The \LaTeX\,2\epsilon \textit{TUGboat} macros

\[ \text{TUGboat editors} \]

Contents

1 Introduction 1

1.1 Availability 1

2 The general structure of a paper 1

2.1 Class options for \textit{ltugboat} 1

2.2 Use of packages 2

2.3 Titles, addresses and so on 2

2.3.1 Compilation articles 3

2.4 Divisions of the paper 3

2.4.1 Abstracts 3

2.4.2 Appendices 3

3 Floating inserts 3

4 Special-purpose typesetting 4

4.1 Assorted simple markup 4

4.2 Acronyms and logos 4

4.3 Verbatim text 4

4.4 Typesetting urls 5

4.4.1 Url footnotes 6

4.4.2 Url shortcuts 6

5 Bibliographies 6

6 Equivalences between the ‘plain’ and \LaTeX\ \textit{TUGboat} packages 7

1 Introduction

This is the documentation for the \LaTeX\,2\epsilon macros to be used by \textit{TUGboat} authors. The macros represent a development of the earlier \textit{ltugboat} and \textit{ltugproc} styles that were written for use with \LaTeX\,2.09; the main original author was Robin Fairbairns, with Sebastian Rahtz, Michel Goossens, Nico Poppelier and Johannes Braams. Many others have been involved in the years since, including Barbara Beeton, Karl Berry, Mimi Burbank, and the \LaTeX\ team.

1.1 Availability

The \textit{TUGboat} web pages are at:

tug.org/TUGboat

They provide an article template, information for authors and reviewers, and the complete run of all published \textit{TUGboat} issues, among other things.

The macros are distributed via CTAN (ctan.org/pkg/tugboat) in the usual \LaTeX\ way as files tugboat.dtx and tugboat.ins. When the .ins file is processed by \LaTeX, the files ltugboat.cls and ltugcomn.sty (a melange of perhaps-useful macros, for documentation, etc.) are produced. (For compatibility, ltugproc.cls is also produced, but is no longer used for proceedings or anything else.)

The .dtx file may itself be processed by \LaTeX\ to produce a formatted (somewhat ‘literate’) source listing for those interested in the implementation of the \textit{TUGboat} macros.

2 The general structure of a paper

The basic idea is to start your \LaTeX\ document with \verb+\documentclass{ltugboat}+, which defines the appearance of \textit{TUGboat} articles. This uses the file ltugboat.cls as usual.

Each paper, therefore, is written as a document that may stand on its own. It starts with a \verb+\documentclass+ command, and its body is enclosed in a \texttt{document} environment. There are some options to the document class, described in the next section, but ordinarily the author needn’t bother with them. The defaults are designed for creating proof copies of papers.

The proof output differs from the final production output with respect to page numbers and other material. The changes required for final production are the responsibility of the \textit{TUGboat} editors; authors will see the final version in proof.

In general, we have sought simply to keep to the spirit of \LaTeX\ in the commands provided by the \textit{TUGboat} class (\textit{ltugboat}). On the whole, the new \textit{ltugboat} macros define \LaTeX\ commands and environments, or modify the definitions of \LaTeX\ standard commands. For those interested, section 6 lists equivalences between macros defined by the ‘plain’ package [4] and those defined by the new package.

2.1 Class options for \textit{ltugboat}

The \textit{ltugboat} class accepts many of the options of the \texttt{article} class (it suppresses the font-size selection and one/two-side options). Normally there is no need to use any document option. They are listed here for completeness.

\verb+draft+ Set up for a draft copy of a paper (this is the default setting — the author need not explicitly set it): page numbering starts at a high number, black marks for overfull boxes.

\verb+extralabel+ Use the extra label-distinguishing mark in the body of the reference; see section 5.

\verb+final+ Set up for the final copy of a paper: page numbering to come from elsewhere, no cropmarks.

\verb+harvardcite+ Specify Harvard-style citation. Not recommended in general; see section 5.

