrel{\unicode{x2237}-}}}
97
98 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{: \approx}}}
99 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{: \sim}}}
100 \CustomizeMathJax{\newcommand{\Colonapprox}{\mathrel{\unicode{x2237}!\approx}}}
101 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\unicode{x2237}!\sim}}}
102
103 \CustomizeMathJax{\newcommand{\strictif}{\mathrel{\unicode{x0297D}}}}% right fish tail
104 \CustomizeMathJax{\newcommand{\strictfi}{\mathrel{\unicode{x0297C}}}}% left fish tail
105 \CustomizeMathJax{\newcommand{\strictiff}{%
106 \mathrel{\unicode{x0297C}}\!\!\unicode{x0297D}}%
107 }}% left/right fish tails
108
109 \CustomizeMathJax{\newcommand{\circledwedge}{%
110 \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{x02227}}}%
111 }}
112 \CustomizeMathJax{\newcommand{\circledvee}{%
113 \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{x02228}}}%
114 }}
115 \CustomizeMathJax{\newcommand{\circledbar}{\mathbin{\unicode{x029B6}}}}
116
117 \CustomizeMathJax{\newcommand{\openJoin}{\mathrel{\unicode{x2AA4}}}}% overlapping ><
118 \CustomizeMathJax{\newcommand{\opentimes}{\mathrel{\unicode{x2AA4}}}}% overlapping ><
119
120 \CustomizeMathJax{\newcommand{\VvDash}{\mathrel{\unicode{x22AA}}}}
121
122 \CustomizeMathJax{\newcommand{\lambdabar}{%
123 \mathord{\LWROverlaysymbols{\raise{.5ex}{-}}{\lambda}}%
124 }}
125
126 \CustomizeMathJax{\newcommand{\lambdaslash}{\mathord{\unicode{x019B}}}}
127
128 \CustomizeMathJax{\newcommand{\Wr}{\mathbin{\unicode{x02240}}\!\!\unicode{x02240}}}
129
130 \CustomizeMathJax{\newcommand{\dashleftrightarrow}{%
131 \mathrel{\unicode{x021E0}}\!\!\unicode{x021E2}}%
132 }}
133 \CustomizeMathJax{\let\leftrighdasharrow\dashleftrightarrow}% for kpfonts-otf
134
135 \end{warpMathJax}

```

---

File 582 **lwarp-common-mathjax-overlaysymbols.sty**

§ 691 Package **common-mathjax-overlaysymbols**

Pkg Common code used by a number of packages to overlay two symbols for MATHJAX.

lwarp-common-mathjax-overlaysymbols

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-overlaysymbols}[2020/08/17]

\LWRoverlaysymbols  $\langle symbol \rangle \langle symbol \rangle$

Overlays one symbol over another.

```

2 \begin{warpMathJax}
3
4 \CustomizeMathJax{\newcommand{\LWRoverlaysymbols}[2]{%
5 \mathord{%
6 \smash{%
7 \mathop{\#2\strut}%
8 \limits^{\smash{\lower3ex{\#1}}}%
9 }%
10 \strut%
11 }%
12 }}
13
14 \end{warpMathJax}

```

# Change History

## § 692 Chg Hist

For the most recent changes, see page 1383.

