

\LaTeX 2 ϵ Classes for the Journal of Machine Learning Research (JMLR) and Proceedings of Machine Learning Research (PMLR)

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1 Introduction

The `jmlr` class is for articles that need to be formatted according to the Journal of Machine Learning Research style. This class is based on the `jmlr2e` and `jmlrwcp2e` packages but has been adapted to enable it to work better with the `combine` class to collate the articles into a book. Section 2 describes how to use the `jmlr` class. Note that JMLR W&CP (JMLR: Workshop and Conference Proceedings) has been renamed PMLR (Proceedings of Machine Learning Research). Articles for new proceedings should use the `pmlr` class option.

The `jmlrbook` class is for combining articles that use the `jmlr` class into a book. The `jmlrbook` class uses `combine` and `hyperref`, which are troublesome enough on their own but together are quite fragile. The `jmlrbook` class redefines some internals to get `combine` and `hyperref` to work together but some packages (e.g. `subfig` and `pdfpages`) are likely to mess everything up and cause errors. This is why the guidelines to authors are fairly stringent and why the `jmlr` class will give an error message if certain packages are loaded.¹ The `jmlrbook` class works best with PDF \LaTeX so authors should ensure that their articles can compile with PDF \LaTeX . Section 3 describes how to use the `jmlrbook` class.

As from v1.24, some non-class dependent commands and environments have been moved to a new package `jmlrutils` (see Section 2.5). This package is automatically loaded by `jmlr`, but may be used with other classes. (Note that you will need to explicitly load `algorithm2e` if you want to use the `algorithm` environment.)

Note that the `jmlr` (and therefore `jmlrbook`) class automatically loads the `hyperref` package, but some packages need to be loaded before `hyperref`.

Anything that needs to be done before `hyperref` is loaded can be specified by defining the command

`jmlrprehyperref`

`\jmlrprehyperref`

before the class is loaded. For example, to load the packages `foo` and `bar` before `hyperref`, you can do:

```
\newcommand{\jmlrprehyperref}{\usepackage{foo,bar}}
\documentclass{jmlr}
```

There is a Java application called `makejmlrbookgui` that can compile all the individual papers from the book and generate the bib file for the proceedings (according to the PMLR specifications). It can also create a grey nonhyperlinked PDF/X compliant print version of

¹Currently `jmlr` will check if `subfig`, `pdfpages`, `geometry`, `psfig`, `epsfig`, `theorem`, `tabularx`, `amsthm` and `ntheorem` are loaded and will throw an error. If other packages are found to be a problem, they will be added to the list.

the book. The application can be downloaded from <http://www.dickimaw-books.com/software/makejmlrbookgui/> where there is also a [troubleshooting section](#).

There is also a Perl script called `makejmlrbook`, which is distributed with the `jmlr` and `jmlrbook` bundle, however it is now deprecated and has been superseded by `makejmlrbookgui`. Note that PMLR (formerly JMLR W&CP) has new format guidelines that are followed by new versions of `makejmlrbookgui` but not by the Perl script `makejmlrbook`, so that script is no longer documented or supported and may be dropped from future versions of this bundle.

1.1 Required Packages

The `jmlr` class is based on the `article` class and loads the following packages: `jmlrutils` (see Section 2.5), `amsmath`, `amssymb`, `natbib`, `url`, `graphicx` and `algorithm2e`, `hyperref`, `nameref`, `xcolor` and `xkeyval`. Note that unlike the `jmlr2e` and `jmlrwcp2e` packages, this class file does not load the obsolete `epsfig` package.

The `jmlrbook` class additionally loads the `combine` class and the following packages: `combnat`, `setspace` and `fink`.

The `makejmlrbookgui` application requires Java and \TeX . (GhostScript is also required for the print-ready version of the book.)

2 Guidelines for Article Authors

Article authors should use the `jmlr` class. This class comes with example files `jmlr-sample.tex` and `jmlrwcp-sample.tex`, which can be used as templates.

The following class options are available:

nowcp The article is for the Journal of Machine Learning Research (default).

pmlr The article is for the Proceedings of Machine Learning Research (PMLR).

wcp The article is for JMLR Workshop and Conference Proceedings (JMLR W&CP).

twocolumn Use two-column style. The title and author information will span both columns through the use of the optional argument of `\twocolumn`. This means that no page break can occur in the title and author list.

onecolumn Use one-column style (default).

color Color version (see Section 2.6).

gray Grayscale version (see Section 2.6).

tablecaption=top in a table environment, `\floatconts` puts the caption at the top.

tablecaption=bottom in a table environment, `\floatconts` puts the caption at the bottom.

2.1 Title Information

The `jmlr` class uses different syntax from `jmlr2e` and `jmlrwcp2e` to specify the title information. In particular, it doesn't define `\jmlrheading` and `\ShortHeading`. Instead, the following commands should be used:

`\jmlrvolume`

`\jmlrvolume{<number>}`

This specifies the volume number. For example:

`\jmlrvolume{2}`

`\jmlryear`

`\jmlryear{<year>}`

This specifies the year. For example:

`\jmlryear{2010}`

`\jmlrsubmitted` `\jmlrsubmitted{<date>}`

This specifies the submission date.

`\jmlrpublished` `\jmlrpublished{<date>}`

This specifies the publication date.

`\jmlrworkshop` `\jmlrworkshop{<title>}`

This specifies the workshop title (for use with the wcp class option).

The title information is specified using the commands described below. These commands should typically go in the preamble. As with most class files, The title itself is produced using

`\maketitle` `\maketitle`

This command should go after `\begin{document}`. For example:

```
\begin{document}
\maketitle
```

Before `\maketitle`, you must specify the title information using the following commands:

`\title` `\title[<short title>]{<title>}`

This specifies the article's title. A short title for the page header can be supplied via the optional argument *<short title>*. If you want to force a line break in the title, use

`\titlebreak` `\titlebreak`

instead of `\newline` or `\\` as this will ensure that the line break doesn't also end up in the table of contents or bookmarks when the article is included in a book. If there is content within the title that should not appear in the page headings or table of contents (for example, a footnote) use

`\titletag` `\titletag{<title only stuff>}`

For example:

```
\title{An Interesting Paper\titlebreak
With a Line Break\titletag{\thanks{and an
acknowledgement}}}
```

`\editor` `\editor{<name>}`

This specifies the editor's name. If there is more than one editor, use:

`\editors` `\editors{<names>}`

`\author` `\author{<author specs>}`

This specifies the author. The specifications *<author specs>* are a bit different to jmlr2e and jmlrwcp2e. Use

`\Name` `\Name[<abbreviated name>]{<author's name>}`

to specify the author's name. Note that if the surname contains a space it must be grouped (enclosed in braces {}). Similarly if the initial letter of each forename is a diacritic it must be grouped. If the abbreviation of the name doesn't get parsed properly you can override the default using the optional argument. (See below for examples.)

If there is any content within *<author's name>* that shouldn't get copied to the header, footer or table of contents, it should be enclosed within the argument of

`\nametag` `\nametag{<title only stuff>}`

For example:

```
\Name{Ann Other\nametag{\thanks{formerly with some other
institute}}}
```

`\Email` `\Email{<author's email>}`

This specifies the author's email address. It should only be used within the argument to `\author`.

`\and` `\and`

This should be used to separate two authors with the same address.

`\AND` `\AND`

This should be used to separate authors with different addresses.

`\` `\`

This should be used before an author's address or between authors with the same address where there are more than two authors.

`\addr` `\addr`

This should be used at the start of the address.

Example 1 Two authors with the same address:

```
\author{\Name{Jane Doe} \Email{abc@sample.com}\and
\Name{John {Basey Fisher}} \Email{xyz@sample.com}}\
\addr Address}
```

In this example, the second author has a space in his surname so the surname needs to be grouped.

Example 2 Three authors with the same address:

```
\author{\Name{Fred Arnold {de la Cour}} \Email{an1@sample.com}}\
\Name{Jack Jones} \Email{an3@sample.com}}\
\Name{{\ 'E}loui se {\ 'E}abhla Finchley} \Email{an2@sample.com}}\
\addr Address}
```

In this example, the third author has an accent on her forename initials so grouping is required.

Example 3 Authors with a different address:

```
\author{\Name{John Smith} \Email{abc@sample.com}}\
\addr Address 1
\AND
\Name{May Brown} \Email{xyz@sample.com}}\
\addr Address 2
}
```

Example 4 The author is actually a company so there's no first name and surname:

```
\author{\Name[Some Company, Ltd]{Some Company, Ltd}\Email{xyz:some.com}}\
\addr Address
}
```

2.2 Font Changing Commands

Use the $\text{\LaTeX 2}_{\epsilon}$ font changing commands, such as `\bfseries` or `\textbf{<text>}`, rather than the obsolete \LaTeX 2.09 commands, such as `\bf`. (The obsolete font changing commands will produce a warning if used.)

`\url`

`\url{<address>}`

This will typeset `<address>` in a typewriter font. Special characters, such as `~`, are correctly displayed. Example:

```
\url{http://theoval.cmp.uea.ac.uk/~nlct/}
```

This command is provided by the url package which is automatically loaded.

`\mailto` `\mailto{<email address>}`

This will typeset the given email address in a typewriter font. Note that this is not the same as `\Email`, which should only be used in the argument of `\author`. This command is provided by the supplementary package `jmlrutils`. Other commands are described in Section 2.5.

2.3 Structure

`abstract` `\begin{abstract}`
`<text>`
`\end{abstract}`

The abstract text should be displayed using the abstract environment.

`keywords` `\begin{keywords}<keyword list>\end{keywords}`

The keywords should be displayed using the keywords environment.

`\acks` `\acks{<text>}`

This displays the acknowledgements.

`\section` `\section{<title>}`

Section titles are created using `\section`. The heading is automatically numbered and can be cross-referenced using `\label` and `\ref`. Unnumbered sections can be produced using:

`\section*` `\section*{<title>}`

`\subsection` `\subsection{<title>}`

Sub-section titles are created using `\subsection`. Unnumbered sub-sections can be produced using:

`\subsection*` `\subsection*{<title>}`

`\subsubsection` `\subsubsection{<title>}`

Sub-sub-section titles are created using `\subsubsection`. Unnumbered sub-sub-sections can be produced using:

`\subsubsection*`

```
\subsubsection*{\langle title \rangle}
```

Further sectioning levels can be obtained using `\paragraph` and `\subparagraph`, but these are unnumbered with running heads.

`\appendix`

```
\appendix
```

Use `\appendix` to switch to the appendices. This changes `\section` to produce an appendix. Example:

```
\appendix
\chapter{Proof of Theorems}
```

2.4 Citations and Bibliography

The `jmlr` class automatically loads `natbib` and sets the bibliography style to `plainnat`. References should be stored in a `.bib` file.

`\bibliography`

```
\bibliography{\langle bib file \rangle}
```

This displays the bibliography.

`\citep`

```
\citep[\langle pre note \rangle][\langle post note \rangle]{\langle label \rangle}
```

Use `\citep` for a parenthetical citation.

`\citet`

```
\citet[\langle note \rangle]{\langle label \rangle}
```

Use `\citet` for a textual citation.

See the `natbib` documentation¹ for further details.

2.5 jmlrutils supplementary package

The `jmlrutils` package is automatically loaded by the `jmlr` class but may be used with other classes.

2.5.1 Package Options

The following options may be passed to the `jmlrutils` package if it is to be used without the `jmlr` class.

maths Define the commands `\set` and `\oldvec` and redefine `\vec`. This will also automatically load the `amsmath` package. (Default.)

¹<http://ctan.org/pkg/natbib>

nomaths Don't define `\set` and `\oldvec` and don't redefine `\vec`.

theorems Define the theorem commands and environments listed in Section 2.5.5. (Default.)

notheorems Don't define the theorem commands and environments.

subfloats Define the sub-figure and sub-table commands listed in Section 2.5.2. (Default.)

nosubfloats Don't define the sub-figure and sub-table commands.

The non-default options are provided when `jmlrutils` is loaded without the `jmlr` class. Don't try passing the non-default options to `jmlrutils` if you are using the `jmlr` class as this could interfere with the build process for the proceedings or book.

The `jmlrutils` package doesn't recognise any of the `jmlr` class options (such as `tablecaption`).

2.5.2 Figures and Tables

Floats, such as figures, tables and algorithms, are moving objects and are supposed to float to the nearest convenient location. Please don't force them to go in a particular place. In general it's best to use the `htbp` specifier and don't put the float in the middle of a paragraph (that is, make sure there's a paragraph break above and below the float). Floats are supposed to have a little extra space above and below them to make them stand out from the rest of the text. This extra space is put in automatically and shouldn't need modifying.

To ensure consistency, please *don't* try changing the format of the caption by doing something like:

```
\caption{\textit{A Sample Caption.}}
```

or

```
\caption{\em A Sample Caption.}
```

You can, of course, change the font for individual words or phrases. For example:

```
\caption{A Sample Caption With Some \emph{Emphasized Words}.}
```

The `jmlrutils` package provides the following command for displaying the contents of a figure or table:

`\floatconts`

```
\floatconts{<label>}{<caption command>}{<contents>}
```

This ensures that the caption is correctly positioned and that the contents are centred. For example:

```
\begin{table}[htbp]
\floatconts
{tab:example}% label
{\caption{An Example Table}}% caption command
{%
```

```

\begin{tabular}{ll}
\bfseries Dataset & \bfseries Result\\
Data1 & 0.123456
\end{tabular}
}
\end{table}

```

If the `jmlr` class is used, the table caption (when used with `\floatconts`) will obey the table-caption class option, otherwise it will be placed above the table contents. Within the figure environment, `\floatconts` will put the caption below the contents. This command may be used within other floats.

The `jmlr` class automatically loads `graphicx` which defines:

`\includegraphics`

```
\includegraphics[<options>]{<file name>}
```

where *<options>* is a comma-separated list of options. If you are using `jmlrutils` with another class you need to load `graphicx` in order to use this command. See the documentation for the `graphicx` package for further details of this command and other provided commands.

For example, suppose you have an image called `mypic.png` in a subdirectory called `images`:

```

\begin{figure}[htbp]
\floatconts
  {fig:example}% label
  {\caption{An Example Figure}}% caption command
  {\includegraphics[width=0.5\textwidth]{images/mypic}}
\end{figure}

```

Note that you shouldn't specify the file extension when including the image when using the `jmlr` class. It's helpful if you can also provide a grayscale version of colour images. This should be labelled as the colour image but with `-gray` immediately before the extension. (The extension need not be the same as that of the colour image.) For example, if you have an image called `mypic.pdf`, the grayscale can be called `mypic-gray.pdf`, `mypic-gray.png` or `mypic-gray.jpg`. See Section 2.6 for further details.

`\includeteximage`

```
\includeteximage[<options>]{<file name>}
```

If your image file is made up of \LaTeX code (e.g. `tikz` commands) the file can be included using `\includeteximage`. The optional argument is a key=value comma-separated list where the available keys are a subset of those provided by `graphicx`'s `\includegraphics`. The main keys are: `width`, `height`, `scale` and `angle`. Some of the keys specific to image files (such as the bounding box and type keys) do nothing with `\includeteximage`.

Sub-Figures and Sub-Tables

The `subfig` package causes a problem for `jmlrbook` so the `jmlr` class will give an error if it is used. Therefore the `jmlr` class provides its own commands for including sub-figures and sub-

tables. If you aren't using the `jmlr` class, you can prevent `jmlrutils` from defining these commands with the `nosubfloats` package option.

`\subfigure` `\subfigure[$\langle title \rangle$][$\langle valign \rangle$]{ $\langle contents \rangle$ }`

This makes a sub-figure where $\langle contents \rangle$ denotes the contents of the sub-figure. This should also include the `\label`. The first optional argument $\langle title \rangle$ indicates a caption for the sub-figure. By default, the sub-figures are aligned at the base. This can be changed with the second optional argument $\langle valign \rangle$, which may be one of: `t` (top), `c` (centred) or `b` (base).

For example, suppose there are two image files, `mypic1.png` and `mypic2.png`, in the sub-directory `images`. Then they can be included as sub-figures as follows:

```
\begin{figure}[htbp]
\floatconts
{fig:example2}% label for whole figure
{\caption{An Example Figure.}}% caption for whole figure
{%
  \subfigure{%
    \label{fig:pic1}% label for this sub-figure
    \includegraphics{images/mypic1}
  }\quad % space out the images a bit
  \subfigure{%
    \label{fig:pic2}% label for this sub-figure
    \includegraphics{images/mypic2}
  }
}
\end{figure}
```

`\subtable` `\subtable[$\langle title \rangle$][$\langle valign \rangle$]{ $\langle contents \rangle$ }`

This is an analogous command for sub-tables. The default value for $\langle valign \rangle$ is `t`.

2.5.3 Algorithms

The `jmlr` class automatically loads the `algorithm2e` package. If you are using `jmlrutils` with another class, you will need to load `algorithm2e` if you want to use the `algorithm` and `algorithm2e` environments described below.

`algorithm` `\begin{algorithm}[$\langle placement \rangle$]`
`\langle contents \rangle`
`\end{algorithm}`

Enumerated textual algorithms can be displayed using the `algorithm` environment. The optional argument is as for `figure` and `table`.

Within the body of the environment you can use the `enumerate` environment.

enumerate*

```
\begin{enumerate*}
\item <text>
...
\end{enumerate*}
```

If you want to have nested enumerate environments but you want to keep the same numbering throughout the algorithm, you can use the `enumerate*` environment, provided by the `jmlrutils` package. For example:

```
\begin{algorithm}
\floatconts{alg:path}{%label
{\caption{Shortest Path}}}% caption
{% contents
\begin{enumerate*}
\item Set the label of vertex  $s$  to 0
\item Set  $i=0$ 
\begin{enumerate*}
\item \label{step:locate}Locate all unlabelled vertices
adjacent to a vertex labelled  $i$  and label them  $i+1$ 
\item If vertex  $t$  has been labelled,
\begin{enumerate*}
\item[] the shortest path can be found by backtracking, and
the length is given by the label of  $t$ .
\end{enumerate*}
\end{enumerate*}
otherwise
\begin{enumerate*}
\item[] increment  $i$  and return to step~\ref{step:locate}
\end{enumerate*}
\end{enumerate*}
\end{enumerate*}
}
\end{algorithm}
```

algorithm2e

```
\begin{algorithm2e}
<contents>
\end{algorithm2e}
```

Pseudo code can be displayed using the `algorithm2e` environment, provided by the `algorithm2e` package, which is automatically loaded. For example:

```
\begin{algorithm2e}
\caption{Computing Net Activation}
\label{alg:net}
\DontPrintSemicolon
\LinesNumbered
\KwIn{ $x_1, \dots, x_n, w_1, \dots, w_n$ }
\KwOut{ $y$ , the net activation}
 $y \leftarrow 0$ ;
```

```

\For{$i\leftarrow 1$ \KwTo $n$}{
  $y \leftarrow y + w_i*x_i$;
}
\end{algorithm2e}

```

See the algorithm2e documentation² for more details.

2.5.4 Description Lists

```

altdescription
\begin{altdescription}{\langle widest label \rangle}
\item[\langle label \rangle] \langle item text \rangle
\end{altdescription}

```

In addition to the standard description environment, the jmlr class also provides the altdescription environment. This has an argument that should be the widest label used in the list. For example:

```

\begin{altdescription}{differentiate}
\item[add] A method that adds two variables.
\item[differentiate] A method that differentiates a function.
\end{altdescription}

```

2.5.5 Theorems, Lemmas etc

The jmlrbook class doesn't work well with common theorem packages, so jmlrutils provides theorem code that won't conflict with jmlrbook. If you're using jmlrutils without the jmlr class, you can prevent the definition of these commands with the notheorems package option.

The jmlrutils package provides the following theorem-like environments: theorem, example, lemma, proposition, remark, corollary, definition, conjecture and axiom. Within the body of those environments, you can use the proof environment to display the proof if need be. The theorem-like environments all take an optional argument, which gives the environment a title. For example:

```

\begin{theorem}[An Example Theorem]
\label{thm:example}
This is the theorem.
\begin{proof}
This is the proof.
\end{proof}
\end{theorem}

```

You can define your own numbered theorem-like environment using:

```

\newtheorem{\langle name \rangle}[\langle counter \rangle]{\langle title \rangle}[\langle outer counter \rangle]

```

²<http://ctan.org/pkg/algorithm2e>

or you can define an unnumbered theorem-like environment using:

`\newtheorem*` `\newtheorem*{<name>}{<title>}`

where *<name>* is the name of the new environment and *<title>* is the title tag at the start of the environment. In the case of the numbered theorems, *<counter>* is a predefined counter to use with this theorem. If omitted, a new counter called *<name>* will be defined. The final optional argument *<outer counter>* is the name of a parent counter which, when incremented, should reset the theorem counter.

Both `\newtheorem` and `\newtheorem*` set the new theorem's style to the current defined style. The current style is set using the following commands:

`\theorembodyfont` `\theorembodyfont{<declarations>}`

This sets the font declarations used in the body of the theorem. This defaults to `\itshape`.

`\theoremheaderfont` `\theoremheaderfont{<declarations>}`

This sets the font declarations used for the theorem title. This defaults to `\bfseries`.

`\theorempostheader` `\theorempostheader{<text>}`

This indicates what should occur at the end of the title. This defaults to nothing.

`\theoremsep` `\theoremsep{<text>}`

This indicates what to put between the header and the body of the environment. This defaults to nothing.

For example, to define an unnumbered theorem-like environment called “note” with the title “Note” followed by a colon and a new line between the title and the body of the note environment:

```
\theorembodyfont{\upshape}
\theoremheaderfont{\scshape}
\theorempostheader{:}
\theoremsep{\newline}
\newtheorem*{note}{Note}
```

Now it can be used in the document environment:

```
\begin{note}
This is an unnumbered theorem-like environment.
\end{note}
```

2.5.6 Cross-Referencing

Always use `\label` when cross-referencing, rather than writing the number explicitly. The `jmlrutils` package provides some convenience commands to assist referencing. These com-

mands, described below, can all take a comma-separated list of labels.

`\sectionref` `\sectionref{<label list>}`

Used to refer to a section or sections. For example, if you defined a section as follows:

```
\chapter{Results}\label{sec:results}
```

you can refer to it as follows:

The results are detailed in `\sectionref{sec:results}`.

This command may also be used for sub-sections and sub-sub-sections.

`\appendixref` `\appendixref{<label list>}`

Used to refer to an appendix or multiple appendices.

`\equationref` `\equationref{<label list>}`

Used to refer to an equation or multiple equations.

`\tableref` `\tableref{<label list>}`

Used to refer to a table or multiple tables. This can also be used for sub-tables where the main table number is also required.

`\subtabref` `\subtabref{<label list>}`

Used to refer to sub-tables without the main table number, e.g. (a) or (b).

`\figureref` `\figureref{<label list>}`

Used to refer to a figure or multiple figures. This can also be used for sub-figures where the main figure number is also required, e.g. 2(a) or 4(b).

`\subfigref` `\subfigref{<label list>}`

Used to refer to sub-figures without the main figure number, e.g. (a) or (b).

`\algorithmref` `\algorithmref{<label list>}`

Used to refer to an algorithm or multiple algorithms.

`\theoremref` `\theoremref{<label list>}`

Used to refer to a theorem or multiple theorems.

`\lemmaref` `\lemmaref{\langle label list \rangle}`

Used to refer to a lemma or multiple lemmas.

`\remarkref` `\remarkref{\langle label list \rangle}`

Used to refer to a remark or multiple remarks.

`\corollaryref` `\corollaryref{\langle label list \rangle}`

Used to refer to a corollary or multiple corollaries.

`\definitionref` `\definitionref{\langle label list \rangle}`

Used to refer to a definition or multiple definitions.

`\conjectureref` `\conjectureref{\langle label list \rangle}`

Used to refer to a conjecture or multiple conjectures.

`\axiomref` `\axiomref{\langle label list \rangle}`

Used to refer to an axiom or multiple axioms.

`\exempleref` `\exempleref{\langle label list \rangle}`

Used to refer to an example or multiple examples.