\verb+noextralabel+ Don’t use the extra mark for distinguishing labels in the body of the reference; see section 5.
nonumber Sections are not numbered; section heading layout is to be as in the ‘plain’ tugboat styles.

numbersec Sections, subsections and subsubsections are to be numbered (this is the default setting — the author need not explicitly set it).

onecolumn Typeset article in one column.

preprint Set up for a preprint.

rawcite Explicitly specify the standard \TeX citation method, which is the default; see section 5.

runningfull Information in both header and footer (default).

runningminimal Information in header only.

runningoff Information in neither header nor footer.

secondcolstart Start the article in the second column.

2.2 Use of packages

Being a \TeX journal, authors may use both standard and non-standard external packages for their articles. The overriding criterion is that articles need to be processable on the \TUGboat production computers (running current \TeX Live). A sensible mechanism for submitting personal packages is by use of the filecontents environment. It’s also fine to submit manuscript source with additional packages in a zip or other archive.

In general, packages currently on CTAN, and known to work with current \TeX are likely to be fine. In particular, \TUGboat is happy to accept papers using packages that are supported by members of the \TeX team.

TUG has a policy that macro packages described in \TUGboat should be available for readers to use. Since typing macros from printed sources is tedious, authors of publicly available packages are urged to submit their macros to CTAN. If a package is only available under restricted terms, authors are requested to make this fact clear when first submitting an article to the editor.

The \ltugboat class loads the package mflogo.sty [3] for typesetting the METAFONT logo. If this package is not present by some mischance, ltugboat will emulate it.

Although not necessarily recommended in all cases, many additional packages are commonly used. To mention a few:

microtype can help reduce overfull boxes and improve appearance (\usepackage{microtype});

hyperref supports live and internal hyperlinks, outlines, and much more
\usepackage[hidelinks,pdfa]{hyperref}.

2.3 Titles, addresses and so on

The title and author(s) of a paper are quoted using commands that are familiar (in syntax, at least) to most \TeX users; the \texttt{\texttt{title}} command is exactly that used in the standard \TeX classes. There is also \texttt{\texttt{shortTitle}} to define the form used in running heads or footers; similarly \texttt{\texttt{shortAuthor}}.

The \texttt{\texttt{author}} command is used once for each co-author of the paper, and for each \texttt{\texttt{author}} there should be a \texttt{\texttt{address}} command that gives a (postal) correspondence address. In addition (wherever possible), \TUGboat likes to quote an email address for authors: for this, the \texttt{\texttt{mailto}} command is used. Each author may also mention a web page, using a \texttt{\texttt{personalURL}} command, and an ORCID (from orcid.org), using \texttt{\texttt{ORCID}}.

For example, the present paper has (approximately) this at its start:
\begin{verbatim}
\title{The \LaTeX\ \TUB{} Macros}
\author{TUGboat editors}
\address{\LaTeX{} Users Group}
\personalURL{https://tug.org/TUGboat}
\maketitle
\end{verbatim}

Lines in the title information can get quite long. If the information being given is to be typeset as ordinary text (as in the case of the \texttt{\texttt{address}} line above), it can be ‘wrapped’ perfectly happily, as in normal text. If one of the verbatim items (\texttt{\texttt{mailto}} and \texttt{\texttt{personalURL}} commands) is going to be too wide for the column, what is the author to do? (Abbreviating the text, as in the \texttt{\texttt{personalURL}} above, is not usually an acceptable option!) Unfortunately, the % sign is an entirely acceptable element of both email addresses and URLs, so that the normal ‘fall-back’ isn’t available. Therefore, the classes typeset these electronic addresses in an environment where some of the characters (notably ‘.’ and ‘/’) are treated as word-divisions for the purposes of laying out the line.

If the paper is the result of more than one author’s labours, a sequence of \texttt{\texttt{author}}, \texttt{\texttt{address}}, \texttt{\texttt{mailto}} and \texttt{\texttt{personalURL}} commands may be given, as in the following, which comes from a paper given at TUG’95 (abbreviated):
\begin{verbatim}
\author{Michel Goossens}
\address{CN Division, CERN\}
\personalURL{...}
\end{verbatim}
\begin{verbatim}
\author{Sebastian Rahtz}
\address{Elsevier Science Ltd\}
\end{verbatim}
\netaddress{...}

... introductory text ...
\makesignature

\contributor{Betsy the Dog}
\address{Romsey Town, Cambridge}
... Betsy's contribution ...
...
\makesignature ...