|                                         |                                          |
|-----------------------------------------|------------------------------------------|
| v0.0.895                                | Docs: Troubleshooting                    |
| General: maybemath: Added. . . . .      | cross-references. . . . . 201            |
| v0.10                                   | Test Suite: Assigned cleveref name       |
| General: 2016/03/08 Initial version . . | for Test Float. . . . . 1                |
| v0.11                                   | Test Suite: Floatrow . . . . . 1         |
| General: 2016/03/11 . . . . . 1         | v0.15                                    |
| Added section: Operating-System         | General: 2016/04/06 . . . . . 1          |
| portability. . . . . 236                | Added. . . . . 844                       |
| Added section: Selecting the            | Ampersand (&): Fixed handling            |
| operating system. . . . . 121           | when passed as an argument. . . 464      |
| Test Suite: MS-WINDOWS in               | Docs: Added warning icons for            |
| README.txt . . . . . 1                  | items needing special attention. 210     |
| Test Suite: limages and index in        | Docs: Clarify print/HTML output. 122     |
| README.txt . . . . . 1                  | Docs: Moved the supported                |
| v0.12                                   | features table to the introduction. 69   |
| \LRW@newhtmlfile: Bugfix: TOC with      | Files: lwarp_formal.css added. . . . . 1 |
| numbered files. . . . . 405             | Fix: steps counter . . . . . 844         |
| General: 2016/03/14 . . . . . 1         | Fixed & handling. . . . . 842            |
| Global: Uses \p@(type) in float         | Test Suite: test_suite_formal.css        |
| captions. . . . . 1                     | added. . . . . 1                         |
| Test Suite: Sub-figures . . . . . 1     | v0.16                                    |
| v0.13                                   | General: 2016/04/11 . . . . . 1          |
| \CaptionSeparator: Fix for newer        | \titlingpage: Improved                   |
| babel package. . . . . 537              | print-output spacing. . . . . 434        |
| \LRW@LwarpStart: \up and \fup . . .     | xfrac: Adjusted for the use of any       |
| General: 2016/03/24 . . . . . 1         | font: . . . . . 1279                     |
| Fix dollar-redefined bug for newer      | Added XeLaTeX, LuaLaTeX                  |
| package. . . . . 1213                   | support. . . . . 211                     |
| Removed package: subfig . . . . . 1     | Docs: Font and UTF-8 support. . 103      |
| Test Suite: Ordinals, Subcaption . .    | Docs: Moved location of                  |
| v0.14                                   | \usepackage{lwarp}. . . . . 107          |
| \LRW@htmlsectionfilename: Fix:          | Docs: Text not converting. . . . . 201   |
| Links to home page. . . . . 357         | Lwarp no longer selects fonts. 103, 247  |
| General: 2016/03/31 . . . . . 1         | Removed package: suffix . . . . . 1      |
| floatrow: Added. . . . . 840            | Test Suite: Improved titlingpage. 434    |
| Docs: Commands for a successful         | Test Suite: Lwarp no longer selects      |
| HTML conversion. . . . . 126            | fonts. . . . . 1                         |
| Docs: Commands into a warpprint         | Test Suite: Supports XeLaTeX,            |
| environment. . . . . 123                | LuaLaTeX. . . . . 1                      |
| Docs: Newclude limitations. . . . 180   | v0.17                                    |
| Docs: Table: Cross-referencing data     | \LRW@htmlsectionfilename: Fix:           |
| structures. . . . . 520                 | Links when entire doc is one             |
| Docs: Table: Float data structures. 533 | HTML page. . . . . 357                   |
| Docs: Trademarks section. . . . . 207   | General: 2016/04/14 . . . . . 1          |
|                                         | mdframed: Added. . . . . 981             |

|                                                                                  |          |  |  |
|----------------------------------------------------------------------------------|----------|--|--|
| Test Suite: Fix: Print-version front-matter page numbers. . . . .                | 1        |  |  |
| Test Suite: Mdframed . . . . .                                                   | 1        |  |  |
| v0.18                                                                            |          |  |  |
| \LWR@myshorttoc: Reorganize                                                      |          |  |  |
| \HomeHTMLFilename logic. . . . .                                                 | 542      |  |  |
| \LWR@newhtmlfile: sideroc after title, improving responsive design. . . . .      | 405      |  |  |
| \LWR@requesttoc: Reorganize                                                      |          |  |  |
| \HomeHTMLFilename logic. . . . .                                                 | 427      |  |  |
| \LWR@subhyperref: Improved HTML output linebreaks. . . . .                       | 530      |  |  |