2.5.7 Mathematics

The `jmlr` class loads the `amsmath` package so you can use any of the commands and environments defined in that package. The `jmlrutils` package will load `amsmath` if the default `maths` package option is used but won't load `amsmath` if the `nomaths` option is used. A brief summary of some of the more common commands and environments is provided here. See the `amsmath` documentation³ for further details.

`\set` `\set{\langle maths \rangle}`

In addition to the commands provided by `amsmath`, the `jmlrutils` package also provides the `\set` command which can be used to typeset a set. For example:

The universal set is denoted \set{U}

This command won't be provided if the `nomaths` option is used.

³<http://ctan.org/pkg/amsmath>

`\vec` `\vec{<maths>}`

The `\vec` command is redefined by `jmlrutils` to use `\boldsymbol`, which is provided by `amsmath`. (This command won't be redefined if the `nomaths` option is used.) If you require the original `\vec`, you can access it with:

`\orgvec` `\orgvec{<maths>}`

This command won't be provided if the `nomaths` option is used.

Unnumbered single-line equations should be displayed using `\[` and `\]`. For example:

```
\[E = m c^2\]
```

Numbered single-line equations should be displayed using the `equation` environment. For example:

```
\begin{equation}\label{eq:trigrule}
\cos^2\theta + \sin^2\theta \equiv 1
\end{equation}
```

The above are provided by the \TeX kernel but may be adjusted by packages such as `amsmath`. The commands and environments below are provided by `amsmath`.

Multi-lined numbered equations should be displayed using the `align` environment. For example:

```
\begin{align}
f(x) &= x^2 + x \label{eq:f} \\
f'(x) &= 2x + 1 \label{eq:df}
\end{align}
```

Unnumbered multi-lined equations should be displayed using the `align*` environment. For example:

```
\begin{align*}
f(x) &= (x+1)(x-1) \\
&= x^2 - 1
\end{align*}
```

If you want to mix numbered with unnumbered lines use the `align` environment and suppress unwanted line numbers with `\nonumber`. For example:

```
\begin{align}
y &= x^2 + 3x - 2x + 1 \nonumber \\
&= x^2 + x + 1 \label{eq:y}
\end{align}
```

An equation that is too long to fit on a single line can be displayed using the `split` environment.

Text can be embedded in an equation using `\text{<text>}` or you can use `\intertext{<text>}` to interrupt a multi-line environment such as `align`.

Predefined operator names are listed in [table 2.1](#). For additional operators, either use

`\operatorname`

`\operatorname{\langle name \rangle}`

for example

If X and Y are independent,
 $\operatorname{var}(X+Y) =$
 $\operatorname{var}(X) + \operatorname{var}(Y)$

or declare it with

`\DeclareMathOperator`

`\DeclareMathOperator{\command}{\langle name \rangle}`

for example

`\DeclareMathOperator{\var}{var}`

and then use this new command:

If X and Y are independent,
 $\var(X+Y) = \var(X) + \var(Y)$

If you want limits that go above and below the operator (like `\sum`) use the starred versions (`\operatorname*` or `\DeclareMathOperator*`).

Table 2.1: Predefined Operator Names (taken from amsmath documentation)

<code>\arccos</code>	<code>arccos</code>	<code>\deg</code>	<code>deg</code>	<code>\lg</code>	<code>lg</code>	<code>\projlim</code>	<code>projlim</code>
<code>\arcsin</code>	<code>arcsin</code>	<code>\det</code>	<code>det</code>	<code>\lim</code>	<code>lim</code>	<code>\sec</code>	<code>sec</code>
<code>\arctan</code>	<code>arctan</code>	<code>\dim</code>	<code>dim</code>	<code>\liminf</code>	<code>liminf</code>	<code>\sin</code>	<code>sin</code>
<code>\arg</code>	<code>arg</code>	<code>\exp</code>	<code>exp</code>	<code>\limsup</code>	<code>limsup</code>	<code>\sinh</code>	<code>sinh</code>
<code>\cos</code>	<code>cos</code>	<code>\gcd</code>	<code>gcd</code>	<code>\ln</code>	<code>ln</code>	<code>\sup</code>	<code>sup</code>
<code>\cosh</code>	<code>cosh</code>	<code>\hom</code>	<code>hom</code>	<code>\log</code>	<code>log</code>	<code>\tan</code>	<code>tan</code>
<code>\cot</code>	<code>cot</code>	<code>\inf</code>	<code>inf</code>	<code>\max</code>	<code>max</code>	<code>\tanh</code>	<code>tanh</code>
<code>\coth</code>	<code>coth</code>	<code>\injlim</code>	<code>injlim</code>	<code>\min</code>	<code>min</code>		
<code>\csc</code>	<code>csc</code>	<code>\ker</code>	<code>ker</code>	<code>\Pr</code>	<code>Pr</code>		
		<code>\varlimsup</code>	\varlimsup	<code>\varinjlim</code>	\varinjlim		
		<code>\varliminf</code>	\varliminf	<code>\varprojlim</code>	\varprojlim		

2.6 Color vs Grayscale

It's helpful if authors supply grayscale versions of their articles in the event that the article is to be incorporated into a black and white printed book. With external PDF, PNG or JPG graphic files, you just need to supply a grayscale version of the file. For example, if the file is called

myimage.png, then the gray version should be myimage-gray.png or myimage-gray.pdf or myimage-gray.jpg. You don't need to modify your code. The jmlr class checks for the existence of the grayscale version if it is print mode (provided you have used `\includegraphics` and haven't specified the file extension). This check is performed by code provided by the jmlr class not the jmlrutils package.

`\ifprint`

```
\ifprint{<true part>}{<false part>}
```

You can use `\ifprint` to determine which mode you are in. For example:

```
in \figureref{fig:nodes}, the
\ifprint{dark gray}{purple}
ellipse represents an input and the
\ifprint{light gray}{yellow} ellipse
represents an output.
```

Another example:

```
{\ifprint{\bfseries}{\color{red}}important text!}
```

You can use the class option `gray` to see how the document will appear in gray scale mode.

The `xcolor` class is loaded with the `x11names` option, so you can use any of the x11 predefined colors (listed in the `xcolor` documentation⁴).

2.7 Where To Go For Help

If you have a general \LaTeX query, the first place to go to is the UK TUG FAQ⁵.

If you are unfamiliar or just getting started with \LaTeX , there's a list of on-line introductions to \LaTeX at <http://www.tex.ac.uk/cgi-bin/texfaq2html?label=man-latex> or have a look at [\$\text{\LaTeX}\$ for Complete Novices](#).

There are also forums, mailing lists and newsgroups. For example, \TeX on StackExchange (<http://tex.stackexchange.com/>), the \LaTeX Community (<http://www.latex-community.org/>), the texhax mailing list (<http://tug.org/mailman/listinfo/texhax>) and `comp.text.tex` (archives available at <http://groups.google.com/group/comp.text.tex/>).

Documentation for packages or classes can be found using the `texdoc` application. For example:

```
texdoc natbib
```

Alternatively, you can go to <http://www.ctan.org/pkg/<name>> where `<name>` is the name of the package. For example: <http://www.ctan.org/pkg/natbib>

For a general guide to preparing papers (regardless of whether you are using \LaTeX or a word processor), see Kate L. Turabian, "A manual for writers of term papers, theses, and dissertations", The University of Chicago Press, 1996.

⁴<http://ctan.org/pkg/xcolor>

⁵<http://www.tex.ac.uk/faq>

3 Guidelines for Production Editors

The `jmlrbook` class can be used to combine articles that use the `jmlr` document class into a book. The following sample files are provided: `paper1/paper1.tex`, `paper2/paper2.tex`, `paper3/paper3.tex`, `jmlr-sample.tex`, `jmlrwcp-sample.tex`, `jmlrbook-sample.tex` and `proceedings-sample.tex`. All but the last two are articles using the `jmlr` class. The last two (`jmlrbook-sample.tex` and `proceedings-sample.tex`) uses the `jmlrbook` class file to combine the articles into a book. Note that no modifications are needed to the files using the `jmlr` class when they are imported into the book. They can either be compiled as stand-alone articles or with the entire book.

Before you compile the book, make sure that all the articles compile as stand-alone documents (and run BibTeX where necessary). You can use the `makejmlrbookgui` application to compile the book. See <http://www.dickimaw-books.com/software/makejmlrbookgui/> for details.

3.1 `jmlrbook` Class Options

nowcp The imported pre-published articles were published in the Journal of Machine Learning Research (default).

pmlr The imported pre-published articles were published in the Proceedings of Machine Learning Research (PMLR).

wcp The imported pre-published articles were published in the JMLR Workshop and Conference Proceedings (JMLR W&CP).

If the book has a mixture of JMLR, JMLR W&CP or PMLR articles, you can switch between them using

`\jmlrnowcp`

`\jmlrnowcp`

(for JMLR) or

`\jmlrwcp`

`\jmlrwcp`

(for JMLR W&CP) or

`\jmlrpmlr`

`\jmlrpmlr`

(for PMLR). Alternatively, you can set the name of the journal or conference proceedings using:

jmlrproceedings

```
\jmlrproceedings{\short title}{\long title}
```

color Color version (see Section 2.6). Use this option for the on-line version with hyperlinks enabled (default).

gray Grayscale version (see Section 2.6). Use this option for the print version without hyperlinks.

tablecaption=top in a table environment, `\floatconts` puts the caption at the top.

tablecaption=bottom in a table environment, `\floatconts` puts the caption at the bottom.

letterpaper Set the paper size to letter (default).

7x10 Set the paper size to 7 × 10 inches.

10pt Use 10pt as the normal text size.

11pt Use 11pt as the normal text size (default).

12pt Use 12pt as the normal text size.

3.2 The Preamble

Any packages that the imported articles load (which aren't automatically loaded by jmlr) must be loaded in the book's preamble. For example, if one or more of the articles load the siunitx package, this package must be loaded in the book.

Commands that are defined in the imported articles will be local to that article unless they have been globally defined using `\gdef` or `\global`. Since most authors use `\newcommand` and `\newenvironment` (or `\renewcommand` and `\renewenvironment`) this shouldn't cause a conflict if more than one article has defined the same command or environment. For example, in the sample files supplied, both `paper1/paper1.tex` and `paper2/paper2.tex` have defined the command `\samplecommand` using `\newcommand`. As long as this command isn't also defined in the book, there won't be a conflict.

\title

```
\title[PDF title]{book title}
```

In the book preamble, `\title` sets the book title and the optional argument is used for the PDF title, which will be displayed when the reader views the PDF file's properties in their PDF viewer. (Note that in the imported articles, `\title` sets the article's title and the optional argument sets the short title for the page header and table of contents.)

`\author` `\author[<PDF author(s)>]{<book author(s)>}`

In the book preamble, `\author` sets the book's author (or editor) and the optional argument is used for the PDF author, which will be displayed when the reader views the PDF file's properties in their PDF viewer. (Note that in the imported articles, `\author` sets the article's author and the optional argument sets the short author list for the page header.)

`\volume` `\volume{<number>}`

This command sets the book's volume number. Omit if the book has no volume number.

`\subtitle` `\subtitle{<sub-title>}`

This command sets the book's subtitle. Omit if the book has no sub-title.

`\logo` `\logo[<url>]{<image command>}`

This sets the book's title image. Use `\includegraphics` and omit the file extension. If you provide a grayscale version as well as a color version, the grayscale version will be used for the print version of the book. (See Section 2.6 for further details.) The optional argument, if present, was formerly used by `makejmlrbookgui` to make the logo a link to *<url>* on the index HTML page. (The HTML pages are no longer generated by the application as PMLR now generate the HTML from the .bib file for the proceedings.)

`\team` `\team{<team title>}`

This can be used to set the name of the editorial team. This command may be omitted if not required.

`\productioneditor` `\productioneditor{<name>}`

This command may be used to name the production editor. The command may be omitted if not required.

`\jmlrlocation` `\jmlrlocation{<location>}`

This specifies the workshop location. By default this doesn't appear on the title page. See Section 3.4 for details on how to modify the layout of the title page.

3.3 Main Book Commands

All commands that are provided by the `jmlr` class are also available with the `jmlrbook` class, but some commands might behave differently depending on whether they are in the main part of the book or within the imported articles.

In the main part of the book you can use the following commands:

`\maketitle`

```
\maketitle
```

This displays the book's title page. Note that `\maketitle` has a different effect when used in imported articles.

`\frontmatter`

```
\frontmatter
```

Use this command at the start of the front matter (e.g. before the foreword or preface). This will make chapters unnumbered even if you use `\chapter` instead of `\chapter*`. It also sets the page style and sets the page numbering to lower case Roman numerals.

`authorsignoff`

```
\begin{authorsignoff}
<author list>
\end{authorsignoff}
```

This environment may be used by the author signing off at the end of a chapter such as the foreword. Within the environment use:

`\Author`

```
\Author{<details>}
```

for the author's details. More than one `\Author` should be used if there is more than one author. Example:

```
\begin{authorsignoff}
\Author{Nicola Talbot\\
University of East Anglia}
\Author{Anne Author\\
University of No Where}
\end{authorsignoff}
```

`preface`

```
\begin{preface}[<filename>]
```

This environment may be used to typeset the preface. This starts a new chapter using

```
\chapter{\prefacename}
```

`\prefacename`

where `\prefacename` defaults to "Preface". This environment should typically go in the front matter and is provided to allow `makejmlrbookgui` create a standalone document for the preface. The optional argument is the filename (without any extension or path) that will be used by `makejmlrbookgui`. This defaults to `preface` but, to conform with PMLR guidelines, should be changed to the surname of the first author (editor) followed by the final two digits of the year. See the PMLR website for further details of the guidelines.

`signoff`

```
\begin{signoff}[<team name>]{<date>}
<editor list>
\end{signoff}
```

This environment may be used by the editorial team when signing off a chapter such as the preface. If the optional argument is omitted, “The Editorial Team” is used. If you are using the preface environment described above, the signoff environment must go inside the preface environment.

Within the signoff environment use:

`\Editor`

`\Editor{<details>}`

for each editor. Example:

```
\begin{signoff}{March 2010}
% First editor:
\Editor{Nicola Talbot\\
University of East Anglia\\
\mailto{N.Talbot@uea.ac.uk}}
% Second editor:
\Editor{Anne Editor\\
University of Nowhere\\
\mailto{ae@sample.com}}
\end{signoff}
```

`\tableofcontents`

`\tableofcontents`

This command displays the book’s table of contents. Note that it has a different effect if used in an imported article.

`\mainmatter`

`\mainmatter`

Use this command to switch to the book’s main matter. This will switch the chapter numbering back on, reset the page numbering to Arabic and set up the main page style.

`\part`

`\part[<short title>]{<title>}`

If used in the main part of the book, this command will start a new part and issue a clear double page. Note that this command has a different effect if used in an imported article (or inside the `jmlrpapers` environment).

`\addtocpart`

`\addtocpart{<title>}`

This adds *<title>* to the table of contents, issues a clear double page, but doesn’t display any text or affect the part numbering.

`\chapter`

`\chapter[<short title>]{<title>}`

This command may be used in the main body of the book but will cause an error if used within an imported article (or inside the `jmlrpapers` environment).

`\section` `\section[<short title>]{<title>}`

`\subsection` `\subsection[<short title>]{<title>}`

`\subsubsection` `\subsubsection[<short title>]{<title>}`

`\paragraph` `\paragraph[<short title>]{<title>}`

`\subparagraph` `\subparagraph[<short title>]{<title>}`

These commands may be used in the main body of the book or within imported articles. In the main body of the book (outside of the `jmlrpapers` environment) they need to be within a chapter and will be numbered according to the chapter.

`\appendix` `\appendix`

If used in the main body of the book (*outside* of the `jmlrpapers` environment) this will switch to the book appendices. Subsequent `\chapter` commands will produce the appendices. (Any imported articles in the appendix will be identified by `makejmlrbookgui` as supplemental material.) If used within an imported article (or within the `jmlrpapers` environment) `\appendix` will switch to the article appendices and won't affect the main part of the book.

`jmlrpapers` `\begin{jmlrpapers}`
`<imported papers>`
`\end{jmlrpapers}`

This environment must be used when importing articles and may be used as often as required. Take care not to include book sectioning commands, such as `\chapter`, in this environment. Within the `jmlrpapers` environment, use the following commands to import articles:

`\importpubpaper` `\importpubpaper[<label>]{<directory>}{<file>}{<pages>}`

This imports an article that has already been published elsewhere. The *<pages>* argument should be the page range from the *previously published* version of this article. This may not necessarily be the same as the page range of the article in the book. The directory the imported file is contained in is given by *<directory>*. If the file is in the same directory as the book, use a dot. The file name is given by *<file>*. The article is also given a label, specified by the optional argument. This is *<directory>/<file>* by default. The label is used as a prefix to labels in the imported articles which ensures that cross-references are unique. You can also

use this label to reference the article elsewhere in the book (see Section 3.3.2).

`\importpaper` `\importpaper[\langle label \rangle]{\langle directory \rangle}{\langle file \rangle}`

Imports an article that is being published in the book. The arguments are the same as above except that there is no page range (the page range is computed automatically).

`\importarticle` `\importarticle[\langle label \rangle]{\langle directory \rangle}{\langle file \rangle}`

This imports an article that hasn't been published elsewhere. There is no page range, but the other arguments are the same as those describe above for `\importpubpaper`.

Example: to import a previously published paper `paper1/paper1.tex` and an unpublished paper `paper2/paper2.tex`:

```
\begin{jmlrpapers}
\importpubpaper{paper1}{paper1}{23--45}
\importarticle{paper2}{paper2}
\end{jmlrpapers}
```

3.3.1 Two Column Articles in a One Column Book

The `jmlrbook` class `column` style will override the `column` style of the imported articles. You can use the `twocolumn` class option to `jmlrbook`, but this will make the whole book with two columns. If you only want the imported articles to be in two columns, then put `\twocolumn` in the `jmlrpapers` environment to switch on two column formatting. The effect will be localised to the end of the environment.

3.3.2 Cross-Referencing

You can cross-reference other parts of the book using the standard `\label/\ref` mechanism, but if you want to reference something within an imported article, you must prefix the label with the label given when importing the article (that is, the optional argument to `\importpubpaper`, `\importpaper` or `\importarticle`). For example, if you want to reference a section labelled `sec:results` in the imported paper `paper1/paper1.tex`, you would need to do:

```
see Section~\ref{paper1/paper1sec:results}
```

or

```
see \sectionref{paper1/paper1sec:results}
```

In addition to the commands described in Section 2.5.6, the `jmlrbook` class also provides the following cross-referencing commands:

`\chapterref` `\chapterref{\langle label list \rangle}`

Reference a chapter or chapters. The argument is a comma-separated list of labels.

`\articlepageref`

```
\articlepageref{<label>}
```

This displays the starting page number of the article whose label is given by *<label>*. Note that this must be a single label, not a list. For example:

An interesting article starts on page~\articlepageref{paper1/paper1}

`\articlepagesref`

```
\articlepagesref{<label>}
```

This displays the page range of the article whose label is given by *<label>*. Again, this must be a single label, not a list. This page range is unrelated to the *<pages>* argument of `\importpubarticle`.

`\articletitleref`

```
\articletitleref{<label>}
```

This displays the short title for the article whose label is given by *<label>*. Again, this must be a single label, not a list.

`\articleauthorref`

```
\articleauthorref{<label>}
```

This displays the author list for the article whose label is given by *<label>*. Again, this must be a single label, not a list.

3.4 Altering the Layout of the Main Title Page

`\titlebody`

```
\titlebody
```

The main body of the book's title page is given by the command `\titlebody`. Within the definition of this command, you can use:

`\SetTitleElement`

```
\SetTitleElement{<element>}{<pre>}{<post>}
```

where *<element>* can be: title, volume, issue¹, subtitle, logo, team, author, date, productioneditor. The *<pre>* and *<post>* arguments specify what to do before and after the element. Note that `\SetTitleElement` does nothing if that element hasn't been set. For example, if `\volume` has been omitted or `\volume{}` is used, then

```
\SetTitleElement{volume}{\mainvolume font}{\postmainvolume}
```

will do nothing (so you don't end up with **Volume**!).

`\IfTitleElement`

```
\IfTitleElement{<element>}{<>true part>}{<>false part>}
```

¹The default title page layout doesn't use issue, but if required it can be set with `\issue{<number>}`

This does *<true part>* if *<element>* has been set otherwise it does *<>false part>*. For example, `\postmainvolume` is defined as:

```
\newcommand{\postmainvolume}{%
  \IfTitleElement{subtitle}{:}{\par\relax
}
```

This means that it will only print a colon after the volume number if the subtitle has been set. The default definition of `\titlebody` is:

```
\newcommand{\titlebody}{%
  \SetTitleElement{title}{\maintitlefont}{\postmaintitle}%
  \SetTitleElement{volume}{\mainvolumefont}{\postmainvolume}%
  \SetTitleElement{subtitle}{\mainsubtitlefont}{\postmainsubtitle}%
  \SetTitleElement{logo}{\mainlogofont}{\postmainlogo}%
  \SetTitleElement{team}{\mainteamfont}{\postmainteam}%
  \SetTitleElement{author}{\mainauthorfont}{\postmainauthor}%
  \SetTitleElement{productioneditor}{\mainproductioneditorfont}%
    {\postmainproductioneditor}%
}
```

3.5 Potential Pitfalls

The `combine` class and `hyperref` package are individually both easily broken by packages that change certain internals and they don't ordinarily work together. The `jmlrbook` class applies patches to the internal referencing mechanism to make them work together, but it's a fairly fragile alliance. Some packages are known to break it, for example `subfig`, `pdfpages` and `geometry`. This is why the `jmlr` class checks for known problem packages and generates an error message to dissuade authors from using them. It's likely that there are other packages that may cause a problem and, as they are found, they will be added to the check list. Also, it's possible for an author to disable the package checking mechanism if they are determined to use a particular package.

In the event that an article has loaded a problem package, the editors will have to decide whether to ask the author to change the article so that it doesn't cause a problem or to make the changes themselves or to find a way of fudging things to get it to work. It depends on the level of \LaTeX expertise amongst the editors and the time available.

Another problem that can arise is when different articles use packages that conflict. For example, one article uses package `foo` and another uses package `bar`. Each article compiles okay as a stand-alone article, but when combined `foo` and `bar` conflict. Another problem may occur when articles load the same package but with conflicting package options. To reduce the chance of this occurring, the `jmlr` class loads some commonly used packages. For example, it loads the `algorithm2e` package with the `algo2e` and `ruled` options and provides the `algorithm` environment in addition to `algorithm2e`'s `algorithm2e` environment. Different versions of the same package can also be a problem. To help counteract the problem caused by different papers using different versions of the `algorithm2e` package, `jmlrbook` defines most of the old style commands if they don't exist.

Articles that use different input encodings can also cause a problem. For example, if one article uses `utf8` and another uses `latin1`. If the authors have directly entered a diacritic or ligature, such as `é` or `æ`, instead of using a \LaTeX command, such as `\'e` or `\ae`, then this will cause an error on compiling the book.² The choice then is to either change all non-keyboard characters with the appropriate \LaTeX commands or to use the `\inputencoding` command, supplied by the `inputenc` package, to switch the encoding at the start of each article. One thing to watch out for are bib files that contain a mixture of encodings caused by copying and pasting from different sources. Version 0.4.2b of `makejmlrbookgui` provides a function to search for characters outside the range 0x20 (space) and 0x7E (tilde).

Authors who use `\nonumber` within an equation environment can mess up the hyperlinks. Remove `\nonumber` and change the equation environment to `\[... \]` (or just make it a numbered equation).

If the article changes the graphics path using `\graphicspath`, `jmlrbook` won't find the graphics if the imported articles aren't in the same directory as the book.

The `makejmlrbookgui` application provides some diagnostic tools, which can help detect some common problems. It's manual also has a [troubleshooting section](#).

²and may also cause a problem for the editor's text editor.