2.3.1 Compilation articles
Compilation articles are written as a set of contributed parts under the general editorship of the author(s) of the article. The author of the article is presented (using \author, etc.) in the usual way, and writes the introductory text. Each contributors' part then follows. The contributor's name is quoted in the \contributor command, which is an analogue of the \author command; contributors' \address, \netaddress or \personalURL. The \contributor command opens a group in which the contribution appears, and the contributor's signature (produced with a \makesignature command) closes the group. The general scheme looks like:
\title{Example compilation article}
\author{Robin Fairbairns}
\address{University of Cambridge ...}
\netaddress{...}
... introductory text ...
\makesignature
\contributor{Betsy the Dog}
\address{Romsey Town, Cambridge}
... Betsy's contribution ...
...
\makesignature ...

2.4 Divisions of the paper
Papers in TUGboat may be subdivided in the normal way of a L\TeX article (the classes are defined in terms of L\TeX's \texttt{article} class). Thus the author may use \section, \subsection, ..., \paragraph commands (but \part and \subparagraph from \texttt{article} are suppressed, and \chapter, which does not even appear in the parent class, receives the same treatment).

Authors may note that the style of ordinary issues of \texttt{TUGboat} makes no distinction between the titles of the divisions; the visual style relies on the section numbers to indicate where the divisions lie in the hierarchy. If you use \paragraph, consider ending the paragraph label with a period; sometimes it is helpful, sometimes not.

For references to numbered sections, our style is to always use the word ‘Section’ in the text, e.g., Section \nameref{sec:whatever} without worrying about whether it is technically a sub(sub)section. It's also ok to use the section sign §, if that suits the material better.

Reference can also be made to the 'title' of divisions of the paper, whether they are numbered or not. The \nameref command (which uses the technique developed for the hyperref package \cite{hyperref}) permits such references; for example, the present section was introduced by:
\section{Divisions of the paper}
\label{sec:divs-paper}

and the command \nameref{sec:divs-paper} produces 'Divisions of the paper'. However, as you can see here, reusing the literal text of section titles often results in awkward results. We recommend numbered references in general.

2.4.1 Abstracts
The \texttt{tugboat} class provides two environments for abstracts. The \texttt{abstract} environment simply typesets its body as an unnumbered section whose title is ‘Abstract’. The \texttt{longabstract} environment typesets its body in small text, and separates the abstract from the rest of the paper with a decorative line; this is rarely used.

Please write an abstract, however short.

2.4.2 Appendices
A paper may have appendices, which can be expressed in exactly the same way as they would be in the \texttt{L\TeX} article class (confusing as that may be):
\appendix
\section{This is appendix A}
...
\section{This is appendix B}

Which will produce ‘section’ headings similar to:

A This is appendix A

TUGboat articles may have a small extension to this format using an \texttt{appendix} environment:
\begin{appendix}
\section{This is the first one}
...
\end{appendix}

which will produce ‘section’ headings similar to:

Appendix A This is the first one

In both cases, the subsections are numbered as normal (i.e., as ‘A.n’ in normal TUGboat papers);

3 Floating inserts
The classes do not make any change to \texttt{L\TeX}'s built-in provision for floating inserts, so that authors should write figures and tables as usual.

The default is for floats to be the width of the column. To make a float which is the width of the whole page, use \texttt{figure*} and \texttt{table*}.
Regarding caption placement, *TUGboat*’s convention is to put captions for figures below the figure, but captions for tables and listings above the table/listing. Please follow this convention unless there is a specific reason not to.

As a reminder, \label commands should always follow the \caption.

4 Special-purpose typesetting
The classes define a rather large set of commands for special-purpose typesetting.

4.1 Assorted simple markup
A short list of commonly-needed special typesetting commands follows; a larger set of such commands is defined in the classes. Feel free to peruse.

\cs{cmd} Typeset a control sequence name: \cs{fred} produces $\texttt{fred}$.

\Dash Typeset an em-dash, ignoring preceding and following space, surrounded by thin spaces, only breakable after the dash; this is our preferred method of specifying an em-dash in running text, over --- or (especially) the Unicode character(s).