| \LWR@subhyperrefclass: Improved HTML output linebreaks. . . . .                  | 530      |  |  |
| \LWR@subinlineimage: Suppress extra space. . . . .                               | 531      |  |  |
| \hspace: \hspace supported. . . . .                                              | 639      |  |  |
| General: 2016/05/19 . . . . .                                                    | 1        |  |  |
| graphics: Add: svg file extension. . . . .                                       | 878      |  |  |
| graphics: Fix: \linewidth, \textwidth, \textheight inside a minipage. . . . .    | 878      |  |  |
| graphics: Improved HTML output linebreaks. . . . .                               | 878      |  |  |
| graphics: em, ex, %, px dimensions preserved. . . . .                            | 878      |  |  |
| File: lwrap.css: Improved toc outline display. . . . .                           | 1        |  |  |
| Files: lwrap.css and lwrap_formal.css: Improved responsive design. . . . .       | 1        |  |  |
| Microtype disabled during HTML generation . . . . .                              | 248      |  |  |
| PDF Unicode input characters. . . . .                                            | 229      |  |  |
| Test Suite: Verse package . . . . .                                              | 1        |  |  |
| lateximage: pdfcrop: -- hires added. . . . .                                     | 596      |  |  |
| Reorganize \HomeHTMLFilename logic. . . . .                                      | 596      |  |  |
| Suppress extra space. . . . .                                                    | 596      |  |  |
| verse: Supports verse, memoir packages. . . . .                                  | 1255     |  |  |
| minipage: Fix: \linewidth, \textwidth, \textheight inside a minipage. . . . .    | 616      |  |  |
| v0.19                                                                            |          |  |  |
| \HTMLFilename: Docs: Escape filename underscores. . . . .                        | 356      |  |  |
| \HomeHTMLFilename: Docs: Escape filename underscores. . . . .                    | 356      |  |  |
| \LWR@LwrapStart: Enabled \ equal to \newline. . . . .                            | 424      |  |  |
| \LWR@doequation: MATHJAX support. . . . .                                        | 583      |  |  |
| \LWR@doubledollar: MATHJAX support. . . . .                                      | 576      |  |  |
| \LWR@filestart: lwrap_mathjax.txt loaded. . . . .                                | 421      |  |  |
| \LWR@minipagestartpars: Suppresses paragraph tags between minipages. . . . .     | 638      |  |  |
| \LWR@subsingledollar: MATHJAX support. . . . .                                   | 574      |  |  |
| \LateximageFontSizeName: Add: User-adjustable math/lateximage font size. . . . . | 593      |  |  |
| \hspace: Fix: \hspace length computations. . . . .                               | 639      |  |  |
| \minipagefullwidth: Added: No width tag for the next minipage in HTML. . . . .   | 616      |  |  |
| \warpHTMLonly: Added. . . . .                                                    | 245      |  |  |
| \warpprintonly: Replaces \rowprintedonly. . . . .                                | 245      |  |  |
| \fracHTMLfontsize: Added. . . . .                                                | 1278     |  |  |
| General: 2016/06/08 . . . . .                                                    | 1        |  |  |
| css for table note item. . . . .                                                 | 1210     |  |  |
| MATHJAX support added. . . . .                                                   | 580, 588 |  |  |
| multirow: Added optional args. . . . .                                           | 1014     |  |  |
| xcolor: Supports colored \rule. . . . .                                          | 1269     |  |  |
| Adapts to tikz version. . . . .                                                  | 1213     |  |  |
| Avoids MATHJAX. . . . .                                                          | 567      |  |  |
| cleveref: Loaded \AtEndPreamble. . . . .                                         | 613      |  |  |
| Docs: Math options. . . . .                                                      | 107      |  |  |
| Docs: Table: Cross-referencing data structures, updated. . . . .                 | 520      |  |  |
| File: lwrap.css: tnoteitemheader added. . . . .                                  | 1        |  |  |
| File: lwrap_mathjax.txt added. . . . .                                           | 1        |  |  |
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# General Index

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# Troubleshooting Index

This index is a sorted reference of problems and solutions. In order to make it easier to locate a solution, the same issue may be addressed by more than one entry.

Entries starting with page 210 are often duplicates of entries with lower page numbers, as the same warning may occur within the user manual and again within the source code.

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