4 The Code

4.1 jmlrutils.sty Code

Non-class dependent code. This package is automatically loaded by jmlr but may be used with other classes.

```
1 \ProvidesPackage{jmlrutils}[2020/01/31 v1.26 (NLCT)]
```

Package options:

fjmlrutilsmaths Determine if the maths commands should be provided.

```
2 \newif\ifjmlrutilsmaths
3 \jmlrutilsmathstrue

4 \DeclareOption{maths}{\jmlrutilsmathstrue}
5 \DeclareOption{nomaths}{\jmlrutilsmathsfalse}
```

lutilstheorems Determine if the theorem environments should be provided.

```
6 \newif\ifjmlrutilstheorems
7 \jmlrutilstheoremstrue

8 \DeclareOption{theorems}{\jmlrutilstheoremstrue}
9 \DeclareOption{notheorems}{\jmlrutilstheoremsfalse}
```

rutilssubfloats Determine if the sub-floats should be provided.

```
10 \newif\ifjmlrutilssubfloats
11 \jmlrutilssubfloatstrue

12 \DeclareOption{subfloats}{\jmlrutilssubfloatstrue}
13 \DeclareOption{nosubfloats}{\jmlrutilssubfloatsfalse}

14 \ProcessOptions
```

Requires etoolbox:

```
15 \RequirePackage{etoolbox}
```

If the maths commands are needed, load amsmath.

```
16 \ifjmlrutilsmaths
17   \RequirePackage{amsmath}
18 \fi
```

The conditional `\iftablecaptiontop` will already have been defined by the jmlr class, so only needs to be defined if not already done.

tablecaptiontop

```
19 \ifundefined{iftablecaptiontop}
20 {\newif\iftablecaptiontop
21 \tablecaptiontoptrue}
22 {}
```

4.1.1 Cross-Referencing

Convenient macros for cross-referencing.

```
23 \newcommand*{\@jmlr@reflistsep}{, }
24 \newcommand*{\@jmlr@reflistlastsep}{ and }
25 \newcommand*{\sectionrefname}{Section}
26 \newcommand*{\sectionsrefname}{Sections}
27 \newcommand*{\equationrefname}{Equation}
28 \newcommand*{\equationsrefname}{Equations}
29 \newcommand*{\tablerefname}{Table}
30 \newcommand*{\tablesrefname}{Tables}
31 \newcommand*{\figurerefname}{Figure}
32 \newcommand*{\figuresrefname}{Figures}
33 \newcommand*{\algorithmrefname}{Algorithm}
34 \newcommand*{\algorithmsrefname}{Algorithms}
35 \newcommand*{\theoremrefname}{Theorem}
36 \newcommand*{\theoremsrefname}{Theorems}
37 \newcommand*{\lemmarefname}{Lemma}
38 \newcommand*{\lemmasrefname}{Lemmas}
39 \newcommand*{\remarkrefname}{Remark}
40 \newcommand*{\remarksrefname}{Remarks}
41 \newcommand*{\corollaryrefname}{Corollary}
42 \newcommand*{\corollarysrefname}{Corollaries}
43 \newcommand*{\definitionrefname}{Definition}
44 \newcommand*{\definitionsrefname}{Definitions}
45 \newcommand*{\conjecturerefname}{Conjecture}
46 \newcommand*{\conjecturesrefname}{Conjectures}
47 \newcommand*{\axiomrefname}{Axiom}
48 \newcommand*{\axiomsrefname}{Axioms}
49 \newcommand*{\examplerefname}{Example}
50 \newcommand*{\examplesrefname}{Examples}
51 \newcommand*{\appendixrefname}{Appendix}
52 \newcommand*{\appendixsrefname}{Appendices}
53 \newcommand*{\partrefname}{Part}
54 \newcommand*{\partsrefname}{Parts}
```

`\objectref` Cross-reference a particular structural element. The first argument is the list of labels, the second argument is a control sequence containing the singular tag, the third argument a control sequence containing the plural tag, the fourth argument is text to go before the reference number, e.g. an opening bracket, and the fifth argument is text to go after the reference number, e.g. a closing bracket.

```
55 \newrobustcmd*{\objectref}[5]{%
```

```

56 \let\@objectname\@empty
57 \def\@objectref{}%
58 \let\@prevsep\@empty
59 \@for\@thislabel:=#1\do{%
60   \toks@{\@prevsep}%
61   \protected@edef\@objectref{\@objectref\the\toks@
62     #4\ref{\@thislabel}#5}%
63   \ifx\@objectname\@empty
64     \let\@objectname#2% singular tag
65   \else
66     \let\@objectname#3% plural tag
67     \let\@prevsep\@jmlr@reflistsep
68   \fi
69 }%
70 \ifx\@objectname#3% plural tag
71   \let\@prevsep\@jmlr@reflistlastsep
72 \fi
73 \@objectname~\@objectref
74 }

```

\sectionref

```

75 \newcommand*\sectionref[1]{%
76   \objectref{#1}{\sectionrefname}{\sectionsrefname}{}}

```

\equationref

```

77 \newcommand*\equationref[1]{%
78   \objectref{#1}{\equationrefname}{\equationsrefname}()}

```

\tableref

```

79 \newcommand*\tableref[1]{%
80   \objectref{#1}{\tablerefname}{\tablesrefname}{}}

```

\figureref

```

81 \newcommand*\figureref[1]{%
82   \objectref{#1}{\figurerefname}{\figuresrefname}{}}

```

\algorithmref

```

83 \newcommand*\algorithmref[1]{%
84   \objectref{#1}{\algorithmrefname}{\algorithmsrefname}{}}

```

\theoremref

```

85 \newcommand*\theoremref[1]{%
86   \objectref{#1}{\theoremrefname}{\theoremsrefname}{}}

```

\lemmaref

```

87 \newcommand*\lemmaref[1]{%
88   \objectref{#1}{\lemmarefname}{\lemmasrefname}{}}

```

```

\remarkref
89 \newcommand*{\remarkref}[1]{%
90   \objectref{#1}{\remarkrefname}{\remarksrefname}{}}{}

\corollaryref
91 \newcommand*{\corollaryref}[1]{%
92   \objectref{#1}{\corollaryrefname}{\corollarysrefname}{}}{}

\definitionref
93 \newcommand*{\definitionref}[1]{%
94   \objectref{#1}{\definitionrefname}{\definitionsrefname}{}}{}

\conjectureref
95 \newcommand*{\conjectureref}[1]{%
96   \objectref{#1}{\conjecturerefname}{\conjecturesrefname}{}}{}

\axiomref
97 \newcommand*{\axiomref}[1]{%
98   \objectref{#1}{\axiomrefname}{\axiomsrefname}{}}{}

\exampleref
99 \newcommand*{\exampleref}[1]{%
100   \objectref{#1}{\examplerefname}{\examplesrefname}{}}{}

\appendixref
101 \newcommand*{\appendixref}[1]{%
102   \objectref{#1}{\appendixrefname}{\appendixsrefname}{}}{}

\partref
103 \newcommand*{\partref}[1]{%
104   \objectref{#1}{\partrefname}{\partsrefname}{}}{}

```

4.1.2 Figures, Tables and Algorithms

```

\floatconts The first argument is the label, the second argument contains the caption (using \caption)
and the third argument contains the contents of the float
105 \newcommand{\floatconts}[3]{%
106   \@ifundefined{\@capttype conts}{\tableconts{#1}{#2}{#3}}%
107   {\csname\@capttype conts\endcsname{#1}{#2}{#3}}%
108 }

\tableconts This will already have been defined if the jmlr class was loaded.
109 \providecommand{\tableconts}[3]{%
110   #2\label{#1}\vskip\baselineskip
111   {\centering #3\par}%
112 }

```

`\figureconts`

```
113 \newcommand{\figureconts}[3]{%
114   {\centering #3\par}%
115   \vskip\baselineskip
116   #2\label{#1}%
117 }
```

The following macro and environment assume that `algorithm2e` has been loaded (which is done by the `jmlr` class). If the `jmlrutils` package is loaded without the `jmlr` class, the `algorithm2e` package will have to be explicitly loaded.

`\algocfconts` Command used by `\floatconts` to display the caption contents.

```
118 \newcommand{\algocfconts}[3]{%
119   \@algocf@pre@ruled
120   #2\label{#1}\kern2pt\hrule height.8pt depth0pt\kern2pt%
121   #3\@algocf@pre@ruled
122 }
```

The `algorithm` environment should float like a figure or table. It should use the same counter as the `algorithm2e` environment.

```
123 \newenvironment{algorithm}[1][htbp]%
124 {%
125   \ifundef{\algocf}%
126   {'algorithm2e' package is required if you want to
127    use the algorithm environment}%
128   {}%
129   \begin{algocf}[#1]%
130   \renewcommand\@makecaption[2]{%
131     \hskip\AlCapHSkip
132     \parbox[t]{\hsize}{\algocf@captiontext{##1}{##2}}%
133   }%
134 }%
135 {%
136   \end{algocf}%
137 }
```

`fgraphicxloaded`

```
138 \AtBeginDocument{%
139   \@ifpackageloaded{graphicx}%
140   {\let\@jmlr@ifgraphicxloaded\@firstoftwo}%
141   {\let\@jmlr@ifgraphicxloaded\@secondoftwo}%
142 }
```

`\includeteximage` Provide a command like `\includegraphics` that includes a file containing \LaTeX picture code (e.g. `pgf`).

```
143 \newcommand*\includeteximage[2][{}]{%
144   \@jmlr@ifgraphicxloaded
145   {%
```

```

146 \def\Gin@req@sizes{%
147   \Gin@req@height\Gin@nat@height
148   \Gin@req@width\Gin@nat@width}%
149 \begingroup
150   \let\input@path\Ginput@path
151   \IfFileExists{#2}%
152   {%
153     \toks@{\input{#2}}%
154     \ifstrempy{#1}
155     {}%
156     {%
157       \@tempswatrue
158       \setkeys{Gin}{#1}%
159       \Gin@esetsize
160     }%
161     \the\toks@
162   }%
163   {\@warning{File ‘#2’ not found}}}%
164 \endgroup
165 }%
166 {\PackageError{jmlrutils}{'graphicx' package is required
167  if you want to use \string\includeteximage}{}}}%
168 }

```

Sub floats.

```
169 \ifjmlrutilssubfloats
```

The subfig package breaks jmlrbook.cls, so define \subfig here. (This is fairly primitive.)

\c@subfigure Define subfigure counter:

```

170 \newcounter{subfigure}
171 \@addtoreset{subfigure}{figure}

```

\thesubfigure

```
172 \renewcommand*{\thesubfigure}{\alph{subfigure}}
```

\p@subfigure

```

173 \renewcommand*{\p@subfigure}{\expandafter\@p@subfigure}
174 \newcommand*{\@p@subfigure}[1]{%
175   \protect\@subfigurelabel{\thefigure}{\thesubfigure}%
176 }

```

@subfigurelabel Define how label appears.

```
177 \newcommand*{\@subfigurelabel}[2]{#1\subfigurelabel{#2}}
```

\subfigref Reference the sub-figure without including the figure number.

```

178 \newcommand*{\@subfigref}[1]{%
179   {%
180     \def\@subfigurelabel##1##2{\subfigurelabel{##2}}%

```

```

181     \ref{#1}%
182   }%
183 }
184 \newcommand*{\subfigref}[1]{%
185   \let\@objectname\@empty
186   \def\@objectref{}%
187   \let\@prevsep\@empty
188   \@for\@thislabel:=#1\do{%
189     \toks@{\@prevsep}%
190     \protected@edef\@objectref{\@objectref\the\toks@
191       \protect\@subfigref{\@thislabel}}%
192     \ifx\@objectname\@empty
193 \let\@objectname\@nil
194     \else
195 \let\@objectname\relax
196     \let\@prevsep\@jmlr@reflistsep
197     \fi
198   }%
199   \ifx\@objectname\relax
200     \let\@prevsep\@jmlr@reflistlastsep
201   \fi
202   \@objectref
203 }

```

\subfigurelabel

```

204 \newcommand*{\subfigurelabel}[1]{(\emph{#1})}

```

@subfloatcapbox Box to store subfloat caption.

```

205 \newsavebox\@subfloatcapbox

```

subfloatcontsbox Box to store subfloat contents.

```

206 \newsavebox\@subfloatcontsbox

```

\subfigure

```

207 \newcommand*{\subfigure}[1][b]{%
208   \bgroup
209   \def\@subfigcap{#1}%
210   \@subfigure
211 }

212 \newcommand*{\@subfigure}[2][b]{%
213   \advance\c@figure by 1\relax
214   \refstepcounter{subfigure}%
215   \sbox\@subfloatcapbox{\subfigurelabel{\thesubfigure}}%
216   \ifx\@subfigcap\@empty
217   \else
218     \space\@subfigcap
219   \fi}%
220   \sbox\@subfloatcontsbox{#2}%

```

```

221 \settowidth{\@tempdima}{\usebox\@subfloatcontsbox}%
222 \settowidth{\@tempdimb}{\usebox\@subfloatcapbox}%
223 \ifdim\@tempdimb>\@tempdima
224 \settowidth\@tempdimb{\subfigurelabel{\thesubfigure}\space}%
225 \addtolength{\@tempdima}{-\@tempdimb}%
226 \sbox\@subfloatcapbox{\subfigurelabel{\thesubfigure}\space
227 \parbox[t]{\@tempdima}{\@subfigcap}}}%
228 \fi
229 \begin{tabular}[#1]{@{}c{}}%
230 \usebox\@subfloatcontsbox\\ \usebox\@subfloatcapbox
231 \end{tabular}%
232 \egroup
233 }

```

Sub-tables:

`\c@subtable` Define subtable counter:

```

234 \newcounter{subtable}
235 \@addtoreset{subtable}{table}

```

`\thesubtable`

```

236 \renewcommand*{\thesubtable}{\alph{subtable}}

```

`\p@subtable`

```

237 \renewcommand*{\p@subtable}{\expandafter\@p@subtable}
238 \newcommand*{\@p@subtable}[1]{%
239 \protect\@subtablelabel{\thetable}{\thesubtable}%
240 }

```

`\@subtablelabel` Define how label appears.

```

241 \newcommand*\@subtablelabel[2]{#1\subtablelabel{#2}}

```

`\subtabref` Reference the sub-table without including the table number.

```

242 \newcommand*\@subtabref[1]{%
243 {%
244 \def\@subtablelabel##1##2{\subtablelabel{##2}}%
245 \ref{#1}%
246 }%
247 }
248 \newcommand*\subtabref[1]{%
249 \let\@objectname\@empty
250 \def\@objectref{}%
251 \let\@prevsep\@empty
252 \@for\@thislabel:=#1\do{%
253 \toks@{\@prevsep}%
254 \protected@edef\@objectref{\@objectref\the\toks@
255 \protect\@subtabref{\@thislabel}}%
256 \ifx\@objectname\@empty
257 \let\@objectname\@nil

```



```

258         \else
259 \let\@objectname\relax
260         \let\@prevsep\@jmlr@reflistsep
261         \fi
262     }%
263     \ifx\@objectname\relax
264         \let\@prevsep\@jmlr@reflistlastsep
265     \fi
266     \@objectref
267 }

```

`\subtablelabel`

```

268 \newcommand*{\subtablelabel}[1]{(\emph{#1})}

```

`\subtable`

```

269 \newcommand*{\subtable}[1][t]{%
270     \def\@subtabcap{#1}%
271     \@subtable
272 }

273 \newcommand*{\@subtable}[2][t]{%
274     \refstepcounter{subtable}%
275     \sbox\@subfloatcapbox{\subtablelabel{\thesubtable}}%
276     \ifx\@subtabcap\@empty
277     \else
278         \space\@subtabcap
279     \fi}%
280     \sbox\@subfloatcontsbox{#2}%
281     \settowidth{\@tempdima}{\usebox\@subfloatcontsbox}%
282     \settowidth{\@tempdimb}{\usebox\@subfloatcapbox}%
283     \ifdim\@tempdimb>\@tempdima
284         \settowidth\@tempdimb{\subtablelabel{\thesubtable}\space}%
285         \addtolength{\@tempdima}{-\@tempdimb}%
286         \sbox\@subfloatcapbox{\subtablelabel{\thesubtable}\space}
287         \parbox[t]{\@tempdima}{\@subtabcap}}%
288     \fi
289     \begin{tabular}[#1]{@{}c@{}}%
290     \usebox\@subfloatcapbox\\ \usebox\@subfloatcontsbox
291     \end{tabular}
292 }

```

End of sub-floats.

```

293 \fi

```

4.1.3 General Markup

Provide maths command if required.

```

294 \ifjmlrutilsmaths

```

`\set`

```
295 \newcommand*{\set}[1]{\ensuremath{\mathcal{#1}}}
```

`\orgvec` Keep a copy of original `\vec` in case it's wanted.

```
296 \let\orgvec\vec
```

`\vec` Redefine `\vec` to produce a bold symbol. The `amsmath` package is required for this.

```
297 \renewcommand*{\vec}[1]{\boldsymbol{#1}}
```

End of maths commands.

```
298 \fi
```

`enumerate*` Define an enumerate style environment where the nested environments all use the same counter. It uses the `enumi` counter.

```
299 \newenvironment{enumerate*}%
300 {%
301   \ifnum\@enumdepth=0\relax
302     \setcounter{enumi}{0}%
303   \fi
304   \ifnum\@enumdepth>\thr@@
305     \@toodeep
306   \else
307     \advance\@enumdepth\@ne
308     \def\@enumctr{enumi}%
309     \list
310       {\labelenumi}%
311       {\@nmblisttrue\def\@listctr{enumi}%
312        \def\makelabel##1{\hss\llap{##1}}}%
313   \fi
314 }%
315 {\endlist}
```

`altdescription` Define a description like environment where the indent is computed from the widest label. The optional argument is the widest label.

```
316 \newenvironment{altdescription}[1]%
317   {\list{}}%
318   {%
319     \settowidth{\labelwidth}{\altdescriptionlabel{#1}}%
320     \setlength{\labelsep}{15pt}%
321     \setlength{\leftmargin}{2\labelsep}%
322     \addtolength{\leftmargin}{\labelwidth}%
323     \setlength{\rightmargin}{\labelsep}%
324     \let\makelabel\altdescriptionlabel
325   }%
326 }%
327 {\endlist}
328
329 \newcommand*{\altdescriptionlabel}[1]{\normalfont\bfseries #1\hfill}
```

`\mailto` Syntax: `\mailto{<address>}`
 330 `\newcommand*{\mailto}[1]{\texttt{#1}}`

4.1.4 Proofs and Theorems

331 `\ifjmlrutilstheorems`

This code is taken from `jmlr2e.sty`

`\jmlrBlackBox` End of proof marker. This command was formerly called `\BlackBox` but has been renamed in case of a clash with symbol packages.

332 `\newcommand{\jmlrBlackBox}{\rule{1.5ex}{1.5ex}}`

`\BlackBox` Backward compatibility in case it was used explicitly.

333 `\providecommand{\BlackBox}{\jmlrBlackBox}`

`\jmlrQED`

334 `\newcommand{\jmlrQED}{\hfill\jmlrBlackBox\par\bigskip}`

`\proofname`

335 `\providecommand{\proofname}{Proof}`

`proof` Proof environment

336 `\newenvironment{proof}%`

337 `{%`

338 `\par\noindent{\bfseries\upshape \proofname\ }%`

339 `}%`

340 `{\jmlrQED}`

Since `theorem`, `ntheorem` and `amsthm` all cause problems with the `jmlr` and `jmlrbook` classes, this package provides a simple alternative.

`theorembodyfont`

`\theorembodyfont{}`

341 `\newcommand*{\theorembodyfont}[1]{%`

342 `\renewcommand*{\@theorembodyfont}{#1}%`

343 `}`

344 `\newcommand*{\@theorembodyfont}{\normalfont\itshape}%`

`theoremheaderfont`

`\theoremheaderfont{}`

345 `\newcommand*{\theoremheaderfont}[1]{%`

346 `\renewcommand*{\@theoremheaderfont}{#1}%`

347 `}`

348 `\newcommand*{\@theoremheaderfont}{\normalfont\bfseries }%`

`\theoremsep` `\theoremsep{<separation code>}`

```

349 \newcommand*{\theoremsep}[1]{%
350   \renewcommand*{\@theoremsep}{#1}%
351 }
352 \newcommand*{\@theoremsep}{}%
```

`theorempostheader` `\theorempostheader{<text>}`

```

353 \newcommand*{\theorempostheader}[1]{%
354   \renewcommand*{\@theorempostheader}{#1}%
355 }
356 \newcommand*{\@theorempostheader}{}%
```

`\newtheorem`

```

357 \let\jmlr@org@newtheorem\newtheorem
358 \renewcommand*{\newtheorem}{\@ifstar\jmlr@snewtheorem\jmlr@newtheorem}
```

Define starred version:

`\newtheorem*{<env-name>}{<title tag>}`

```

359 \newcommand*{\jmlr@snewtheorem}[2]{%
360   \cslet\jmlr@thm@#1@body@font{\@theorembodyfont}%
361   \cslet\jmlr@thm@#1@header@font{\@theoremheaderfont}%
362   \cslet\jmlr@thm@#1@sep{\@theoremsep}%
363   \cslet\jmlr@thm@#1@postheader{\@theorempostheader}%
364   \newenvironment{#1}%
365   {%
366     \trivlist
367     \item
368     [%
369       \hspace\labelsep{\csuse\jmlr@thm@#1@header@font}{#2}%
370       \csuse\jmlr@thm@#1@postheader}%
371     ]%
372     \mbox{}\csuse\jmlr@thm@#1@sep}%
373     \csuse\jmlr@thm@#1@body@font}%
374   }%
375   {%
376     \endtrivlist
377   }%
378 }%
```

Unstarred version needs adjusting to take the style into account:

`\@othm`

```

380 \newcommand{\jmlr@newtheorem}[1]{%
```

```

381 \cslet{jmlr@thm@#1@body@font}{\@theorembodyfont}%
382 \cslet{jmlr@thm@#1@header@font}{\@theoremheaderfont}%
383 \cslet{jmlr@thm@#1@sep}{\@theoremsep}%
384 \cslet{jmlr@thm@#1@postheader}{\@theorempostheader}%
385 \jmlr@org@newtheorem{#1}%
386 }

```

\@xthm

```

387 \renewcommand*{\@xthm}[2]{%
388 \def\@jmlr@currentthm{#1}%
389 \@begintheorem{#2}{\csname the#1\endcsname}%
390 \ignorespaces
391 }

```

\@ythm

```

392 \def\@ythm#1#2[#3]{%
393 \def\@jmlr@currentthm{#1}%
394 \@opargbegintheorem{#2}{\csname the#1\endcsname}{#3}%
395 \ignorespaces
396 }

```

\@begintheorem

```

397 \renewcommand*{\@begintheorem}[2]{%
398 \ifdef{\@jmlr@currentthm}%
399 {%
400 \letcs{\jmlr@this@theoremheader}{jmlr@thm@\@jmlr@currentthm @header@font}%
401 \letcs{\jmlr@this@theorembody}{jmlr@thm@\@jmlr@currentthm @body@font}%
402 \letcs{\jmlr@this@theoremsep}{jmlr@thm@\@jmlr@currentthm @sep}%
403 \letcs{\jmlr@this@theorempostheader}{%
404 {jmlr@thm@\@jmlr@currentthm @postheader}%
405 }%
406 {%
407 \let\jmlr@this@theorembody\@theorembodyfont
408 \let\jmlr@this@theoremheader\@theoremheaderfont
409 \let\jmlr@this@theoremsep\@theoremsep
410 \let\jmlr@this@theorempostheader\@theorempostheader
411 }%
412 \trivlist
413 \item
414 [%
415 \hskip\labelsep{\jmlr@this@theoremheader #1\ #2%
416 \jmlr@this@theorempostheader}%
417 ]%
418 \mbox{}{\jmlr@this@theoremsep
419 \jmlr@this@theorembody
420 }

```

argbegintheorem

```

421 \renewcommand*{\@opargbegintheorem}[3]{%

```

```

422 \ifdef{\@jmlr@currentthm}%
423 {%
424 \letcs{\jmlr@this@theoremheader}{\jmlr@thm@\@jmlr@currentthm @header@font}%
425 \letcs{\jmlr@this@theorembody}{\jmlr@thm@\@jmlr@currentthm @body@font}%
426 \letcs{\jmlr@this@theoremsep}{\jmlr@thm@\@jmlr@currentthm @sep}%
427 \letcs{\jmlr@this@theorempostheader}%
428 {\jmlr@thm@\@jmlr@currentthm @postheader}%
429 }%
430 {%
431 \let\jmlr@this@theorembody\@theorembodyfont
432 \let\jmlr@this@theoremheader\@theoremheaderfont
433 \let\jmlr@this@theoremsep\@theoremsep
434 \let\jmlr@this@theorempostheader\@theorempostheader
435 }%
436 \trivlist
437 \item[\hskip\labelsep{\jmlr@this@theoremheader #1\ #2\ (#3)%
438 \jmlr@this@theorempostheader}]{%
439 \mbox{}{\jmlr@this@theoremsep
440 \jmlr@this@theorembody
441 }

```

example

```

442 \newtheorem{example}{Example}

```

theorem

```

443 \newtheorem{theorem}{Theorem}

```

lemma

```

444 \newtheorem{lemma}[theorem]{Lemma}

```

proposition

```

445 \newtheorem{proposition}[theorem]{Proposition}

```

remark

```

446 \newtheorem{remark}[theorem]{Remark}

```

corollary

```

447 \newtheorem{corollary}[theorem]{Corollary}

```

definition

```

448 \newtheorem{definition}[theorem]{Definition}

```

conjecture

```

449 \newtheorem{conjecture}[theorem]{Conjecture}

```

axiom

```

450 \newtheorem{axiom}[theorem]{Axiom}

```

End of theorem definitions.

```

451 \fi

```

4.2 jmlr.cls Code

This class is based on the jmlr2e package but was modified to make sure it works with jmlr-book which uses both combine and hyperref.

Declare class and required TeX format:

```
452 \NeedsTeXFormat{LaTeX2e}
453 \ProvidesClass{jmlr}[2020/01/31 v1.26 (NLCT) Journal of Machine Learning Research]
```

Need xkeyval package to have key=value class options

```
454 \RequirePackage{xkeyval}
```

```
455 \RequirePackage{calc}
```

```
456 \RequirePackage{etoolbox}
```

Some packages need to be loaded before hyperref so provide a hook to do this:

jmlrprehyperref

```
457 \providecommand*{\jmlrprehyperref}{{}
```

The following conditionals are provided to make this class play nicely with combine and aren't required for articles.

```
458 \newif\if@openright
```

```
459 \newif\if@mainmatter \@mainmattertrue
```

\ifgrayscale Determine whether to select grayscale alternatives

```
460 \@ifundefined{ifgrayscale}{
461   \newif\ifgrayscale
462   \grayscalefalse
463 }{}
464 \DeclareOptionX{color}{\grayscalefalse
465   \PassOptionsToPackage{color}{xcolor}}
466 \DeclareOptionX{gray}{\grayscaletrue
467   \PassOptionsToPackage{gray}{xcolor}}
```

draft

```
468 \DeclareOptionX{draft}{\setlength\overfullrule{5pt}}
```

final

```
469 \DeclareOptionX{final}{\setlength\overfullrule{0pt}}
```

Can't load jmlrutils here but need the \iftablecaptiontop conditional for the class options.

tablecaptiontop

```
470 \newif\iftablecaptiontop
```

```
471 \tablecaptiontoptrue
```

Provide table contents command that uses this conditional. (The jmlrutils package doesn't use it.)

`\tablecnts`

```
472 \newcommand{\tablecnts}[3]{%
473   \iftablecaptiontop
474     #2\label{#1}\vskip\baselineskip
475     {\centering #3\par}%
476   \else
477     {\centering #3\par}%
478     \vskip\baselineskip
479     #2\label{#1}%
480   \fi
481 }
```

Determine if the table captions should go at the top.

`tablecaptiontop`

```
482 \DeclareOptionX{tablecaptiontop}{\tablecaptiontoptrue}
```

`tablecaptiontop`

```
483 \DeclareOptionX{tablecaptionbottom}{\tablecaptiontopfalse}
```

`tablecaption` Key=value interface.

```
484 \define@choicekey{jmlr.cls}{tablecaption}[\val\nr]{top,bottom}{%
485   \ifcase\nr\relax
486     \tablecaptiontoptrue
487   \or
488     \tablecaptiontopfalse
489   \fi
490 }
```

`\ifjmlrhtml` Determine if we are using TeX4ht. (Deprecated.) This option should no longer be used. The PMLR have changed the submission guidelines and the production editor should no longer supply HTML files.

```
491 \newif\ifjmlrhtml
492 \jmlrhtmlfalse
493 \DeclareOptionX{html}{%
494   \ClassWarning{jmlr}{html option is now deprecated}%
495   \jmlrhtmltrue}
496 \DeclareOptionX{nohtml}{\jmlrhtmlfalse}
```

Normal font size (default is 11pt).

```
497 \def\pt@size{11pt}
498 \DeclareOptionX{10pt}{\renewcommand{\pt@size}{10pt}}
499 \DeclareOptionX{11pt}{\renewcommand{\pt@size}{11pt}}
500 \DeclareOptionX{12pt}{\renewcommand{\pt@size}{12pt}}
```

`jmlrproceedings` The name of the proceedings.

```
501 \newcommand*{@jmlrproceedings}{Journal of Machine Learning Research}
```


bbrevproceedings The abbreviated name of the proceedings.
502 \newcommand*{\@jmlrabbrvproceedings}{JMLR}

jmlrproceedings Sets the title and abbreviation of the proceedings
503 \newcommand*{\jmlrproceedings}[2]{%
504 \renewcommand*{\@jmlrabbrvproceedings}{#1}%
505 \renewcommand*{\@jmlrproceedings}{#2}%
506 }

\jmlrnowcp
507 \newcommand*{\jmlrnowcp}{%
508 \jmlrproceedings{JMLR}{Journal of Machine Learning Research}%
509 }

\jmlrwcp
510 \newcommand*{\jmlrwcp}{%
511 \jmlrproceedings{JMLR W&CP}{JMLR: Workshop and Conference Proceedings}%
512 }

\jmlrpmlr The JMLR W&CP has been renamed PMLR, so provide code to switch to this instead,
513 \newcommand*{\jmlrpmlr}{%
514 \jmlrproceedings{PMLR}{Proceedings of Machine Learning Research}%
515 }

This is a journal (non JMLR W&CP/PMLR) article:
516 \DeclareOptionX{nowcp}{\jmlrnowcp}

This is an article for JMLR W&CP
517 \DeclareOptionX{wcp}{\jmlrwcp}

This is an article for PMLR
518 \DeclareOptionX{pmlr}{\jmlrpmlr}

oneside
519 \DeclareOptionX{oneside}{\@twosidefalse \@mparswitchfalse}

twoside
520 \DeclareOptionX{twoside}{\@twosidetrue \@mparswitchtrue}

Set two-sided format
521 \@twosidetrue

The default paper size is letter, but provide 7 × 10in alternative:
522 \newif\ifviiXx
523 \viiXxfalse
524 \DeclareOptionX{7x10}{\viiXxtrue}
525 \DeclareOptionX{letterpaper}{\PassOptionsToPackage{letterpaper}{typearea}}

Pass all remaining options to article class:
526 \DeclareOptionX*{\PassOptionsToClass{\CurrentOption}{article}}

Execute required options:

```
527 \ExecuteOptions{letterpaper}
```

Process options:

```
528 \ProcessOptionsX
```

Load article class.

```
529 \LoadClass[\pt@size]{article}
```

Can't use geometry package because it doesn't play nicely with the combine class.

```
530 \ifviiXx
531   \setlength{\paperwidth}{7in}
532   \setlength{\paperheight}{10in}
533   \setlength{\textwidth}{5.25in}
534   \setlength{\textheight}{8.2in}
535   \setlength{\topmargin}{0.4in}
536   \setlength{\headheight}{0.2in}
537   \setlength{\headsep}{0.2in}
538   \setlength{\hoffset}{-1in}
539   \setlength{\voffset}{-1in}
540   \setlength{\evensidemargin}{0.75in}
541   \setlength{\oddsidemargin}{1.0in}
542 \else
543   \setlength{\oddsidemargin}{0.25in}
544   \setlength{\evensidemargin}{0.25in}
545   \setlength{\marginparwidth}{0.07 true in}
546   \setlength{\topmargin}{-0.5in}
547   \addtolength{\headsep}{0.25in}
548   \setlength{\textheight}{8.5 true in}
549   \setlength{\textwidth}{6.0 true in}
550 \fi
```

Need to add jmlr end document hook before natbib adds a `\clearpage` to it.

```
551 \AtEndDocument{\@jmlrenddoc}
```

Required packages:

```
552 \RequirePackage{amsmath}
553 \RequirePackage{amssymb}
554 \RequirePackage{natbib}
555 \RequirePackage{graphicx}
556 \RequirePackage{url}
557 \PassOptionsToPackage{x11names}{xcolor}
558 \RequirePackage{xcolor}
```

Allow old command names in the event that the proceedings contains a mixture of papers that use old and new versions. (This means that editors need to install the newer version.)

For some reason, loading `algorithm2e` causes the message

(\end occurred inside a group at level 1)

I don't know why, but it's outside the control of this class.

```
559 \PassOptionsToPackage{algo2e,ruled}{algorithm2e}
560 \RequirePackage{algorithm2e}
```

Set the algorithm margin to zero.

```
561 \setlength\algomargin{0pt}
```

Load jmlrutils before hyperref.

```
562 \RequirePackage{jmlrutils}
```

Do all the stuff that needs to be done before hyperref is loaded:

```
563 \jmlrprehyperref
```

Do stuff that has to come immediately before hyperref is loaded:

```
564 \@ifundefined{pre@hyperref}{}{\pre@hyperref}
```

Load hyperref:

```
565 \RequirePackage{hyperref}
```

```
566 \RequirePackage{nameref}
```

```
567 % Do stuff that has to come immediately after \sty{hyperref} and
568 % \sty{nameref} are loaded:
```

```
569 %\changes{1.16}{2012/05/15}{added \cs{@post@hyperref}}
```

```
570 \@ifundefined{post@hyperref}{}{\@post@hyperref}
```

Set up hyperref options:

```
571 \hypersetup{colorlinks,
572             linkcolor=blue,
573             citecolor=blue,
574             urlcolor=magenta,
575             linktocpage,
576             plainpages=false}
```

```
577 \ifgrayscale
```

If this is the print version, need to disable the hyperlinks:

```
578 \hypersetup{draft}
```

```
579 \fi
```

Float parameters: the following settings were copied from jmlr2e.sty

```
580 \renewcommand{\topfraction}{0.95} % let figure take up nearly whole page
```

```
581 \renewcommand{\textfraction}{0.05} % let figure take up nearly whole page
```

widows/orphans

```
582 \widowpenalty=10000\relax
```

```
583 \clubpenalty=10000\relax
```

Put marginal notes on the outside of the page

```
584 \@mparswitchtrue
```

Use the plainnat bibliography style and set up the required punctuation.

```
585 \bibliographystyle{plainnat}
```

```
586 \bibpunct{(}{)}{;}{a}{,}{,}
```

4.2.1 Sections

`\section`

```
587 \renewcommand{\section}{\@startsection{section}{1}{\z@}%  
588   {-0.24in \@plus -1ex \@minus -.2ex}%  
589   {0.10in \@plus .2ex}%  
590   {\normalfont\rmfamily\bfseries\large\raggedright}%  
591 }
```

`\subsection`

```
592 \renewcommand\subsection{\@startsection{subsection}{2}{\z@}%  
593   {-0.20in \@plus -1ex \@minus -.2ex}%  
594   {0.08in \@plus .2ex}%  
595   {\normalfont\rmfamily\bfseries\normalsize\raggedright}%  
596 }
```

`\subsubsection`

```
597 \renewcommand\subsubsection{\@startsection{subsubsection}{3}{\z@}%  
598   {-0.18in \@plus -1ex \@minus -.2ex}%  
599   {0.08in \@plus .2ex}%  
600   {\normalfont\normalsize\rmfamily\mdseries\scshape\raggedright}%  
601 }
```

`\paragraph`

```
602 \renewcommand\paragraph{\@startsection{paragraph}{4}{\z@}%  
603   {1.5ex plus 0.5ex minus .2ex}%  
604   {-1em}%  
605   {\normalfont\normalsize\rmfamily\bfseries}%  
606 }
```

`\subparagraph`

```
607 \renewcommand\subparagraph{\@startsection{subparagraph}{5}{\z@}%  
608   {1.5ex plus 0.5ex minus .2ex}%  
609   {-1em}%  
610   {\normalfont\normalsize\rmfamily\bfseries\itshape}}
```

`\@secntformat` Redefine the way the section number appears in the section heading.

```
611 \renewcommand*\@secntformat[1]{%  
612   \csname pre#1num\endcsname  
613   \csname the#1\endcsname.\enskip  
614 }
```

4.2.2 Footnotes

`\@makefnctext` Redefine `\@makefnctext` so that the text between the footnote symbol and the footnote text can be redefined. (It looks odd having a full stop after a symbol.)

```
615 \renewcommand*\@makefnctext[1]{%  
616   \@setpar
```

```

617 {%
618   \@@par
619   \@tempdima\hsize
620   \advance \@tempdima -15pt\relax
621   \parshape \@ne 15pt \@tempdima
622 }%
623 \par
624 \parindent 2em\noindent
625 \hbox to \z@ {\hss {\@thefnmark }\footnoteseptext\hfil }#1%
626 }

```

`\footnoteseptext` The separation text between the footnote symbol and the footnote text.

```

627 \newcommand*{\footnoteseptext}{. }

```

`\thanks` Added optional argument to `\footnotetext` as per <http://tex.stackexchange.com/questions/229295>.

```

628 \renewcommand*{\thanks}[1]{%
629   \footnotemark
630   \protected@xdef\@thanks{\@thanks
631     \protect\footnotetext[\arabic{footnote}]{#1}}%
632 }

```

4.2.3 Article abstract

This code has been taken from `jmlr2e.sty` but with `\bf` updated to `\bfseries`

`abstract`

```

633 \ifjmlrhtml
634   \renewenvironment{abstract}{\HCode{<h3>}Abstract\HCode{</h3>}}{%
635   \else
636     \renewenvironment{abstract}

637     {{\centering\large\bfseries Abstract\par}\vspace{0.7ex}%
638       \bgroup
639         \leftskip 20pt\rightskip 20pt\small\noindent\ignorespaces}%
640     {\par\egroup\vskip 0.25ex}
641 \fi

```

4.2.4 Keywords

This code has been taken from `jmlr2e.sty` but with `\bf` updated to `\bfseries`.

`keywords`

```

642 \newenvironment{keywords}
643 {\bgroup\leftskip 20pt\rightskip 20pt \small\noindent{\bfseries
644 Keywords:} \ignorespaces}%
645 {\par\egroup\vskip 0.25ex}

```

4.2.5 Title Page Information

This code has been taken from jmlr2e.sty.

Title stuff, borrowed in part from aaai92.sty

```
646 \newlength\aftertitskip      \newlength\beforetitskip
647 \newlength\interauthorskip  \newlength\aftermaketitskip
```

Changeable parameters.

```
648 \setlength\aftertitskip{0.1in plus 0.2in minus 0.2in}
649 \setlength\beforetitskip{0.05in plus 0.08in minus 0.08in}
650 \setlength\interauthorskip{0.08in plus 0.1in minus 0.1in}
651 \setlength\aftermaketitskip{0.3in plus 0.1in minus 0.1in}
```

`\titlebreak` Acts like new line in the paper title, but with jmlrbook acts like a space in the table of contents and bookmarks.

```
652 \newcommand*{\titlebreak}{\newline}
```

`\titletag`

```
653 \newcommand*{\titletag}[1]{}
```

`\title` Override definition of `\title` to allow for an optional argument (short title)

```
654 \renewcommand*{\title}[2][\@title]{%
655   \def\@shorttitle{#1}%
656   \def\@title{#2}%
657   \protected@write\@auxout{}{\string\jmlr@title{#1}{#2}}%
658   \jmlrtitlehook
659 }
```

`\@shorttitle` The short title of the document is initialised to `\jobname` to ensure a basic document will compile even if no title is set.

```
660 \newcommand*{\@shorttitle}{\jobname}
```

`\jmlrtitlehook`

```
661 \newcommand*{\jmlrtitlehook}{}
```

`\jmlr@title` AUX command provided for MakeJmlrBookGUI

```
662 \newcommand*{\jmlr@title}[2]{}
```

`\author` Override definition of `\author` to allow for an optional argument (list of authors for page heading)

```
663 \renewcommand*{\author}[2][{}]{%
664   \def\@author{#2}%
665   \def\@sauthor{#1}%
666   \def\@jmlr@aux@author{#2}\@onelevel@sanitize\@jmlr@aux@author
667   \ifx\@sauthor\@empty
668     \let\@jmlr@aux@sauthor\@jmlr@aux@author
669   \else
670     \let\@shortauthor\@sauthor
```

```

671 \def\@jmlr@aux@sauthor{#1}\@onelevel@sanitize\@jmlr@aux@sauthor
672 \fi
673 \jmlrauthorhook
674 \protected@write\@auxout
675 {}{\string\jmlr@author{\@jmlr@aux@sauthor}{\@jmlr@aux@author}}%
676 }

```

\jmlrauthorhook

```

677 \newcommand*\@jmlrauthorhook{}

```

\jmlr@author AUX command provided for MakeJmlrBookGUI

```

678 \newcommand*\@jmlr@author[2]{}

```

\@shortauthor

```

679 \newcommand*\@shortauthor{}

```

\@firstauthor

```

680 \newcommand*\@firstauthor{}

```

\@firstsurname

```

681 \newcommand*\@firstsurname{}

```

\jmlrlength

```

682 \newlength\jmlrlength

```

\jmlrmaketitle Make the title

```

683 \def\jmlrmaketitle{%
684 \jmlrpremaketitlehook
685 \def\@jmlr@authors@sep{, }%
686 \par
687 \begingroup

688 \def\footnoteseptext{ }%
689 \def\thempfn{\textsuperscript{\thefootnote}}%
690 \def\thefootnote{\fnsymbol{footnote}}%

691 \if@twocolumn
692 \twocolumn[\@jmlrmaketitle]%
693 \else
694 \@jmlrmaketitle
695 \fi
696 \@thanks
697 \endgroup
698 \label{jmlrstart}%
699 \ifx\@sauthor\@empty
700 \settowidth{\jmlrlength}{\@evenhead}%
701 \ifdim\jmlrlength>\textwidth
702 \def\@shortauthor{\@firstsurname\space et al.}%

```

```

703 \fi
704 \fi
705 \settowidth{\jmlrlength}{\@titlefoot}%
706 \ifdim\jmlrlength>\textwidth
707 \def\@jmlrauthors{\@firstauthor\space \emph{et al}}}%
708 \fi
709 \jmlrmaketitlehook
710 \thispagestyle{jmlrtps}%
711 \setcounter{footnote}{0}%
712 \let\maketitle\relax \let\@maketitle\relax
713 \gdef\@thanks{}\gdef\@author{}\let\thanks\@gobble
714 \def\@jmlr@authors@sep{ \& }%
715 }

```

lrmaketitlehook

```
716 \newcommand*\jmlrmaketitlehook{}
```

remaketitlehook

```
717 \newcommand*\jmlrpremaketitlehook{}
```

Provide a different title layout for HTML

lrhtmlmaketitle

```

718 \newcommand{\jmlrhtmlmaketitle}{%
719 \ifx\@jmlr@authors\@empty
720 \sbox\jmlrbox{\let\addr\relax\@author}%
721 \fi
722 \noindent\HCode{<h2>}\@title\HCode{</h2>}
723 \noindent\@jmlr@authors
724 }

```

\jmlrbox Define a save box

```
725 \newsavebox\jmlrbox
```

\maketitle If we're creating HTML, set \maketitle to \jmlrhtmlmaketitle, otherwise set it to \jmlrmaketitle

```

726 \ifjmlrhtml
727 \let\maketitle\jmlrhtmlmaketitle
728 \else
729 \let\maketitle\jmlrmaketitle
730 \fi

```

Author and editor information.

```

731 \def\@startauthor{\noindent \normalsize\bfseries}
732 \def\@endauthor{}
733 \def\@starteditor{\noindent \small {\bfseries \@edname:~}}
734 \def\@endeditor{\normalsize}

```

Provide hooks to make it easier to adapted with combine class.


```

\jmlrprettitle
735 \def\jmlrprettitle{\vskip\beforetitskip\begin{center}\Large\bfseries}

\jmlrposttitle
736 \def\jmlrposttitle{\par\end{center}\vskip\aftertitskip}

\nametag
737 \newcommand*{\nametag}[1]{

\jmlrpreauthor
738 \def\jmlrpreauthor{%
739 \bgroup
740   \def\nametag##1{##1}%
741   \def\and{\unskip\enspace{\normalfont and}\enspace}%

742   \def\addr{\mdseries\small\itshape}%
743   \def\name{\ClassError{jmlr}{Use \string\Name{Author's Name} not \string\name}{}}%
744   \def\email{\ClassError{jmlr}{Use \string\Email{address} not \string\email}{}}%
745   \def\AND{\@endauthor\normalfont\hss \vskip \interauthorskip
746     \@startauthor}%
747   \@startauthor
748 }

\addr  Initialise to do nothing if used outside of \author
749 \newcommand{\addr}{}

\@email
750 \def\@email{\hfill\small\mdseries\scshape}%

\@name
751 \def\@name{\normalsize\upshape\bfseries}%

\@parsename  Parse a name. Appends forename to \@forenames and stores surname in \@surname.
752 \def\@parsename#1 #2\end@parsename{%
753   \def\@tmp{#2}%
754   \ifx\@tmp\@nnil
755     \def\@surname{#1}%
756     \let\@nextparsename\@parsenamenoop
757   \else
758     \@getinitial#1-\relax\relax\end@getinitial
759     \ifx\@forenames\@empty
760       \def\@forenames{#1}%
761       \protected@edef\@initials{\@initial}%
762     \else
763       \expandafter\toks@\expandafter{\@forenames}%
764       \edef\@forenames{\space\the\toks@}%
765       \expandafter\toks@\expandafter{\@initials}%
766       \protected@edef\@initials{\the\toks@\@initial}%

```

```

767 \fi
768 \let\@nextparsename\@parsename
769 \fi
770 \@nextparsename#2\end@parsename
771 }
772 \def\@parsenamenoop#1\end@parsename{}

```

\@getinitial

```

773 \def\@getinitial#1#2-#3#4\end@getinitial{%
774 \def\@jmlr@tmp{#3}%
775 \if\@jmlr@tmp\relax
776 \def\@initial{#1.}%
777 \else
778 \def\@initial{#1.-#3.}%
779 \fi
780 }

```

\Name Get the author's name and add surname to \@shortauthors. (Surnames with “von” parts or with spaces in should be enclosed in braces)

```

781 \newcommand*{\Name}[2][{}]{%
782 \def\@authorlist{#1}%
783 \def\@forenames{}%
784 \def\@surname{}%
785 \def\@nametag##1{}%
786 \@parsename#2 \@nil\end@parsename
787 \ifx\@shortauthor\@empty
788 \ifx\@sauthor\@empty
789 \global\let\@shortauthor\@surname
790 \global\let\@firstsurname\@surname
791 \fi
792 \ifx\@authorlist\@empty
793 \protected@xdef\@jmlrauthors{\@initials\space\@surname}%
794 \else
795 \protected@xdef\@jmlrauthors{\@authorlist}%
796 \fi
797 \global\let\@firstauthor\@jmlrauthors
798 \else
799 \ifx\@sauthor\@empty
800 \expandafter\toks@\expandafter{\@shortauthor}%
801 \protected@xdef\@shortauthor{\the\toks@\space\@surname}%
802 \fi
803 \ifx\@authorlist\@empty
804 \ifx\@jmlrauthors\@empty
805 \protected@xdef\@jmlrauthors{\@initials\space\@surname}%
806 \else
807 \protected@xdef\@jmlrauthors{\@jmlrauthors
808 \noexpand\@jmlr@authors@sep
809 \@initials\space\@surname}%
810 \fi

```

```

811 \else
812 \ifx\@jmlrauthors\@empty
813 \protected@xdef\@jmlrauthors{\@authorlist}%
814 \else
815 \protected@xdef\@jmlrauthors{\@jmlrauthors
816 \noexpand\@jmlr@authors@sep
817 \@authorlist
818 }%
819 \fi
820 \fi
821 \fi
822 \def\nametag##1{##1}%
823 \@name #2%
824 }

```

jmlrabbrnamelist Display list of names in abbreviated form. (Mainly designed for use with makejmlrbook for the preface authors.) The author should be grouped if the name contains a comma.

```

825 \newcommand*\jmlrabbrnamelist[1]{%
826 \def\nametag##1{%
827 \def\@jmlr@authors@sep{,}%
828 \def\@jmlr@namelist{%
829 \@for\@thisname:=#1\do{%
830 \expandafter\@jmlrabbrname\expandafter{\@thisname}%
831 \ifx\@jmlr@namelist\@empty
832 \protected@edef\@jmlr@namelist{%
833 \@initials\space\@surname
834 }%
835 \else
836 \protected@edef\@jmlr@namelist{%
837 \@jmlr@namelist
838 \noexpand\@jmlr@authors@sep
839 \@initials\space\@surname
840 }%
841 \fi
842 }%
843 \def\@jmlr@authors@sep{ \& }%
844 \@jmlr@namelist
845 }

```

\@jmlrabbrname

```

846 \newcommand*\@jmlrabbrname[1]{%
847 \def\@initials{%
848 \def\@surname{%
849 \def\@forenames{%
850 \@parsename#1 \@nil\end@parsename
851 }

```

\Email

```

852 \newcommand*\Email[1]{\@email #1}

```

`\jmlrpostauthor`

```
853 \def\jmlrpostauthor{\@endauthor\egroup
854   \par
855   \vskip \aftermaketitskip
856   \noindent
857   \ifx\@editor\@empty
858   \else
859     \@starteditor \@editor \@endeditor
860   \fi
861   \vskip \aftermaketitskip
862 }
```

`\@jmlrmaketitle` This used to enclose the title in a `\vbox` but this caused a problem for extremely long author/affiliation lists that spanned multiple pages, so the `\vbox` has been removed (in v1.26), but the grouping has been retained.

```
863 \def\@jmlrmaketitle{%
864   {%
865     \jmlrprettitle
866     {%
867       \def\titletag##1{##1}%
868       \@title
869     }%
870     \jmlrposttitle
```

Use `\ignorespaces` before `\@author` in case a space has been inserted at the start of `\author`. May occur with a long author list that's been spaced for clarity, but less likely to occur with `\title`. Trailing spaces are less likely to be noticeable.

```
871   \jmlrpreauthor \ignorespaces\@author \jmlrpostauthor
872   }%
873 }
```

`\kernelmachines` Convenience command

```
874 \newcommand*\kernelmachines{(for
875   {\textsc{http://www.kernel-machines.org}})}
```

`\editorname` Label for the editor

```
876 \newcommand*{\editorname}{Editor}
```

`\editorsname` Label for the editor

```
877 \newcommand*{\editorsname}{Editors}
```

`\@edname` This will either be Editor or Editors depending on whether `\editor` or `\editors` is used. Defaults to `\editorname`

```
878 \let\@edname\editorname
```

`\@editor` The editor or editors are stored in `\@editor`

```
879 \def\@editor{}
```

`\editor` A single editor

```
880 \def\editor#1{%
881   \global\let\@edname\editorname
882   \gdef\@editor{#1}%
883 }
```

`\editors` Multiple editors

```
884 \def\editors#1{%
885   \global\let\@edname\editorsname
886   \gdef\@editor{#1}%
887 }
```

4.2.6 Pagestyles

This is taken from `jmlr2e.sty`

`\firstpageno` Set the page counter.

```
888 \def\firstpageno#1{\setcounter{page}{#1}}
```

`\startpage` If `\startpage` has been defined, use its value for the first page.

```
889 \@ifundefined{startpage}{}{\firstpageno{\startpage}}
```

Label end page.

`\@jmlrenddoc` Label end page

```
890 \newcommand*\@jmlrenddoc{%
891   \phantomsection
892   \protected@edef\@currentlabelname{end of \@shorttitle}%
893   \label{jmlrend}\null
894   \global\let\@reprint\@empty
895 }
```

`\@titlefoot`

```
896 \newcommand*\@titlefoot{\scriptsize\copyright\space\@jmlryear
897   \space\@jmlr@authors.\hfill
898   \@reprint
899 }
```

`\reprint`

```
900 \let\@reprint\@empty
901 \newcommand{\reprint}[1]{%
902   \gdef\@reprint{Reprinted with permission for JMLR#1}}
```

`\ps@jmlrtps` Title page style

```
903 \newcommand\ps@jmlrtps{%
904   \let\@mkboth\@gobbletwo
905   \def\@oddhead{\scriptsize \@jmlrproceedings
906     \ifx\@jmlrvolume\@empty
```

```

907 \else
908 \space\@jmlrvolume
909 \ifx\@jmlrissue\@empty\else(\@jmlrissue)\fi
910 \ifx\@jmlrpages\@empty
911 \ifx\@jmlryear\@empty
912 \else
913 \if\@jmlrissue\@empty,\fi
914 \fi
915 \else
916 :%
917 \fi
918 \fi
919 \ifx\@jmlrpages\@empty
920 \else
921 \ifx\@jmlrvolume\@empty\space\fi
922 \@jmlrpages
923 \ifx\@jmlryear\@empty\else,\fi
924 \fi
925 \ifx\@jmlryear\@empty\else\space\@jmlryear\fi
926 \hfill
927 \ifx\@jmlrworkshop\@empty
928 \ifx\@jmlrsubmitted\@empty
929 \else
930 Submitted \@jmlrsubmitted
931 \ifx\@jmlrpublished\@empty\else;\fi
932 \fi
933 \ifx\@jmlrpublished\@empty
934 \else
935 \space Published \@jmlrpublished
936 \fi
937 \else
938 \space\@jmlrworkshop
939 \fi
940 }%
941 \let\@evenhead\@oddhead
942 \def\@oddfoot{\@titlefoot}%
943 \let\@evenfoot\@oddfoot
944 }

```

\ps@jmlrps Page style for subsequent pages

```

945 \def\ps@jmlrps{%
946 \let\@mkboth\@gobbletwo
947 \def\@oddhead{\hfill {\small\scshape \@shorttitle} \hfill}%
948 \def\@oddfoot{\hfill \small\rmfamily \thepage \hfill}%
949 \def\@evenhead{\hfill {\small\scshape \@shortauthor} \hfill}%
950 \def\@evenfoot{\hfill \small\rmfamily \thepage \hfill}%
951 }%

```

Set the page style:

```

952 \pagestyle{jmlrps}

```

Set the heading information:

```
\@jmlrvolume  The volume number:
953 \providecommand*{\@jmlrvolume}{}

\jmlrvolume
954 \newcommand*{\jmlrvolume}[1]{\renewcommand*{\@jmlrvolume}{#1}}

\@jmlrissue  The issue number:
955 \providecommand*{\@jmlrissue}{}

\jmlrissue
956 \newcommand*{\jmlrissue}[1]{\renewcommand*{\@jmlrissue}{#1}}

\@jmlryear  The year of publication:
957 \providecommand*{\@jmlryear}{}

\jmlryear
958 \newcommand*{\jmlryear}[1]{\renewcommand*{\@jmlryear}{#1}}

\@jmlrpages  The page range:
959 \providecommand*\@jmlrpages{\pageref{jmlrstart}--\pageref{jmlrend}}

\jmlrpages
960 \newcommand*{\jmlrpages}[1]{\renewcommand*{\@jmlrpages}{#1}}

\@jmlrsubmitted  The date the article was submitted:
961 \providecommand*\@jmlrsubmitted{}

\jmlrsubmitted
962 \newcommand*{\jmlrsubmitted}[1]{\renewcommand*{\@jmlrsubmitted}{#1}}

\@jmlrpublished  The date the article was published:
963 \providecommand*\@jmlrpublished{}

\jmlrpublished
964 \newcommand*{\jmlrpublished}[1]{\renewcommand*{\@jmlrpublished}{#1}}

\@jmlrworkshop  The name of the workshop:
965 \providecommand*\@jmlrworkshop{}

\jmlrworkshop
966 \newcommand*{\jmlrworkshop}[1]{%
967 \renewcommand*{\@jmlrworkshop}{#1}%
968 \protected@write\@auxout{}\@string\jmlr@workshop{#1}}%
969 }
```

\jmlr@workshop

```
970 \newcommand*{\jmlr@workshop}[1]{}
```

\date

```
971 \renewcommand*{\date}[1]{%
972   \renewcommand*{\@date}{#1}%
973   \protected@write\@auxout{}\string\jmlr@date{#1}}%
974 }
```

\jmlr@date

```
975 \newcommand*{\jmlr@date}[1]{}
```

\@jmlrauthors

```
976 \newcommand*{\@jmlrauthors}{}%
```

\@jmlr@authors

```
977 \newcommand*{\@jmlr@authors}{\@jmlrauthors}
```

\jmlrauthors This is provided in case \Name doesn't set \@jmlrauthors correctly.

```
978 \newcommand*{\jmlrauthors}[1]{\global\def\@jmlr@authors{#1}}
```

4.2.7 Miscellany

This code was taken from jmlr2e.sty.

Define macros for figure captions and table titles

```
979 \def\figurecaption#1#2{\noindent\hangindent 40pt
980   \hbox to 36pt {\small\slshape #1 \hfil}
981   \ignorespaces {\small #2}}
```

Figurecenter prints the caption title centered.

```
982 \def\figurecenter#1#2{\centerline{{\slshape #1} #2}}
983 \def\figurecenter#1#2{\centerline{{\small\slshape #1} {\small #2}}}
```

Allow “hanging indents” in long captions

\@makecaption

```
984 \long\def\@makecaption#1#2{%
985   \vskip 10pt
986   \setbox\@tempboxa\hbox{#1: #2}%
987   \ifdim \wd\@tempboxa >\hsize % IF longer than one line:
988     \begin{list}{#1:}{%
989       \settowidth{\labelwidth}{#1:}
990       \setlength{\leftmargin}{\labelwidth}
991       \addtolength{\leftmargin}{\labelsep}
992       }\item #2 \end{list}\par % Output in quote mode
993   \else % ELSE center.
994     \hbox to \hsize{\hfil\box\@tempboxa\hfil}
995   \fi}
```


Define strut macros for skipping spaces above and below text in a tabular environment.

```
996 \def\abovestrut#1{\rule[0in]{0in}{#1}\ignorespaces}
997 \def\belowstrut#1{\rule[-#1]{0in}{#1}\ignorespaces}
```

\acks Acknowledgements

```
998 \newcommand{\acks}[1]{\section*{Acknowledgments}#1}
```

Research Note

\researchnote

```
999 \newcommand{\researchnote}[1]{\noindent {\LARGE\itshape Research Note} #1}
```

Other macros now moved to jmlrutils.

\ifprint Provide command to check if this is the printed greyscale version or the online colour version.

```
1000 \providecommand{\ifprint}[2]{\ifgrayscale#1\else#2\fi}
```

Modify \includegraphics so that it can pick up the greyscale version of images if this is the print version. (Extension shouldn't be specified.)

```
1001 \ifjmlrhtml
1002 \else
1003 \let\@org@Gininclude@graphics\Gininclude@graphics
```

Since graphics 2019/07/01, the file name parsing has changed to allow for UTF-8 characters. So provide patches for the old and new versions and work out which one to use.

nclude@graphics This is a patched version of the old \Gininclude@graphics.

```
1004 \def\@jmlr@old@Gininclude@graphics#1{%
1005 \begingroup
1006 \let\input@path\Ginput@path
1007 \ifprint{\filename@parse{#1-gray}}{\filename@parse{#1}}%
1008 \ifx\filename@ext\relax
1009 \@for\Gin@temp:=\Gin@extensions\do{%
1010 \ifx\Gin@ext\relax
1011 \Gin@getbase\Gin@temp
1012 \fi}%
1013 \else
1014 \ifprint{\filename@parse{#1}}{\}%
1015 \Gin@getbase{\Gin@sepdefault\filename@ext}%
1016 \ifx\Gin@ext\relax
1017 \@warning{File ‘#1’ not found}%
1018 \def\Gin@base{\filename@area\filename@base}%
1019 \edef\Gin@ext{\Gin@sepdefault\filename@ext}%
1020 \fi
1021 \fi
1022 \ifx\Gin@ext\relax
1023 \ifprint{\@org@Gininclude@graphics{#1}}%
1024 {%
1025 \@latex@error{File ‘#1’ not found}%
```

```

1026         {I could not locate the file with any of these extensions:^^J%
1027         \Gin@extensions^^J\@ehc}%
1028     }%
1029     \else
1030         \ifundefined{Gin@rule@\Gin@ext}%
1031         {\ifx\Gin@rule@*\@undefined
1032         \@latex@error{Unknown graphics extension: \Gin@ext}\@ehc
1033         \else
1034         \expandafter\Gin@setfile\Gin@rule@*{\Gin@base\Gin@ext}%
1035         \fi}%
1036         {\expandafter\expandafter\expandafter\Gin@setfile
1037         \csname Gin@rule@\Gin@ext\endcsname{\Gin@base\Gin@ext}}%
1038     \fi
1039 \endgroup}

```

include@graphics This is a patch of the new version.

```

1040 \def\@jmlr@new@Gininclude@graphics#1{%
1041     \ifx\detokenize\@undefined\else
1042         \edef\Gin@extensions{\detokenize\expandafter{\Gin@extensions}}%
1043     \fi
1044     \begingroup
1045     \let\input@path\Gininput@path
1046     \ifprint{\set@curr@file{#1-gray}}{\set@curr@file{#1}}%
1047     \expandafter\filename@parse\expandafter{\@curr@file}%
1048     \ifx\filename@ext\Gin@gzext
1049         \expandafter\filename@parse\expandafter{\filename@base}%
1050     \ifx\filename@ext\relax
1051         \let\filename@ext\Gin@gzext
1052     \else
1053         \edef\Gin@ext{\Gin@ext\Gin@sepdefault\Gin@gzext}%
1054     \fi
1055 \fi
1056 \let\@jmlr@filename@ext\filename@ext
1057 \ifx\filename@ext\relax
1058     \@for\Gin@temp:=\Gin@extensions\do{%
1059         \ifx\Gin@ext\relax
1060             \Gin@getbase\Gin@temp
1061         \fi}%
1062 \ifprint
1063 {\ifx\Gin@ext\relax
1064     \set@curr@file{#1}%
1065     \expandafter\filename@parse\expandafter{\@curr@file}%
1066     \ifx\filename@ext\Gin@gzext
1067         \expandafter\filename@parse\expandafter{\filename@base}%
1068     \ifx\filename@ext\relax
1069         \let\filename@ext\Gin@gzext
1070     \else
1071         \edef\Gin@ext{\Gin@ext\Gin@sepdefault\Gin@gzext}%
1072     \fi

```

```

1073     \fi
1074     \let\@jmlr@filename@ext\filename@ext
1075     \ifx\filename@ext\relax
1076     \@for\Gin@temp:=\Gin@extensions\do{%
1077         \ifx\Gin@ext\relax
1078             \Gin@getbase\Gin@temp
1079         \fi}%
1080     \fi
1081     \fi}{}%
1082 \fi
1083 \ifx\@jmlr@filename@ext\relax
1084 \else
1085     \Gin@getbase{\Gin@sepdefault\filename@ext}%
1086     \ifx\Gin@ext\relax
1087         \let\Gin@savibase\filename@base
1088         \let\Gin@savext\filename@ext
1089         \edef\filename@base{\filename@base\Gin@sepdefault\filename@ext}%
1090         \let\filename@ext\relax
1091         \@for\Gin@temp:=\Gin@extensions\do{%
1092             \ifx\Gin@ext\relax
1093                 \Gin@getbase\Gin@temp
1094             \fi}%
1095         \ifx\Gin@ext\relax
1096             \let\filename@base\Gin@savibase
1097             \let\filename@ext\Gin@savext
1098         \fi
1099     \fi
1100     \ifx\Gin@ext\relax
1101         \@warning{File ‘#1’ not found}%
1102         \def\Gin@base{\filename@area\filename@base}%
1103         \edef\Gin@ext{\Gin@sepdefault\filename@ext}%
1104     \fi
1105 \fi
1106 \ifx\Gin@ext\relax
1107     \@latex@error{File ‘#1’ not found}%
1108     {I could not locate the file with any of these extensions:^^J%
1109     \Gin@extensions^^J\@ehc}%
1110 \else
1111     \@ifundefined{Gin@rule@\Gin@ext}%
1112     {\ifx\Gin@rule@\@undefined
1113         \@latex@error{Unknown graphics extension: \Gin@ext}\@ehc
1114     \else
1115         \expandafter\Gin@setfile\Gin@rule*{\Gin@base\Gin@ext}%
1116         \fi}%
1117     {\expandafter\expandafter\expandafter\Gin@setfile
1118     \csname Gin@rule@\Gin@ext\endcsname{\Gin@base\Gin@ext}}%
1119 \fi
1120 \endgroup
1121 }

```

Determine which one to use:

```
1122 \ifpackagelater{graphics}{2019/07/01}
1123 {\let\Ginclude@graphics\@jmlr@new@Ginclude@graphics}%
1124 {\let\Ginclude@graphics\@jmlr@old@Ginclude@graphics}%
1125 \fi
```

`\artappendix` Switch to appendices in an article

```
1126 \newcommand{\artappendix}{\par
1127 \setcounter{section}{0}
1128 \setcounter{subsection}{0}
1129 \def\thesection{\Alph{section}}

1130 \def\theHsection{\theHchapter.\Alph{section}}
1131 \def\presectionnum{Appendix~}%
1132 }
```

The default assumes a stand-alone article.

`\appendix`

```
1133 \let\appendix\artappendix
```

`\booklinebreak` Provided for book production editors to fine tune the book line breaking. Does nothing in the standalone article.

```
1134 \newcommand{\booklinebreak}[1][{}]{}
```

4.2.8 Compatibility with combine.cls

Define chapters to make this class play nicely with combine. These definitions are just copied from book.cls

```
1135 \newcounter{chapter}
1136 \renewcommand\thechapter{\@arabic\c@chapter}
1137 \newcommand\@chapapp{\chaptername}
```

Add sections to the chapter reset.

```
1138 \@addtoreset{section}{chapter}
```

`\chaptermark`

```
1139 \newcommand*\chaptermark[1][{}]
```

Chapters should only be defined when we're combining documents into a book.

`\bookchapter`

```
1140 \newcommand\bookchapter{%
1141 \if@openright\cleardoublepage\else\clearpage\fi
1142 \thispagestyle{plain}%
1143 \global\@topnum\z@
1144 \@afterindentfalse
1145 \secdef\@chapter\@schapter}
```

`\artchapter` Disable chapters for articles.

```
1146 \newcommand\artchapter{%
1147   \ClassError{jmlr}{Chapters not permitted in articles}{} }
```

`\chapter` The default assumes a stand-alone document.

```
1148 \let\chapter\artchapter
```

Label for the chapter entries in the toc.

```
1149 \def\@chaptoclabel{chapter}
```

`\@chapter` Numbered chapters

```
1150 \def\@chapter[#1]#2{\ifnum \c@secnumdepth >\m@ne
1151   \refstepcounter{chapter}%
1152   \if@mainmatter
1153     \typeout{\@chapapp\space\thechapter.}%
1154     \addcontentsline{toc}{\@chaptoclabel}%
1155       {\protect\numberline{\thechapter}#1}%
1156   \else
1157     \addcontentsline{toc}{\@chaptoclabel}{#1}%
1158   \fi
1159 \else
1160   \addcontentsline{toc}{\@chaptoclabel}{#1}%
1161 \fi
1162 \chaptermark{#1}%
1163 \addtocontents{lof}{\protect\addvspace{10\p@}}%
1164 \addtocontents{lot}{\protect\addvspace{10\p@}}%
1165 \if@twocolumn
1166   \@topnewpage[\@makechapterhead{#2}]%
1167 \else
1168   \@makechapterhead{#2}%
1169   \@afterheading
1170 \fi}
```

`\chaptertitleformat` Formats the chapter title

```
1171 \newcommand{\chaptertitleformat}[1]{%
1172   \Huge\bfseries#1%
1173 }
```

`\chapternumberformat` Formats the chapter number

```
1174 \newcommand{\chapternumberformat}[1]{%
1175   \huge\bfseries \@chapapp\space#1\par\nobreak
1176   \vskip 20\p@
1177 }
```

`\chapterformat` Overall format for chapter headings

```
1178 \newcommand*{\chapterformat}{\raggedright}
```

postchapterskip Vertical gap after chapter heading

```

1179 \newlength\postchapterskip
1180 \setlength\postchapterskip{40pt}

```

\prechapterskip Vertical gap before chapter heading

```

1181 \newlength\prechapterskip
1182 \setlength\prechapterskip{50pt}

```

makechapterhead Chapter heading for numbered chapters

```

1183 \def\@makechapterhead#1{%
1184   \null\vskip\prechapterskip
1185   {\parindent \z@ \normalfont\chapterformat
1186     \ifnum \c@secnumdepth >\m@ne
1187       \if@mainmatter
1188         \chapternumberformat{\thechapter}%
1189       \fi
1190     \fi
1191     \interlinepenalty\@M
1192     \chaptertitleformat{#1}\par\nobreak
1193     \vskip \postchapterskip
1194   }}

```

\@schapter Unnumbered chapters.

```

1195 \def\@schapter#1{\if@twocolumn
1196   \@topnewpage[\@makeschapterhead{#1}]%
1197   \else
1198     \@makeschapterhead{#1}%
1199     \@afterheading
1200   \fi}

```

makeschapterhead Layout for unnumbered chapter headings

```

1201 \def\@makeschapterhead#1{%
1202   \vspace*{\prechapterskip}%
1203   {\parindent \z@
1204     \normalfont\chapterformat
1205     \interlinepenalty\@M
1206     \chaptertitleformat{#1}\par\nobreak
1207     \vskip \postchapterskip
1208   }}

```

\l@chapter Format for chapter entry in toc

```

1209 \newcommand*\l@chapter[2]{%
1210   \ifnum \c@tocdepth >\m@ne
1211     \addpenalty{-\@highpenalty}%
1212     \vskip 1.0em \@plus\p@
1213     \setlength\@tempdima{1.5em}%
1214     \begingroup
1215       \parindent \z@ \rightskip \@pnumwidth

```

```

1216      \parfillskip -\@pnumwidth
1217      \leavevmode \large\bfseries
1218      \advance\leftskip\@tempdima
1219      \hskip -\leftskip
1220      #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
1221      \penalty\@highpenalty
1222      \endgroup
1223      \fi}

```

`\l@appendix` Make appendix entries in the toc the same as that for chapters by default

```
1224 \let\l@appendix\l@chapter
```

`\chaptername`

```
1225 \newcommand\chaptername{Chapter}
```

`\frontmatter` Start the front matter (in book)

```

1226 \newcommand\frontmatter{%
1227   \cleardoublepage
1228   \@mainmatterfalse
1229   \renewcommand*\theHchapter{front-\thechapter}%
1230   \pagenumbering{roman}%
1231   \morefrontmatter
1232 }
1233 \newcommand\morefrontmatter{}

```

`\mainmatter` Start the main matter (in book)

```

1234 \newcommand\mainmatter{%
1235   \cleardoublepage
1236   \@mainmattertrue
1237   \setcounter{chapter}{0}%
1238   \renewcommand*\theHchapter{\thechapter}%
1239   \pagenumbering{arabic}%
1240   \moremainmatter
1241 }
1242 \newcommand\moremainmatter{}

```

`\backmatter` Start the back matter (in book)

```

1243 \newcommand\backmatter{%
1244   \if@openright
1245     \cleardoublepage
1246   \else
1247     \clearpage
1248   \fi
1249   \@mainmatterfalse}

```

`booktocpreamble`

```
1250 \newcommand*\booktocpreamble{}
```

booktocpostamble

```
1251 \newcommand*{\booktocpostamble}{}%
```

tableofcontents This is for the main table of contents when using the combine class file, and is not for use in individual articles.

```
1252 \newcommand\booktableofcontents{%
1253   \if@twocolumn
1254     \@restonecoltrue\onecolumn
1255   \else
1256     \@restonecolfalse
1257   \fi
1258   \chapter*{\contentsname
1259     \@mkboth{\MakeUppercase\contentsname}{\MakeUppercase\contentsname}}%
1260   \booktocpreamble
1261   \@starttoc{toc}%
1262   \booktocpostamble
1263   \if@restonecol
1264     \twocolumn
1265   \else
1266     \clearpage
1267   \fi
1268   \@mkboth{}{}%
1269 }
```

tableofcontents Table of contents for individual articles.

```
1270 \let\arttableofcontents\tableofcontents
```

\artpart A part in an article

```
1271 \newcommand{\artpart}{%
1272   \def\toclevel@part{0}%
1273   \if@noskipsec \leavevmode\fi
1274   \par
1275   \addvspace{4ex}%
1276   \@afterindentfalse
1277   \secdef\@artpart\@sartpart
1278 }
1279 \let\@artpart\@part
1280 \let\@sartpart\@spart
```

\bookpart A part in a book forming a collection of articles

```
1281 \newcommand\bookpart{%
1282   \def\toclevel@part{-1}%
1283   \if@openright
1284     \cleardoublepage
1285   \else
1286     \clearpage
1287   \fi
```



```

1288 \thispagestyle{plain}%
1289 \if@twocolumn
1290   \onecolumn
1291   \@tempwattrue
1292 \else
1293   \@tempwafalse
1294 \fi
1295 \preparthook
1296 \secdef\@bookpart\@sbookpart}

parttitleformat  Format of the title for a part (in a book)
1297 \newcommand{\parttitleformat}[1]{%
1298   \Huge\bfseries#1%
1299 }

      Part labels
1300 \newcommand*{\@parttoclabel}{part}

\@partapp
1301 \def\@partapp{\partname}

partnumberformat  Format of the part number (in a book)
1302 \newcommand{\partnumberformat}[1]{%
1303   \Huge\bfseries \@partapp\nobreakspace#1\par\nobreak
1304   \vskip 20\p@
1305 }

\preparthook  Hook at the start of a part (in a book)
1306 \newcommand{\preparthook}{\null\vfil}

\partformat  Overall format of part
1307 \newcommand*{\partformat}{\centering}

\@bookpart  Numbered book part format
1308 \def\@bookpart[#1]#2{%
1309   \ifnum \c@secnumdepth >-2\relax
1310     \refstepcounter{part}%
1311     \addcontentsline{toc}{\@parttoclabel}{\protect\numberline{\thepart}#1}%
1312   \else
1313     \addcontentsline{toc}{\@parttoclabel}{#1}%
1314   \fi
1315   \markboth{}{}%
1316   {\interlinepenalty \@M
1317     \normalfont\partformat
1318     \ifnum \c@secnumdepth >-2\relax
1319       \partnumberformat{\thepart}%
1320     \fi
1321     \parttitleformat{#2}\par}%
1322   \postparthook}

```

`\@sbookpart` Unnumbered book part format

```
1323 \def\@sbookpart#1{%
1324     {\interlinepenalty \@M
1325      \normalfont\partformat
1326      \parttitleformat{#1}\par}%
1327     \postparthook}
```

`\postparthook` Hook after part heading

```
1328 \def\postparthook{\vfil\newpage
1329                     \if@twoside
1330                     \if@openright
1331                     \null
1332                     \thispagestyle{empty}%
1333                     \newpage
1334                     \fi
1335                     \fi
1336                     \if@tempswa
1337                     \twocolumn
1338                     \fi}
```

`\bookappendix` Switch to appendices in book

```
1339 \newcommand\bookappendix{\par
1340   \setcounter{table}{0}%
1341   \setcounter{figure}{0}%
1342   \zeroextracounters
1343   \par
1344   \gdef\theHchapter{\Alph {chapter}}%
1345   \xdef\Hy@chapapp{\Hy@appendixstring}%
1346   \setcounter{chapter}{0}%
1347   \setcounter{section}{0}%
1348   \gdef\@chapapp{\appendixname}%
1349   \gdef\thechapter{\@Alph\c@chapter}%
1350   \def\@write@jmlr@import{\@write@jmlr@apdimport}%
1351   \csname appendixmore\endcsname
1352 }
```

Define commands to switch between book/article modes

`jmlrbookcommands` Switch to book commands

```
1353 \newcommand*{\jmlrbookcommands}{%
1354   \let\part\bookpart
1355   \let\chapter\bookchapter
1356   \let\appendix\bookappendix
1357   \let\tableofcontents\booktableofcontents
1358   \def\thesection{\thechapter.\arabic{section}}%
1359 }
```

`articlecommands` Switch to article commands

```
1360 \newcommand*{\jmlrarticlecommands}{%
```

```

1361 \let\part\artpart
1362 \let\chapter\artchapter
1363 \let\appendix\artappendix
1364 \let\tableofcontents\arttableofcontents
1365 \def\thesection{\arabic{section}}%
1366 }

```

Check for packages that are known to cause problems when combining articles into a book.

@check@packages

```

1367 \newcommand*{\@jmlr@check@packages}{%
1368   \@ifpackageloaded{epsfig}{%
1369     \ClassError{jmlr}{Obsolete package ‘epsfig’ detected.
1370       \MessageBreak
1371       Please use \string\includegraphics\space to include images
1372       instead}}{}{}%
1373   \@ifpackageloaded{psfig}{%
1374     \ClassError{jmlr}{Obsolete package ‘psfig’ detected.
1375       \MessageBreak
1376       Please use \string\includegraphics\space to include images
1377       instead}}{}{}%
1378   \@ifpackageloaded{subfig}{%
1379     \ClassError{jmlr}{Package ‘subfig’ detected.\MessageBreak
1380     This will cause a conflict if the article is incorporated
1381     \MessageBreak
1382     into a book using jmlbook.cls.
1383     \MessageBreak
1384     Please use \string\subfigure\space and
1385     \string\subtable\space instead}}{}{}%
1386   \@ifpackageloaded{theorem}{%
1387     \ClassError{jmlr}{Package ‘theorem’ detected.\MessageBreak
1388     This can cause a conflict with other packages used by jmlr}}{}{}%
1389   \@ifpackageloaded{ntheorem}{%
1390     \ClassError{jmlr}{Package ‘ntheorem’ detected.\MessageBreak
1391     This can cause a conflict with other packages used by jmlr}}{}{}%
1392   \@ifpackageloaded{amsthm}{%
1393     \ClassError{jmlr}{Package ‘amsthm’ detected.\MessageBreak
1394     This package conflicts with the jmlr class}}{}{}%
1395   \@ifpackageloaded{pdfpages}{Package ‘pdfpages’ detected.\MessageBreak
1396   This can cause a problem for jmlrbook}}{}{}%
1397   \@ifpackageloaded{geometry}{Package ‘geometry’ detected.\MessageBreak
1398   This can cause a problem for jmlrbook}}{}{}%
1399   \@ifpackageloaded{tabularx}{%
1400     \ClassError{jmlr}{Package ‘tabularx’ detected.\MessageBreak
1401     This will break footnote links}}{}{}%

1402   \@ifpackageloaded{jmlr2e}{%
1403     \ClassError{jmlr}{Package ‘jmlr2e’ detected.\MessageBreak
1404     This can’t be used with the jmlr class}}{}{}%
1405 }

```

```

1406 \AtBeginDocument{%
1407 \@jmlr@check@packages
1408 \let\@jmlr@check@packages\relax
1409 }

```

ssPackageChecks Don't check for potentially problematic packages. (If I find this in any paper sent to me for inclusion in a book, it will annoy me.)

```

1410 \newcommand*\jmlrSuppressPackageChecks{%
1411 \let\@jmlr@check@packages\relax
1412 }

```

Discourage authors from using obsolete commands:

\obsoletefontcs

```

1413 \DeclareRobustCommand*\obsoletefontcs[1]{%
1414 \ClassWarning{jmlr}{Obsolete command
1415 \expandafter\string\csname#1\endcsname\space detected}%
1416 \csname #1 \endcsname
1417 }

```

\bf

```

1418 \renewcommand*\bf{%
1419 \obsoletefontcs{bf}%
1420 }

```

\it

```

1421 \renewcommand*\it{%
1422 \obsoletefontcs{it}%
1423 }

```

\sc

```

1424 \renewcommand*\sc{%
1425 \obsoletefontcs{sc}%
1426 }

```

\rm

```

1427 \renewcommand*\rm{%
1428 \obsoletefontcs{rm}%
1429 }

```

\sf

```

1430 \renewcommand*\sf{%
1431 \obsoletefontcs{sf}%
1432 }

```

\tt

```

1433 \renewcommand*\tt{%
1434 \obsoletefontcs{tt}%
1435 }

```

ckforpseudocode Check for pseudocode package since it conflicts with the algorithm package and quite often both packages are used in the same book or proceedings.

```

1436 \providecommand*{\jmlrcheckforpseudocode}{%
1437   \@ifpackageloaded{pseudocode}%
1438   {%
1439     \let\pseudoRETURN\RETURN
1440     \let\pseudoTRUE\TRUE
1441     \let\pseudoFALSE\FALSE
1442     \let\pseudoAND\AND
1443     \let\pseudoOR\OR
1444     \let\pseudoNOT\NOT
1445     \let\pseudoTO\TO
1446     \let\pseudoCOMMENT\COMMENT
1447     \let\pseudoIF\IF
1448     \let\pseudoELSE\ELSE
1449     \let\pseudoFOR\FOR
1450     \let\pseudoFORALL\FORALL
1451     \let\pseudoWHILE\WHILE
1452     \let\pseudoREPEAT\REPEAT
1453     \let\pseudoUNTIL\UNTIL
1454     \let\pseudoENDFOR\ENDFOR
1455     \let\RETURN\undefined
1456     \let\TRUE\undefined
1457     \let\FALSE\undefined
1458     \let\AND\undefined
1459     \let\OR\undefined
1460     \let\NOT\undefined
1461     \let\TO\undefined
1462     \let\COMMENT\undefined
1463     \let\IF\undefined
1464     \let\ELSE\undefined
1465     \let\FOR\undefined
1466     \let\FORALL\undefined
1467     \let\WHILE\undefined
1468     \let\REPEAT\undefined
1469     \let\UNTIL\undefined
1470     \let\ENDFOR\undefined
1471     \pretol\pseudocode{%
1472       \let\RETURN\pseudoRETURN
1473       \let\TRUE\pseudoTRUE
1474       \let\FALSE\pseudoFALSE
1475       \let\AND\pseudoAND
1476       \let\OR\pseudoOR
1477       \let\NOT\pseudoNOT
1478       \let\TO\pseudoTO
1479       \let\COMMENT\pseudoCOMMENT
1480       \let\IF\pseudoIF
1481       \let\ELSE\pseudoELSE
1482       \let\FOR\pseudoFOR

```

```

1483 \let\FORALL\pseudoFORALL
1484 \let\WHILE\pseudoWHILE
1485 \let\REPEAT\pseudoREPEAT
1486 \let\UNTIL\pseudoUNTIL
1487 \let\ENDFOR\pseudoENDFOR
1488 }%
1489 }%
1490 {}%
1491 }
1492 \jmlrcheckforpseudocode

```

4.3 jmlrbook.cls Code

Class file for books composed of articles using the jmlr class.

```
1493 \NeedsTeXFormat{LaTeX2e}
```

Declare class:

```
1494 \ProvidesClass{jmlrbook}[2020/01/31 v1.26 (NLCT) JMLR Book Style]
```

Need xkeyval package to have key=value class options

```
1495 \RequirePackage{xkeyval}
```

Requires double spacing for the title page

```
1496 \RequirePackage{setspace}
```

Path used to determine if the preface is in the main document or in a separate file.

jmlrprefacefile

```
1497 \newcommand*\jmlrprefacepath{}
```

The fink package is now deprecated, so only use it if currfile isn't installed.

```
1498 \IfFileExists{currfile.sty}%
```

```
1499 {
```

```
1500 \RequirePackage{currfile}
```

```
1501 \renewcommand*\jmlrprefacepath{\currfilepath}
```

```
1502 }%
```

```
1503 {%
```

```
1504 \RequirePackage{fink}
```

```
1505 \ifdef\finkpath
```

```
1506 {%
```

```
1507 \renewcommand*\jmlrprefacepath{\finkpath}%
```

```
1508 }
```

```
1509 {%
```

fink version too old.

```
1510 \ClassWarning{jmlrbook}{Install 'currfile' package or update
```

```
1511 'fink' package}
```

```
1512 }
```

```
1513 }
```

Some packages need to be loaded before hyperref so provide a hook to do this:

```
1514 \providecommand*\jmlrprehyperref{}
```

\ifgrayscale Determine whether to select color or grayscale

```
1515 \newif\ifgrayscale
```

```
1516 \grayscalefalse
```

draft

```
1517 \DeclareOptionX{draft}{\setlength\overfullrule{5pt}}
```

final

```
1518 \DeclareOptionX{final}{\setlength\overfullrule{0pt}}
```

color

```
1519 \DeclareOptionX{color}{\grayscalefalse}
```

gray

```
1520 \DeclareOptionX{gray}{\grayscaletrue}
```

Pass letterpaper and 7x10 to jmlr.

letterpaper

```
1521 \DeclareOptionX{letterpaper}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

7x10

```
1522 \DeclareOptionX{7x10}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

Pass html and nohtml to jmlr. (Used by makejmlrbookgui)

html

```
1523 \DeclareOptionX{html}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

nohtml

```
1524 \DeclareOptionX{nohtml}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

lrprefaceheader

```
1525 \newcommand*\jmlrprefaceheader{%
```

```
1526 \phantomsection
```

```
1527 \chapter*\prefacename}%
```

```
1528 \addcontentsline{toc}{chapter}{\prefacename}%
```

```
1529 \markboth{\prefacename}{\prefacename}%
```

```
1530 }
```

Pass wcp, pmlr and nowcp options to jmlr and set preface header.

wcp

```
1531 \DeclareOptionX{wcp}{%
```

```
1532 \PassOptionsToClass{\CurrentOption}{jmlr}%
```

```
1533 }
```

pmlr

```
1534 \DeclareOptionX{pmlr}{%  
1535   \PassOptionsToClass{\CurrentOption}{jmlr}%  
1536 }
```

nowcp

```
1537 \DeclareOptionX{nowcp}{%  
1538   \PassOptionsToClass{\CurrentOption}{jmlr}%  
1539 }
```

Pass tablecaptiontop and tablecaptionbottom options to jmlr.

tablecaptiontop

```
1540 \DeclareOptionX{tablecaptiontop}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

tablecaptionbottom

```
1541 \DeclareOptionX{tablecaptionbottom}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

Pass font size commands to jmlr

10pt

```
1542 \DeclareOptionX{10pt}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

11pt

```
1543 \DeclareOptionX{11pt}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

12pt

```
1544 \DeclareOptionX{12pt}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

Switch on two-side mode by default

```
1545 \@twosidettrue
```

oneside

```
1546 \DeclareOptionX{oneside}{\@twosidefalse \@mparswitchfalse}
```

twoside

```
1547 \DeclareOptionX{twoside}{\@twosidettrue \@mparswitchtrue}
```

pdfxa

```
1548 \define@boolkey{jmlrbook.cls}[jmlr]{pdfxa}[true]{}  
1549 \jmlrpdfxafalse
```

Process options

```
1550 \ProcessOptionsX
```


If `\jmlrgrayscale` has been defined, let it override the class options. If it is defined, it should be set to 0 for the online version and any other number for the grayscale print version.

```

1551 \@ifundefined{jmlrgrayscale}{}%
1552 {%
1553   \ifnum\jmlrgrayscale=0\relax
1554     \grayscalefalse
1555   \else
1556     \grayscaletrue
1557   \fi
1558 }

```

This next bit is a modification of pdfx. It's only used for the print version when the pdfxa option is used.

```

1559 \ifgrayscale
1560   \newcommand*{\jmlrwritepdfinfo}{%
1561     \protected@write\@auxout{}\string\jmlrbook@info{\xmpAuthor}\xmpTitle}%
1562   }
1563   \ifjmlrpdfxa
1564     \def\convertDate{\getYear}
1565     {\catcode'\D=12
1566      \gdef\getYear D:#1#2#3#4{\edef\xYear{#1#2#3#4}\getMonth}
1567     }
1568     \def\getMonth#1#2{\edef\xMonth{#1#2}\getDay}
1569     \def\getDay#1#2{\edef\xDay{#1#2}\getHour}
1570     \def\getHour#1#2{\edef\xHour{#1#2}\getMin}
1571     \def\getMin#1#2{\edef\xMin{#1#2}\getSec}
1572     \def\getSec#1#2{\edef\xSec{#1#2}\getTZh}
1573     {%
1574       \catcode'\Z=12
1575       \gdef\tmpz{Z}
1576     }
1577     \def\hash{\expandafter\@gobble\string\#}%
1578     \def\amp{\expandafter\@gobble\string\&}%
1579     \def\xmpAmp{\amp\hash x0026;}%
1580     \def\sep{</rdf:li><rdf:li>}
1581     \def\TextCopyright{\amp\hash x00A9;}
1582     \def\Title#1{\gdef\xmpTitle{#1}}
1583     \def\Author#1{\gdef\xmpAuthor{#1}}
1584     \def\Keywords#1{\gdef\xmpKeywords{#1}}
1585     \let\xmpKeywords\@empty
1586     \let\xmpSubject\xmpKeywords
1587     \def\Creator#1{\gdef\xmpCreator{#1}}
1588     \def\xmpCreator{\@pdfcreator}
1589     \def\Producer#1{\gdef\xmpProducer{#1}}
1590     \def\xmpProducer{pdfTeX}
1591     \def\Volume#1{\gdef\xmpVolume{#1}}
1592     \let\xmpVolume\@empty
1593     \def\Issue#1{\gdef\xmpIssue{#1}}
1594     \let\xmpIssue\@empty

```

```

1595 \def\CoverDisplayDate#1{\gdef\xmpCoverDisplayDate{#1}}
1596 \let\xmpCoverDisplayDate\@empty
1597 \def\CoverDate#1{\gdef\xmpCoverDate{#1}}
1598 \let\xmpCoverDate\@empty
1599 \def\Copyright#1{\gdef\xmpCopyright{#1}}
1600 \let\xmpCopyright\@empty
1601 \def\Doi#1{\gdef\xmpDoi{#1}}
1602 \let\xmpDoi\@empty
1603 \def\Lastpage#1{\gdef\xmpLastpage{#1}}
1604 \let\xmpLastpage\@empty
1605 \def\Firstpage#1{\gdef\xmpFirstpage{#1}}
1606 \let\xmpFirstpage\@empty
1607 \def\Journaltitle#1{\gdef\xmpJournaltitle{#1}}
1608 \let\xmpJournaltitle\@empty
1609 \def\Journalnumber#1{\gdef\xmpJournalnumber{#1}}
1610 \let\xmpJournalnumber\@empty
1611 \def\Org#1{\gdef\xmpOrg{#1}}
1612 \let\xmpOrg\@empty
1613 \def\CreatorTool#1{\gdef\xmpCreatorTool{#1}}
1614 \def\xmpCreatorTool{\xmpProducer}
1615 \def\AuthoritativeDomain#1{\gdef\xmpAuthoritativeDomain{#1}}
1616 \let\xmpAuthoritativeDomain\@empty
1617 \def\findUUID#1{\edef\tmpstring{\pdfmdfivesum{#1}}
1618 \expandafter\eightofnine\tmpstring\end}
1619 \def\eightofnine#1#2#3#4#5#6#7#8#9\end{%
1620 \xdef\eightchars{#1#2#3#4#5#6#7#8}
1621 \fouroffive#9\end}
1622 \def\fouroffive#1#2#3#4#5\end{\xdef\ffourchars{#1#2#3#4}
1623 \sfouroffive#5\end}
1624 \def\sfouroffive#1#2#3#4#5\end{\xdef\sfourchars{#1#2#3#4}
1625 \tfouroffive#5\end}
1626 \def\tfouroffive#1#2#3#4#5\end{\xdef\tfourchars{#1#2#3#4}
1627 \xdef\laststring{#5}}
1628 \def\uuid{\eightchars-%
1629 \ffourchars-%
1630 \sfourchars-%
1631 \tfourchars-%
1632 \laststring}

```

\getTZh This is a modification of the command from pdfx that also works for zero and negative hours.

```

1633 \def\getTZh#1{%
1634 \def\TZprefix{#1}%
1635 \ifx\TZprefix\tmpz
1636 \def\xTZsign{+}%
1637 \def\xTZh{00}%
1638 \def\xTZm{00}%
1639 \let\getTZnext\doConvDate
1640 \else
1641 \let\xTZsign\TZprefix

```

```

1642     \let\getTZnext\getTZhm
1643     \fi
1644     \getTZnext
1645 }

```

`\getTZm` This is a modified version of the command from pdfx.

```

1646 \def\getTZhm#1#2'#3#4' {%
1647     \edef\xTZh{#1#2}%
1648     \edef\xTZm{#3#4}%
1649     \doConvDate
1650 }

```

`\doConvDate` Defines the date using information derived from parsing `\pdfcreationdate`

```

1651 \def\doConvDate{%
1652     \edef\convDate{\xYear-\xMonth-\xDay
1653         T\xHour:\xMin:\xSec\xTZsign\xTZh:\xTZm}%
1654 }

```

`\@pre@hyperref` This macro contains a trimmed down version of pdfx.

```

1655 \newcommand{\@pre@hyperref}{%
1656     \IfFileExists{FOGRA39L.icc}%
1657     {%
1658         \pdfminorversion=3
1659         \pdfpageattr{/MediaBox[0 0 595 793]
1660             /BleedBox[0 0 595 793]
1661             /TrimBox[25 20 570 773]}%
1662         \findUUID{\jobname.pdf}%
1663         \edef\xmpdocid{\uuid}%
1664         \findUUID{\pdfcreationdate}%
1665         \edef\xmpinstid{\uuid}%
1666         \InputIfFileExists{\jobname.xmpdata}{-}{-}%
1667         \RequirePackage{xmpincl}%
1668         \expandafter\convertDate\pdfcreationdate
1669         \def\@pctchar{\expandafter\@gobble\string\}%
1670         \def\@bchar{\expandafter\@gobble\string\}%
1671         \immediate\pdfobj stream attr{/N 4} file{FOGRA39L.icc}
1672         \edef\OBJ@CVR{\the\pdflastobj}
1673         \pdfcatalog{/OutputIntents [ <<
1674             /Type/OutputIntent
1675             /S/GTS_PDFX
1676             /OutputCondition (FOGRA39)
1677             /OutputConditionIdentifier (FOGRA39 \@bchar(ISO Coated v2
1678                 300\@pctchar\space \@bchar(ECI\@bchar)\@bchar))
1679             /DestOutputProfile \OBJ@CVR\space 0 R
1680             /RegistryName(http://www.color.org)
1681             >> ]}
1682         \input glyphtounicode.tex
1683         \input glyphtounicode-cmr.tex
1684         \pdfgentounicode=1

```

```

1685     \RequirePackage[draft,pdftex,pdfpagemode=UseNone,bookmarks=false]{hyperref}%
1686 }%
1687 {%
1688     \ClassError{jmlrbook}{Can't find 'FOGRA39L.icc'}%
1689     {Download ISOcoated\string_v2\string_330\string_bas.icc from
1690     http://www.colormangement.org/en/isoprofile.html
1691     Rename it FOGRA39L.icc and put it in the pdfx folder}%
1692 }%
1693 }
1694 \renewcommand*{\jmlrwritepdfinfo}{%
1695     \begingroup
1696     \let\&=\xmpAmp
1697     \IfFileExists{pdfx-1a.xmp}{%
1698         \pdfcompresslevel=0
1699         \immediate\pdfobj stream attr {/Type /Metadata /Subtype /XML}
1700         file{pdfx-1a.xmpi}
1701         \pdfcatalog{/Metadata \the\pdflastobj\space 0 R}
1702     }%
1703     {}%
1704     \endgroup
1705     \protected@write\auxout{}{\string\jmlrbook@info{\xmpAuthor}{\xmpTitle}}%
1706     \pdfinfo{
1707         /Author(\xmpAuthor)%
1708         /Title(\xmpTitle)%
1709         /Creator(\xmpProducer)%
1710         /CreationDate(\convDate)%
1711         /ModDate(\convDate)%
1712         /Producer(\xmpProducer)%
1713         /Trapped /False
1714         /GTS_PDFXVersion (PDF/X-1:2001)%
1715         /GTS_PDFXConformance (PDF/X-1a:2001)%
1716     }%
1717 }

1718 \fi
1719 \else
1720 \newcommand*{\jmlrwritepdfinfo}{}
1721 \fi

```

\jmlrbook@info Not needed (information provided for MakeJmlrBookGUI)

```
1722 \newcommand*{\jmlrbook@info}[2]{}

```

\jmlrbook@location Not needed (information provided for MakeJmlrBookGUI)

```
1723 \newcommand*{\jmlrbook@location}[1]{}

```

\@post@hyperref

```

1724 \newcommand*{\@post@hyperref}{%
1725     \let\@org@c@lenddoca\c@lenddoca
1726     \let\c@lenddoca\undefined
1727 }

```

Load combine class. This requires a little bit of trickery.

```
1728 \let\@org@LoadClass\LoadClass
1729 \def\LoadClass#1{\let\LoadClass\@org@LoadClass\@org@LoadClass{jmlr}}
1730 \@org@LoadClass{combine}
1731 \let\c@lenddoca\@org@c@lenddoca
```

Requires combnat to work with natbib:

```
1732 \RequirePackage{combnat}
```

Need to apply a patch to combnat (this has now been fixed in combnat, but user might be using an old version):

```
1733 \renewcommand\c@laNAT@parse[1]{\%
1734   \let\protect=\@unexpandable@protect\let~\relax
1735   \let\active@prefix=\@gobble
1736   \xdef\NAT@temp{\csname b@#1\@extra@b@citeb\endcsname}}%
1737   \expandafter\NAT@split\NAT@temp?????@%
1738   \expandafter\NAT@parse@date\NAT@date?????@%
1739   \ifciteindex\NAT@index\fi}
1740
1741 \renewcommand\c@lbNAT@parse[1]{\%
1742   \let\protect=\@unexpandable@protect\let~\relax
1743   \let\active@prefix=\@gobble
1744   \xdef\NAT@temp{\csname B?\jobname?@#1\@extra@b@citeb\endcsname}}%
1745   \expandafter\NAT@split\NAT@temp?????@%
1746   \expandafter\NAT@parse@date\NAT@date?????@%
1747   \ifciteindex\NAT@index\fi}
```

Start new chapters on the right hand page:

```
1748 \newif\if@openright
1749 \@openrighttrue
1750 \newif\if@mainmatter
```

Define commands that affect the formatting:

`\pagerule` Draw line across the text block.

```
1751 \newcommand*\pagerule[1][0pt]{\par\noindent
1752   \rule[#1]{\linewidth}{2pt}\par}
```

`preface` The preface environment starts a new chapter but also writes information to the main aux file for makejmlrbook. The optional argument is the file name for the extracted preface.

```
1753 \ifjmlrhtml
1754   \newenvironment{preface}[1][preface]%
1755   {%
1756     \noindent\HCode{<h2>\prefacename</h2>}%
1757   }%
1758   {%
1759   }
1760 \else
1761   \newenvironment{preface}[1][preface]%
1762   {%
```

```

1763 \jmlrprefaceheader
1764 \protected@write\@mainauxout
1765 {}{\string\@prefacestart{\thepage}{\arabic{page}}}%
1766 \protected@write\@mainauxout{}{\string\@prefacefile{\jmlrprefacepath}{#1}}%
1767 }%
1768 {%
1769 \protected@write\@mainauxout{}{\string\@prefaceend{\thepage}}%
1770 }
1771 \fi

```

\prefacename

```
1772 \newcommand*{\prefacename}{Preface}
```

\@prefacefile

```
1773 \newcommand*{\@prefacefile}[2]{}
```

\@prefacestart

```
1774 \newcommand*{\@prefacestart}[2]{}
```

\@prefaceend

```
1775 \newcommand*{\@prefaceend}[1]{}
```

\@prefaceeditor

```
1776 \newcommand*{\@prefaceeditor}[1]{}
```

Cross-reference chapters:

```
1777 \newcommand*{\chapterrefname}{Chapter}
```

```
1778 \newcommand*{\chaptersrefname}{Chapters}
```

\chapterref

```
1779 \newcommand*{\chapterref}[1]{%
```

```
1780 \objectref{#1}{\chapterrefname}{\chaptersrefname}{}}%
```

Cross-referencing imported articles:

\articlepageref Page number of start of article

```
1781 \newcommand*{\articlepageref}[1]{%
```

```
1782 \pageref{#1jmlrstart}}%
```

```
1783 }
```

articlepagesref Page range of article

```
1784 \newcommand*{\articlepagesref}[1]{%
```

```
1785 \pageref{#1jmlrstart}--\pageref{#1jmlrend}}%
```

```
1786 }
```

articlepagesref Page range of article for use within the article

```
1787 \newcommand*{\@articlepagesref}{%
```

```
1788 \pageref{jmlrstart}--\pageref{jmlrend}}%
```

```
1789 }
```

articletitleref Reference the short title of an imported article

```
1790 \newcommand*{\articletitleref}[1]{\nameref{#1jmlrstart}}
```

articleauthorref Reference the authors of an imported article

```
1791 \newcommand*{\articleauthorref}[1]{%
1792   \@ifundefined{jmlr@author@#1}%
1793   {%
1794     \ClassWarning{jmlrbook}{Label ‘#1’ undefined}%
1795   }%
1796   {%
1797     \@nameuse{jmlr@author@#1}%
1798   }%
1799 }
```

\jmlrtitlehook Extra title information

```
1800 \renewcommand*\jmlrtitlehook{%
1801   \hypersetup{pdftitle={\@shorttitle}}%
1802   \def\xmpTitle{\@shorttitle}%
1803   \let\jmlrtitlehook\relax
1804 }
1805 \providecommand*\xmpTitle{\@title}%
```

\jmlrauthorhook

```
1806 \renewcommand*\jmlrauthorhook{%
1807   \ifx\@sauthor\@empty
1808     \hypersetup{pdfauthor={\@author}}%
1809   \else
1810     \hypersetup{pdfauthor={\@sauthor}}%
1811   \fi
1812   \def\xmpAuthor{\@sauthor}%
1813   \let\jmlrauthorhook\relax
1814   \let\@shortauthor\@empty
1815 }
1816 \providecommand*\xmpAuthor{\@author}%
```

\subtitle

```
1817 \newcommand*{\@subtitle}{}
1818 \newcommand*{\subtitle}[1]{\renewcommand*{\@subtitle}{#1}}
```

\volume

```
1819 \newcommand*{\@volume}{\@jmlrvolume}
1820 \newcommand*{\volume}[1]{%
1821   \renewcommand*{\@volume}{#1}%
1822   \ifjmlrpdfxa
1823     \let\xmpVolume\@volume
1824   \fi
1825 }
```

```

\jmlrissue
1826 \newcommand*{\@jmlrissue}{\@jmlrissue}
1827 \newcommand*{\issue}[1]{%
1828   \renewcommand*{\@issue}{#1}%
1829   \ifjmlrpdfxa
1830     \let\xmpIssue\@issue
1831   \fi
1832 }

thejmlrworkshop  Provided in the event that it's required for the title page.
1833 \newcommand*{\thejmlrworkshop}{\@jmlrworkshop}

\team
1834 \newcommand*{\@team}{}
1835 \newcommand*{\team}[1]{\renewcommand*{\@team}{#1}}

\jmlrlocation
1836 \newcommand*{\@jmlrlocation}{}
1837 \newcommand*{\jmlrlocation}[1]{%
1838   \renewcommand*{\@jmlrlocation}{#1}%
1839   \protected@write\@auxout{}\string\jmlrbook@location{#1}%
1840 }

ctioneditorname
1841 \newcommand*{\@productioneditorname}{Production Editor}

roductioneditor
1842 \newcommand*{\@productioneditor}{}
1843 \newcommand*{\productioneditor}[1]{%
1844   \renewcommand*{\@productioneditor}{#1}%
1845   \renewcommand*{\@productioneditorname}{Production Editor}%
1846 }

oductioneditors
1847 \newcommand*{\productioneditors}[1]{%
1848   \renewcommand*{\@productioneditor}{#1}%
1849   \renewcommand*{\@productioneditorname}{Production Editors}%
1850 }

\logo  Title page image
1851 \newcommand*{\@logo}{}
1852 \newcommand*{\logo}[2][ ]{%
1853   \ifjmlrhtml
1854     \def\@logo@tmp{#1}%
1855     \ifx\@logo@tmp\@empty
1856       \renewcommand*{\@logo}{#2}%
1857     \else
1858       \renewcommand*{\@logo}{\HCode{<a href="#1">}#2\HCode{</a>}}%

```



```

1859 \fi
1860 \else
1861 \renewcommand*{\@logo}{#2}%
1862 \fi
1863 }

```

`\booklinebreak` Provided for book production editors to fine tune the book line breaking.

```

1864 \renewcommand*{\booklinebreak}[1][4]{\linebreak[#1]}

```

Set article title

```

1865 \def\c@lbmaketitle{\jmlrmaketitle}

```

The book's title:

`\maintitle`

```

1866 \newcommand*{\maintitle}{}

```

Make it easier to modify the book's title page:

`SetTitleElement`

```

1867 \newcommand*{\SetTitleElement}[3]{%
1868   {%
1869     \expandafter\ifx\csname @#1\endcsname \@empty
1870     \else
1871       #2\csname @#1\endcsname#3%
1872     \fi
1873   }%
1874 }

```

`\IfTitleElement` Determine if the given element has been set:

```

1875 \newcommand{\IfTitleElement}[3]{%
1876   \expandafter\ifx\csname @#1\endcsname \@empty
1877   #2%
1878   \else
1879   #3%
1880   \fi
1881 }

```

`\titlebody`

```

1882 \newcommand{\titlebody}{%
1883   \SetTitleElement{title}{\maintitlefont}{\postmaintitle}%
1884   \SetTitleElement{volume}{\mainvolumefont}{\postmainvolume}%
1885   \SetTitleElement{subtitle}{\mainsubtitlefont}{\postmainsubtitle}%
1886   \SetTitleElement{logo}{\mainlogofont}{\postmainlogo}%
1887   \SetTitleElement{team}{\mainteamfont}{\postmainteam}%
1888   \SetTitleElement{author}{\mainauthorfont}{\postmainauthor}%
1889   \SetTitleElement{productioneditor}{\mainproductioneditorfont}%
1890     {\postmainproductioneditor}%
1891 }

```

\c@lamaketitle

```
1892 \ifjmlrhtml
1893   \renewcommand{\c@lamaketitle}{%
1894     \HCode{<table cellpadding="2" cellspacing="2" border="0" width="100\%">}%
1895     \HCode{<tbody><tr><td valign="top">}%
1896     \HCode{<h1>}%
1897     \@title\newline
1898     \ifx\@jmlrvolume\@empty
1899       \ifx\@volume\@empty
1900         \else
1901           Volume \@volume
1902           \ifx\@subtitle\@empty\else: \fi
1903         \fi
1904       \else
1905         Volume \@jmlrvolume
1906         \ifx\@subtitle\@empty\else: \fi
1907       \fi
1908     \@subtitle
1909     \HCode{</h1>}%
1910     \newline
1911     \textbf{Editors: \@author}
1912     \HCode{</td><td valign="top">}%
1913     \@logo
1914     \HCode{</td></tr></tbody></table>}%
1915     \let\maintitle\@title
1916   }
1917 \else
1918   \renewcommand{\c@lamaketitle}{%
1919     \pagenumbering{alph}%
1920     \pagestyle{empty}%
1921     \begin{titlepage}%
1922       \let\footnotesize\small
1923       \let\footnoterule\relax
1924       \let\footnote\thanks
1925       \titlebody
1926       \par
1927       \@thanks
1928     \end{titlepage}%
1929     \setcounter{footnote}{0}%
1930     \let\maintitle\@title
1931     \c@lmtitleempty
1932   }
1933 \fi
```

\maintitlefont

```
1934 \renewcommand{\maintitlefont}{%
1935   \null\vskip15pt\relax\par
1936   \flushleft\Huge\bfseries\noindent}
```

```

\postmaintitle
1937 \renewcommand{\postmaintitle}{\%
1938   \par\relax
1939 }

\mainvolumefont
1940 \newcommand{\mainvolumefont}{\%
1941   \flushleft\noindent\LARGE\bfseries Volume
1942 }

\postmainvolume
1943 \newcommand{\postmainvolume}{\%
1944   \IfTitleElement{subtitle}{}{:}\par\relax
1945 }

\mainissuefont
1946 \newcommand{\mainissuefont}{\%
1947   \flushleft\noindent\LARGE\bfseries Issue
1948 }

\postmainissue
1949 \newcommand{\postmainissue}{\%
1950   \par\relax
1951 }

\mainsubtitlefont
1952 \newcommand{\mainsubtitlefont}{\%
1953   \flushleft\LARGE\bfseries\noindent}

\postmainsubtitle
1954 \newcommand{\postmainsubtitle}{\par}

\mainlogofont
1955 \newcommand{\mainlogofont}{\%
1956   \vfill
1957   \begin{center}}

\postmainlogo
1958 \newcommand{\postmainlogo}{\end{center}\vfill\par}

\mainteamfont
1959 \newcommand{\mainteamfont}{\flushleft\bfseries\Large\noindent}

\postmainteam
1960 \newcommand{\postmainteam}{\par}

```

\mainauthorfont

```
1961 \renewcommand{\mainauthorfont}{%
1962   \flushleft\Large\itshape\doublespacing\noindent}
```

\postmainauthor

```
1963 \renewcommand{\postmainauthor}{%
1964 \par}
```

ctioneditorfont

```
1965 \newcommand{\mainproductioneditorfont}{%
1966   \flushleft\Large\noindent \@productioneditorname: \itshape}
```

roductioneditor

```
1967 \newcommand{\postmainproductioneditor}{\par}
```

\maindatefont

```
1968 \renewcommand{\maindatefont}{}
```

\postmaindate

```
1969 \renewcommand{\postmaindate}{}
```

signoff Editorial team listed at the end of a preface etc. The mandatory argument is the date, the optional argument is the team title. Each editor should be separated with \Editor.

```
1970 \ifjmlrhtml
1971   \newenvironment{signoff}[2][The Editorial Team]{%
1972     \def\Editor##1{##1\par\vskip\baselineskip\noindent\ignorespaces}%
1973     \def\@editorialteam{#1}%
1974     \def\@signoffdate{#2}%
1975     \par\vskip\baselineskip\noindent
1976     \ifx\@signoffdate\@empty
1977       \else
1978         \emph{\@signoffdate}\nopagebreak\par
1979         \nopagebreak\vskip\baselineskip\noindent
1980       \fi
1981       \ifx\@editorialteam\@empty
1982       \else
1983         \@editorialteam:\nopagebreak\par\nopagebreak\vskip\baselineskip
1984       \fi
1985       \nopagebreak\noindent\ignorespaces
1986     }%
1987     {%
1988     }%
1989 \else
1990   \newenvironment{signoff}[2][The Editorial Team]{%
1991     \def\Editor##1{%
1992       \protected@write\@mainauxout{}\string\@prefaceeditor{##1}}%
1993     \begin{tabular}{@{}l@{}}%
1994       ##1%
```

```

1995     \end{tabular}%
1996     \par\vskip\baselineskip\noindent\ignorespaces
1997 }%
1998 \def\@editorialteam{#1}%
1999 \def\@signoffdate{#2}%
2000 \par\vskip\baselineskip\noindent
2001 \ifx\@signoffdate\@empty
2002 \else
2003     \emph{\@signoffdate}\par
2004     \vskip\baselineskip\noindent
2005 \fi
2006 \ifx\@editorialteam\@empty
2007 \else
2008     \@editorialteam:\nopagebreak\par\vskip\baselineskip
2009 \fi
2010 \nopagebreak\noindent\ignorespaces
2011 }%
2012 {%
2013 }
2014 \fi

```

authorsignoff An author can sign off at the end of a chapter (such as a foreword). Each author should be separated with \Author.

```

2015 \newenvironment{authorsignoff}{%
2016 \def\Author##1{\begin{tabular}{@{}p{\linewidth}@{}}%
2017   ##1%
2018   \end{tabular}%
2019   \par\vskip\baselineskip\noindent\ignorespaces
2020 }%
2021 \par\vskip\baselineskip\noindent\ignorespaces
2022 }{%
2023 }

```

zeroextracounters Reset counters at the start of each imported article

```

2024 \renewcommand{\zeroextracounters}{%
2025   \@ifundefined{c@theorem}{\setcounter{theorem}{0}}%
2026   \@ifundefined{c@algorithm}{\setcounter{algorithm}{0}}%
2027   \@ifundefined{c@algocf}{\setcounter{algocf}{0}}%
2028   \@ifundefined{c@example}{\setcounter{example}{0}}%
2029   \@ifundefined{c@definition}{\setcounter{definition}{0}}%
2030 }

```

\contentsname Redefine title of the table of contents

```

2031 \renewcommand*{\contentsname}{Table of Contents}

```

\theHalgorithm

```

2032 \def\theHalgorithm{\theHchapter.\thealgorithm}

```

```

\theHsection
2033 \def\theHsection{\theHchapter.\thesection}
2034 \def\theHsubsection{\theHchapter.\thesubsection}
2035 \def\theHsubsubsection{\theHchapter.\thesubsubsection}
2036 \def\theHparagraph{\theHchapter.\theparagraph}

\theHsubfigure
2037 \def\theHsubfigure{\theHfigure.\arabic{subfigure}}
2038 \def\theHsubtable{\theHtable.\arabic{subtable}}

\theHfootnote
2039 \def\theHfootnote{\theHchapter.\alpha{footnote}}

\theHtable
2040 \def\theHtable{\theHchapter.\arabic{table}}

\theHfigure
2041 \def\theHfigure{\theHchapter.\arabic{figure}}

\theHalgocf
2042 \def\theHalgocf{\theHchapter.\thealgocf}

\mailto
2043 \renewcommand*{\mailto}[1]{%
2044   \href{mailto:#1}{\nolinkurl{#1}}%
2045 }

2046 \c@lhaschapterfalse
2047 \let\c@lthesec\thesection

Make sure the hyperlinks work

portchapterHref
2048 \newcommand\doimportchapterHref{%
2049   \edef\@currentHref{chapter.\thechapter}%
2050 }

clevel@appendix Set the toc level for the main appendices
2051 \def\toclevel@appendix{-1}

hyperref and combine don't play nicely need to fudge the cross-referencing a bit.

\Xprefix
2052 \def\Xprefix{}

\Xref
2053 \DeclareRobustCommand\Xref{\@ifstar\@Xrefstar\T@Xref}%

```

```

\Xpageref
2054 \DeclareRobustCommand\Xpageref{%
2055   \@ifstar\@Xpagerefstar\T@Xpageref
2056 }%

Ref@StarSetXRef
2057 \def\HyRef@StarSetXRef#1{%
2058   \begingroup
2059   \Hy@safe@activetrue
2060   \edef\x{#1}%
2061   \@onelevel@sanitize\x
2062   \edef\x{\endgroup
2063     \noexpand\HyRef@StarSetRef
2064     \expandafter\noexpand\csname r@\Xprefix\x\endcsname{\x}%
2065   }%
2066   \x
2067 }
2068 % \end{macocode}
2069 %\end{macro}
2070 %
2071 %\begin{macro}{\@Xrefstar}
2072 % \begin{macrocode}
2073 \def\@Xrefstar#1{%
2074   \HyRef@StarSetXRef{#1}\@firstoffive
2075 }

\@Xpagerefstar
2076 \def\@Xpagerefstar#1{%
2077   \HyRef@StarSetXRef{#1}\@secondoffive
2078 }

\T@Xref
2079 \def\T@Xref#1{%
2080   \Hy@safe@activetrue
2081   \expandafter\@setXref\csname r@\Xprefix#1\endcsname\@firstoffive{#1}%
2082   \Hy@safe@activesfalse
2083 }%

\T@Xpageref
2084 \def\T@Xpageref#1{%
2085   \Hy@safe@activetrue
2086   \expandafter\@setXref\csname r@\Xprefix#1\endcsname\@secondoffive{#1}%
2087   \Hy@safe@activesfalse
2088 }%

\Xlabel
2089 \def\Xlabel#1{%
2090   \@bsphack

```

```

2091 \begingroup
2092 \onelevel@sanitize\@currentlabelname
2093 \edef\@currentlabelname{%
2094 \expandafter\strip@period\@currentlabelname\relax.\relax\@@@
2095 }%
2096 \protected@write\@mainauxout{}\{%
2097 \string\newlabel{\Xprefix#1}{\@currentlabel}{\thepage}%
2098 {\@currentlabelname}{\@currentHref}{}}%
2099 }%
2100 \endgroup
2101 \@esphack
2102 }
2103 \let\ltx@label\Xlabel

```

\@setXref

```

2104 \def\@setXref#1#2#3{% csname, extract group, refname
2105 \ifx#1\relax
2106 \protect\G@refundefinedtrue
2107 \nfss@text{\reset@font\bfseries ??}%
2108 \@latex@warning{%
2109 Reference ‘#3’ on page \thepage \space undefined%
2110 }%
2111 \else
2112 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
2113 \fi
2114 }

```

\@secondoffive Something's redefining \@secondoffive incorrectly at the start of the document when hyperref's draft mode is on. Need to fix it.

```

2115 \AtBeginDocument{%
2116 \renewcommand\@secondoffive[5]{#2}%
2117 \jmlrwritepdfinfo
2118 \let\jmlrwritepdfinfo\relax
2119 }

```

Need to write imported chapter label to main auxfile.

@setimportlabel

```

2120 \def\@setimportlabel{%
2121 \let\@mainauxout\@auxout
2122 \let\HRLabel\label
2123 }
2124 \AtBeginDocument{\@jmlrbegindoc}

```

\@jmlrbegindoc

```

2125 \newcommand*\@jmlrbegindoc{
2126 \@setimportlabel
2127 \gdef\@setimportlabel{\let\ref\Xref \let\pageref\Xpageref}%
2128 \let\ReadBookmarks\relax

```


Patch to work with auxhook if loaded

```
2129 \ifundefined{@beginmainauxhook}{\@beginmainauxhook}%  
2130 }
```

Imported papers modify \InputIfFileExists so save original definition.

```
2131 \let\org@InputIfFileExists\InputIfFileExists
```

jmlrpapers

```
2132 \newenvironment{jmlrpapers}{%  
2133 \def\@begindocumenthook{%  
2134   \@jmlrbegindoc  
2135   \let\bibcite\c@lbNATbibcite  
2136 }  
2137 \def\@enddocumenthook{%  
2138   \@jmlrenddoc  
2139   \let\bibcite\c@lbNAT@testdef  
2140 }  
2141   \begin{papers}[]  
  
2142   \if@twocolumn  
2143     \def\@jmlr@restore{\twocolumn}%  
2144   \else  
2145     \def\@jmlr@restore{\onecolumn}%  
2146   \fi  
2147   \jmlrarticlecommands  
2148   \let\importpubpaper\@importpubpaper  
2149   \let\importpaper\@importpaper  
2150   \let\importarticle\@importarticle  
2151   \let\label\Xlabel  
2152   \let\ref\Xref  
2153   \pagestyle{article}%  
2154 }{%  
2155   \@jmlr@restore  
2156   \end{papers}  
2157 }
```

dtomaincontents

```
2158 \newcommand{\addtomaincontents}[2]{%  
2159   \protected@write\@mainauxout{\let\label\@gobble\let\index\@gobble  
2160     \let\glossary\@gobble}{\string\@writefile{#1}{#2}}%  
2161 }
```

\@write@author

```
2162 \newcommand*\@write@author}[2]{%  
2163   \def\@jmlr@authors@sep{ and }%  
2164   \protected@write\@mainauxout{ }{%  
2165     \string\@new@articleauthor{#1}{#2}%  
2166   }%  
2167 }
```

w@articleauthor

```
2168 \newcommand*{\@new@articleauthor}[2]{%
2169   \expandafter\gdef\csname @jmlr@author@#1\endcsname{%
2170     \hyperref[#1jmlrstart]{#2}}%
2171 }
```

ite@jmlr@import The accompanying makejmlrbook Perl script scans the aux file for information. Any articles imported using \importpubpaper, \importpaper or \importarticle need to write the relevant information to the aux file.

```
2172 \newcommand*{\@@write@jmlr@import}[3]{%
2173   \protected@write\@mainauxout{}\string\@jmlr@import{#1}{#2}{#3}}%
2174 }
```

\@jmlr@import L^AT_EX should ignore \@jmlr@import as it's only needed for makejmlrbook:

```
2175 \newcommand*{\@jmlr@import}[3]{}
```

@jmlr@apdimport As above but for files imported in the appendix.

```
2176 \newcommand*{\@@write@jmlr@apdimport}[3]{%
2177   \protected@write\@mainauxout{}\string\@jmlr@apdimport{#1}{#2}{#3}}%
2178 }
```

@jmlr@apdimport As above but for files imported in the appendix. L^AT_EX should ignore \@jmlr@apdimport as it's only needed for makejmlrbookgui:

```
2179 \newcommand*{\@jmlr@apdimport}[3]{}
```

ite@jmlr@import Initialise to \@write@jmlr@import and switch to \@write@jmlr@apdimport in the appendices.

```
2180 \def\@write@jmlr@import{\@@write@jmlr@import}
```

remaketitlehook Redefine \jmlrpremaketitlehook

```
2181 \def\jmlrpremaketitlehook{%
2182   \cleardoublepage
2183   \phantomsection
2184   \let\@currentlabelname\@shorttitle

2185   \refstepcounter{chapter}%
2186 }%
```

\jmlrimporthook Hook just before document is imported.

```
2187 \newcommand*{\jmlrimporthook}{}
```

\importpubpaper Import a document that has already been published. Syntax: \importpubpaper[<label>]{<dir>}{<file>}{<pages>} where <dir> is the directory in which the paper is located, <file> is the name of the file and <pages> indicates the page range *for the original version*. The optional argument is a label. This is used to prefix the labels and citations in the document so they don't clash with other imported articles. If omitted, <dir>/<file> is used instead.

```
2188 \newcommand*{\@importpubpaper}[4][\@importdir\@importfile]{%
```

```

2189 \bgroup
2190 \def\@importdir{#2/}%
2191 \def\@importfile{#3}%
2192 \@write@jmlr@import{#1}{#2}{#3}%
2193 \def\@extra@b@citeb{#1}%
2194 \def\@extra@binfo{#1}%
2195 \jmlrpages{#4}%
2196 \graphicspath{{\@importdir}}%
2197 \def\jmlrmaketitlehook{%

2198 \label{}}%
2199 \def\titlebreak{ }%
2200 \addtomaincontents{toc}%

2201 {%
2202 \protect\contentsline{papertitle}{\@title}{\thepage}%
2203 {page.\thepage}}%
2204 \pdfbookmark{\@shorttitle}{chapter.\theHchapter}%
2205 \def\@jmlr@authors@sep{ \& }%

2206 \tocchapterpubauthor{\@jmlr@authors}%
2207 {%
2208 \@jmlr@abbrvproceedings
2209 \ifx\@jmlrvolume\@empty
2210 \ifx\@jmlrpages\@empty\else\space\fi
2211 \else
2212 \space\@jmlrvolume
2213 \ifx\@jmlrissue\@empty
2214 \else
2215 (\@jmlrissue)%
2216 \fi
2217 \ifx\@jmlrpages\@empty\else:\fi
2218 \fi
2219 \ifx\@jmlrpages\@empty
2220 \else
2221 \@jmlrpages
2222 \ifx\@jmlryear\@empty\else,\fi
2223 \fi
2224 \space\@jmlryear
2225 }%

2226 \@write@author{#1}{\@jmlr@authors}%
2227 }%
2228 \def\InputIfFileExists##1##2##3{%
2229 \IfFileExists{##1}{%
2230 \@org@InputIfFileExists{##1}{##2}{##3}%
2231 }%
2232 {%
2233 \@org@InputIfFileExists{\@importdir##1}{##2}{##3}%
2234 }%

```

```

2235     }%
2236     \def\Xprefix{#1}%
2237     \jmlrimporthook
2238     \import{\@importdir\@importfile}%
2239     \def\Xprefix{}%
2240     \egroup
2241     \gdef\@shortauthor{}%
2242     \gdef\@shorttitle{}%
2243     \gdef\@firstauthor{}%
2244     \gdef\@jmlr@authors{\@jmlrauthors}%
2245     \gdef\@jmlrauthors{}%
2246     \gdef\@firstsurname{}%
2247 }
2248 \newcommand{\importpubpaper}[4][ ]{%
2249   \ClassError{jmlrbook}{\string\importpubpaper\space
2250 not permitted outside 'jmlrpapers' environment}{}%
2251 }

```

`\importpaper` Like `\importpubpaper` but sets the pages to the page-range for this book.

```

2252 \newcommand{\@importpaper}[3][\@importdir\@importfile]{%
2253   \bgroup
2254     \def\@importdir{#2}/%
2255     \def\@importfile{#3}%
2256     \@writejmlr@import{#1}{#2}{#3}%
2257     \def\@extra@b@citeb{#1}%
2258     \def\@extra@b@info{#1}%
2259     \jmlrpages{\protect\@articlepagesref}%
2260     \graphicspath{{\@importdir}}%
2261     \def\jmlrmaketitlehook{%

2262       \label{}%
2263       \def\titlebreak{ }%
2264       \addtomaincontents{toc}%

2265       {%
2266         \protect\contentsline{papertitle}{\@title}{\thepage}%
2267         {page.\thepage}}%
2268       \pdfbookmark{\@shorttitle}{chapter.\theHchapter}%
2269       \def\@jmlr@authors@sep{ \& }%

2270       \tocchapterpubauthor{\@jmlr@authors}%
2271       {%
2272         \@jmlrabbvrproceedings
2273         \ifx\@jmlrvolume\@empty
2274           \space
2275         \else
2276           \space\@jmlrvolume
2277           \ifx\@jmlrissue\@empty
2278             \else
2279               (\@jmlrissue)%

```

```

2280         \fi
2281         :%
2282     \fi
2283     \protect\articlepagesref{#1}%
2284     \ifx\@jmlryear\@empty\else,\fi
2285     \space\@jmlryear
2286 }%

2287     \@writeauthor{#1}{\@jmlr@authors}%
2288 }%
2289 \def\InputIfFileExists##1##2##3{%
2290     \IfFileExists{##1}{%
2291         \@org@InputIfFileExists{##1}{##2}{##3}%
2292     }%
2293     {%
2294         \@org@InputIfFileExists{\@importdir##1}{##2}{##3}%
2295     }%
2296 }%
2297 \def\Xprefix{#1}%

```

Disable \jmlrvolume, \jmlryear, \jmlrworkshop etc (since the imported papers belong to the same volume as the book—use \importpubpaper for papers pre-published in another volume).

```

2298 \let\jmlrvolume\@gobble
2299 \let\jmlryear\@gobble
2300 \let\jmlrworkshop\@gobble
2301 \let\jmlrissue\@gobble
2302 \let\jmlrpages\@gobble
2303 \jmlrimporthook
2304 \import{\@importdir\@importfile}%
2305 \def\Xprefix{}%
2306 \egroup
2307 \gdef\@shortauthor{}%
2308 \gdef\@shorttitle{}%
2309 \gdef\@firstauthor{}%
2310 \gdef\@jmlr@authors{\@jmlrauthors}%
2311 \gdef\@jmlrauthors{}%
2312 \gdef\@firstsurname{}%
2313 }
2314
2315 \newcommand{\importpaper}[3][\@importpaper]{%
2316     \ClassError{jmlrbook}{\string\importpaper\space
2317 not permitted outside ‘jmlrpapers’ environment}{}%
2318 }

```

\importarticle Import a document that hasn't been published. Syntax: `\importarticle[⟨label⟩]{⟨dir⟩}{⟨file⟩}` where *⟨dir⟩* is the directory in which the paper is located and *⟨file⟩* is the name of the file. The optional argument is a label. This is used to prefix the labels and citations in the document so they don't clash with other imported articles. If omitted, *⟨file⟩* is used instead.

```

2319 \newcommand{\@importarticle}[3][\@importdir\@importfile]{%
2320   \bgroup
2321     \def\@importdir{#2/}%
2322     \def\@importfile{#3}%
2323     \@writejmlr@import{#1}{#2}{#3}%
2324     \def\@extra@b@citeb{#1}%
2325     \def\@extra@b@info{#1}%
2326     \def\jmlrmaketitlehook{%
2327       \def\titlebreak{ }%
2328       \addtomaincontents{toc}%

2329       {%
2330         \protect\contentsline{papertitle}{\@title}{\thepage}%
2331         {page.\thepage}}%

2332       \label{}}%
2333       \pdfbookmark{\@shorttitle}{chapter.\theHchapter}%
2334       \def\@jmlr@authors@sep{ \& }%

2335       \tocchapterauthor{\@jmlr@authors}%
2336       \@write@author{#1}{\@jmlr@authors}%
2337       \jmlrpages{ }%
2338       \jmlrvolume{ }%
2339       \jmlryear{ }%
2340       \jmlrsubmitted{ }%
2341       \jmlrpublished{ }%
2342       \jmlrproceedings{ }{ }%
2343     }%
2344     \graphicspath{{\@importdir}}%
2345     \def\InputIfFileExists##1##2##3{%
2346       \IfFileExists{##1}{%
2347         \@org@InputIfFileExists{##1}{##2}{##3}%
2348       }%
2349       {%
2350         \@org@InputIfFileExists{\@importdir##1}{##2}{##3}%
2351       }%
2352     }%
2353     \def\Xprefix{#1}%
2354     \jmlrimporthook

2355     \let\ps@jmlrtps\ps@articlet
2356     \import{\@importdir\@importfile}%
2357     \def\Xprefix{ }%
2358   \egroup
2359   \gdef\@shortauthor{ }%
2360   \gdef\@shorttitle{ }%
2361   \gdef\@firstauthor{ }%
2362   \gdef\@jmlr@authors{\@jmlrauthors}%
2363   \gdef\@jmlrauthors{ }%
2364   \gdef\@firstsurname{ }%

```

```

2365 }
2366 \newcommand{\importarticle}[3][\{%
2367   \ClassError{jmlrbook}{\string\importarticle\space
2368 not permitted outside ‘jmlrpapers’ environment}{\}%
2369 }

```

`\addtocpart` Add a part to the TOC without printing anything in the text (but does a `\cleardoublepage`).

```

2370 \newcommand{\addtocpart}[1]{%
2371   \cleardoublepage
2372   \refstepcounter{tocpart}%
2373   \addtocontents{toc}{\protect\tocpart{#1}}%
2374   \pdfbookmark[-1]{#1}{part.\thetocpart}%
2375 }
2376 \newcounter{tocpart}

```

`\tocpart` Define the appearance of a part in the TOC.

```

2377 \newcommand{\tocpart}[1]{%
2378   \addpenalty{-\@highpenalty}%
2379   \vskip 1.0ex \@plus\p@
2380   \setlength\@tempdima{2.25em}%
2381   \begingroup
2382     \parindent \z@ \rightskip \@pnumwidth
2383     \parfillskip -\@pnumwidth
2384     \leavevmode \large\bfseries
2385     \advance\leftskip\@tempdima
2386     \hskip -\leftskip
2387     #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss \null}\par
2388     \penalty\@highpenalty
2389   \endgroup
2390 }

```

Set up the layout of the chapter headings

```

2391 \setlength{\prechapterskip}{3em}
2392 \setlength{\postchapterskip}{20pt}

```

`ternumberformat`

```

2393 \renewcommand{\chapternumberformat}[1]{%
2394   \Large\bfseries \@chapapp\space#1\par
2395 }

```

`ptertitleformat`

```

2396 \renewcommand{\chaptertitleformat}[1]{%
2397   \Large\bfseries #1}

```

`\chapterformat`

```

2398 \renewcommand*{\chapterformat}{%
2399   \raggedright
2400 }

```

Set up the format of a part in the book (not a part in an article).

`\preparthook`

```
2401 \renewcommand{\preparthook}{\cleardoublepage\null\vfil}
```

`artnumberformat`

```
2402 \renewcommand{\partnumberformat}[1]{%
2403   \Huge\bfseries \@partapp\nobreakspace#1\par\nobreak
2404   \vskip 20\p@
2405 }
```

`\postparthook`

```
2406 \def\postparthook{%
2407   \thispagestyle{empty}%
2408   \vfil\newpage
2409   \null
2410   \thispagestyle{empty}%
2411   \newpage
2412 }
```

`\@curparthead` The heading of the current part

```
2413 \newcommand{\@curparthead}{}
```

`parttitleformat`

```
2414 \renewcommand{\parttitleformat}[1]{#1%
2415   \gdef\@curparthead{\@partapp\space \thepart. #1}%
2416   \@mkboth{\@curparthead}{\@curparthead}%
2417 }
```

`\firstpageno` Change `\firstpageno` to do nothing as the page number will be determined by the book.

```
2418 \renewcommand{\firstpageno}[1]{}
```

`\tocchapterauthor` Add the author of the current chapter to the table of contents.

```
2419 \newcommand{\tocchapterauthor}[1]{%
2420   \addtomaincontents{toc}{\protect\contentsline{chapterauthor}{%
2421     #1}{-}{-}}%
2422 }
```

`\chapterpubauthor` Add the author of an imported republished paper to the table of contents. The first argument is the author (or list of authors). The second argument is the reference to the published article.

```
2423 \newcommand{\tocchapterpubauthor}[2]{%
2424   \addtomaincontents{toc}{\protect\contentsline{chapterauthor}{%
2425     #1; #2.}{-}{-}}%
2426 }
```

Set up the formatting in the TOC

```
2427 \renewcommand*\@pnumwidth{2em}
```


`\l@part` Format for book parts

```
2428 \renewcommand*\l@part[2]{%
2429   \ifnum \c@tocdepth >\m@ne
2430     \addpenalty{-\@highpenalty}%
2431     \vskip 1.0em \@plus\p@
2432     %\setlength\@tempdima{5em}%
2433     \settowidth\@tempdima{\large\bfseries \@partapp\space MM}%
2434     \vbox{%
2435       \pagerule
2436       \begingroup
2437         \parindent \z@ \rightskip \@pnumwidth
2438         \parfillskip -\@pnumwidth
2439         \leavevmode \large\bfseries
2440         \advance\leftskip\@tempdima
2441         \hskip -\leftskip
2442         \renewcommand*\numberline[1]{\hb@xt@ \@tempdima
2443           {\@partapp\space ##1\hfil }}%
2444         #1\nobreak\hfil \nobreak\hb@xt@ \@pnumwidth{\hss
2445           \normalfont\normalsize #2}\par
2446         \penalty\@highpenalty
2447       \endgroup
2448     \pagerule
2449   }%
2450 \fi}
```

`\l@chapter`

```
2451 \renewcommand{\l@chapter}[2]{%
2452   \ifnum\c@tocdepth>\m@ne
2453     \addpenalty{-\@highpenalty}%
2454     \vskip 1.0em \@plus \p@
2455     \setlength\@tempdima{2em}%
2456     \begingroup
2457       \parindent \z@
2458       \rightskip \@pnumwidth
2459       \parfillskip -\@pnumwidth
2460       \leavevmode \large \bfseries
2461       \advance \leftskip \@tempdima
2462       \hskip -\leftskip
2463       \renewcommand*\numberline[1]{\hb@xt@ \@tempdima
2464         {##1\hfil }}%
2465       #1\nobreak \hfil \nobreak \hb@xt@ \@pnumwidth {\hss
2466         \normalfont\normalsize #2}\par
2467       \penalty \@highpenalty
2468     \endgroup
2469   \fi
2470 }
```

`\l@papertitle`

```
2471 \newcommand*\l@papertitle[2]{%
```

```

2472 \ifnum \c@tocdepth >\m@ne
2473   \addpenalty{-\@highpenalty}%
2474   \vskip 1.0em \@plus\p@
2475   \setlength\@tempdima{3em}%
2476   \begingroup
2477     \leavevmode \raggedright\itshape
2478     #1\nobreak\hfill \nobreak\hb@xt@\@pnumwidth{\hss
2479       \normalfont#2}%
2480     \par
2481     \penalty\@highpenalty
2482   \endgroup
2483 \fi
2484 }

```

`\l@chapterauthor`

```

2485 \newcommand*\l@chapterauthor[2]{%
2486   \ifnum \c@tocdepth >\m@ne

2487     \begingroup
2488       \parindent \z@
2489       \rightskip \@pnumwidth
2490       \parfillskip -\@pnumwidth
2491       \leavevmode \raggedright
2492       \parbox{\linewidth-\@pnumwidth}{\raggedright#1\par}%
2493       \par
2494     \endgroup
2495   \fi}

```

`\l@section`

```

2496 \renewcommand*\l@section[2]{%
2497   \ifnum \c@tocdepth >\m@ne
2498     \addpenalty{-\@highpenalty}%
2499     \vskip 1.0em \@plus\p@
2500     \setlength\@tempdima{3em}%
2501     \begingroup
2502       \parindent \z@ \rightskip \@pnumwidth
2503       \parfillskip -\@pnumwidth
2504       \leavevmode \normalsize\mdseries
2505       \advance\leftskip\@tempdima
2506       \hskip -\leftskip
2507       #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
2508       \penalty\@highpenalty
2509     \endgroup
2510   \fi}

```

`\l@subsection`

```

2511 \renewcommand*\l@subsection[2]{%
2512   \ifnum \c@tocdepth >\m@ne
2513     \addpenalty{-\@highpenalty}%

```

```

2514 \vskip 1.0em \@plus\p@
2515 \setlength\@tempdima{3.5em}%
2516 \begingroup
2517 \parindent \z@ \rightskip \@pnumwidth
2518 \parfillskip -\@pnumwidth
2519 \leavevmode \normalsize\mdseries
2520 \advance\leftskip\@tempdima
2521 \hskip -\leftskip
2522 #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
2523 \penalty\@highpenalty
2524 \endgroup
2525 \fi}

```

\chaptermark

```

2526 \renewcommand*{\chaptermark}[1]{%
2527 \mkboth{\@curparthead}{\protect\thechapter. #1}%
2528 }

```

Set up page styles

\firstpagehead

```

2529 \newcommand{\firstpagehead}{}

```

\firstpagefoot

```

2530 \newcommand{\firstpagefoot}{%
2531 \@reprint\hfill\thepage
2532 }

```

\headfont Set the header font

```

2533 \newcommand*{\headfont}{\reset@font\small\scshape}%

```

\footfont Set the footer font

```

2534 \newcommand*{\footfont}{\reset@font\small\itshape}%

```

\ps@chplain Page style for first page of a chapter

```

2535 \newcommand*{\ps@chplain}{%
2536 \let\mkboth\gobbletwo
2537 \renewcommand*{\@oddhead}{\headfont\firstpagehead}%
2538 \renewcommand*{\@evenhead}{}%
2539 \renewcommand*{\@oddfoot}{\footfont\firstpagefoot}%
2540 \renewcommand*{\@evenfoot}{\footfont\thepage\hfill
2541 }%
2542 }
2543 \let\ps@plain\ps@chplain

```

\ps@article Page style for the imported articles.

```

2544 \newcommand*{\ps@article}{%
2545 \let\mkboth\gobbletwo

```

```

2546 \renewcommand*{\@oddhead}{\headfont\hfill\@shorttitle}%
2547 \renewcommand*{\@evenhead}{\headfont\@shortauthor\hfill}%
2548 \renewcommand*{\@oddfoot}{\footfont\hfill\thepage}
2549 \renewcommand*{\@evenfoot}{\footfont\thepage\hfill}
2550 }

```

`\ps@articlet` Title page style for imported articles (imported using `\importarticle`)

```

2551 \newcommand*{\ps@articlet}{%
2552 \let\@mkboth\@gobbletwo
2553 \renewcommand*{\@oddhead}{}%
2554 \renewcommand*{\@evenhead}{}%
2555 \renewcommand*{\@oddfoot}{\footfont\hfill\thepage}
2556 \renewcommand*{\@evenfoot}{\footfont\thepage\hfill}
2557 }

```

`\ps@jmlrbook` Page style for book

```

2558 \newcommand*{\ps@jmlrbook}{%
2559 \renewcommand*{\@oddfoot}{\footfont\hfill\thepage}
2560 \renewcommand*{\@evenfoot}{\footfont\thepage\hfill}
2561 \def\@evenhead{\headfont\leftmark\hfill}%
2562 \def\@oddhead{\hfill\headfont\rightmark}%
2563 \let\@mkboth\markboth
2564 \renewcommand*{\sectionmark}[1]{}%
2565 }

```

`\markleft` Provide a command to set just the left header mark.

```

2566 \newcommand*{\markleft}[1]{%
2567 \begin{group}
2568 \let\label\relax
2569 \let\index\relax
2570 \let\glossary\relax
2571 \expandafter\@markleft\@themark{#1}%
2572 \@temptokena
2573 \expandafter{\@themark}%
2574 \mark{\the\@temptokena}
2575 \end{group}
2576 \if@nobreak
2577 \ifvmode
2578 \nobreak
2579 \fi
2580 \fi
2581 }
2582 \newcommand*{\@markleft}[3]{%
2583 \@temptokena{#2}%
2584 \unrestored@protected@xdef\@themark{#{3}{\the\@temptokena}}
2585 }

```

`morefrontmatter`

```

2586 \renewcommand*{\morefrontmatter}{\pagestyle{jmlrbook}}

```

```

2587 \def\chaptermark##1{%
2588   \@mkboth{##1\hfill}{\hfill##1}}%
2589 }

```

\moremainmatter

```

2590 \renewcommand*{\moremainmatter}{\pagestyle{jmlrbook}%
2591   \def\chaptermark##1{%
2592     \@mkboth{\@curparthead}{\protect\thechapter. ##1}%
2593   }%
2594 }

```

\bibsection Set the bibliography headings in the articles

```

2595 \renewcommand*\bibsection{\section*{\refname}}

```

Set up the book commands:

```

2596 \jmlrbookcommands

```

In the event that authors have used different versions of algorithm2e, define old command names.

```

2597 \providecommand*\SetNoLine{\SetAlgoNoLine}
2598 \providecommand*\SetVline{\SetAlgoVlined}
2599 \providecommand*\Setvlineskip{\SetVlineSkip}
2600 \providecommand*\SetLine{\SetAlgoLined}
2601 \providecommand*\dontprintsemicolon{\DontPrintSemicolon}
2602 \providecommand*\printsemicolon{\PrintSemicolon}
2603 \providecommand*\incmargin{\IncMargin}
2604 \providecommand*\decmargin[1]{\DecMargin{-#1}}
2605 \providecommand*\setnlskip{\SetNlSkip}
2606 \providecommand*\Setnlskip{\SetNlSkip}
2607 \providecommand*\setalcapskip{\SetAlCapSkip}
2608 \providecommand*\setalcaphskip{\SetAlCapHSkip}
2609 \providecommand*\nlsty{\NlSty}
2610 \providecommand*\Setnlsty{\SetNlSty}
2611 \providecommand*\linesnumbered{\LinesNumbered}
2612 \providecommand*\linesnotnumbered{\LinesNotNumbered}
2613 \providecommand*\linesnumberedhidden{\LinesNumberedHidden}
2614 \providecommand*\showln{\ShowLn}
2615 \providecommand*\showlnlabel{\ShowLnLabel}
2616 \providecommand*\nocaptionofalgo{\NoCaptionOfAlgo}
2617 \providecommand*\restorecaptionofalgo{\RestoreCaptionOfAlgo}
2618 \providecommand*\restylealgo{\RestyleAlgo}
2619 \providecommand*\Titleofalgo{\TitleOfAlgo}

```

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