\meta{var} Typeset meta-syntactic text: \meta{fred} produces $⟨\texttt{fred}⟩$.

\tbcode{text} Literal text, such as class names, package names, filenames, environment variables, etc. The text is typeset in typewriter and is not breakable.

\tbcodebreak{text} Like \tbcode, but breakable as with urls, e.g., at periods. Still not hyphenated.

\tubbraced{text} Typeset typewriter text in typewriter braces: \tubbraced{fred} produces $\{\texttt{fred}\}$.

For commands to typeset urls, see section 4.4.

4.2 Acronyms and logos
The classes provide macros that produce ‘correct’ representations of a large number of acronyms and logos; a small representative selection is shown in figure 1. The sample documents at tug.org/TUGboat/location.html have a more complete list, and of course the class sources are the ultimate reference.

Authors are especially urged to note the \acro command, which is defined in the classes. The visual appearance of all-caps sequences among normal text is rather unpleasing in Computer Modern, unfortunately. Therefore, the \acro command typesets its argument one point size smaller than the surrounding text: compare ‘DANTE’ (\acro{DANTE}) with ‘DANTE’. Many of the provided macros merely generate calls to \acro; two examples, \CTAN and \tug

<table>
<thead>
<tr>
<th>Macro</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>\ConTeXt</td>
<td>Con\TeX{}</td>
</tr>
<tr>
<td>\Cplusplus</td>
<td>C++</td>
</tr>
<tr>
<td>\CTAN</td>
<td>CTAN</td>
</tr>
<tr>
<td>\eTeX</td>
<td>\varepsilon\TeX{}</td>
</tr>
<tr>
<td>\FAQ</td>
<td>FAQ</td>
</tr>
<tr>
<td>\HTML</td>
<td>HTML</td>
</tr>
<tr>
<td>\ISBN</td>
<td>ISBN</td>
</tr>
<tr>
<td>\KOMAScript</td>
<td>KOMA-Script</td>
</tr>
<tr>
<td>\LaTeXe</td>
<td>\LaTeXe 2ε</td>
</tr>
<tr>
<td>\macOS</td>
<td>macOS</td>
</tr>
<tr>
<td>\MathML</td>
<td>MathML</td>
</tr>
<tr>
<td>\MF</td>
<td>METAFONT</td>
</tr>
<tr>
<td>\PDF</td>
<td>PDF</td>
</tr>
<tr>
<td>\SGML</td>
<td>SGML</td>
</tr>
<tr>
<td>\TUB</td>
<td>TUGboat</td>
</tr>
<tr>
<td>\TUG</td>
<td>\TeX{} Users Group</td>
</tr>
<tr>
<td>\tug</td>
<td>TUG</td>
</tr>
<tr>
<td>\XML</td>
<td>XML</td>
</tr>
</tbody>
</table>

\textbf{Figure 1}: A few of the provided acronyms and logos of the list in figure 1 have already been used in the present paper.

4.3 Verbatim text
For inline verbatim text, authors should ordinarily employ the facilities of \LaTeX{} itself, that is, the \verb macro. This macro, of course, is highly restricted as to its usage — primarily, it may not appear in the argument of any other macro, even \footnote.

For displayed verbatim text, the classes add a small increment to the functionality of \LaTeX{}’s \verbatim environment, by introducing an optional argument. The optional argument may contain commands to be executed before starting the verbatim text; the set of commands which have useful effect is strictly limited, but the following are common:

- Font size selection commands: for example, all the display verbatim in the present paper starts with \begin{verbatim}\[\small\]
- The command \ruled, which is available only in \verbatim’s optional argument, and specifies that a column-wide rule should be drawn before and after the verbatim text. (This is not the recommended style in general, but it’s available for when it helps.)
- The command \makevmeta, also available only in \verbatim’s optional argument, and makes the construct $!<$...$>$ inside verbatim execute \meta{...}. For example, \begin{verbatim}\[\small\makevmeta]\end{verbatim}
  The $!<$duration$>$ is long ... produces:
The \textit{duration} is long ...

The ! character is made a general escape character by \texttt{\textbackslash makevmeta}, but <> are not made grouping characters.

- More generally, one of the \texttt{\textbackslash make*} commands,\footnote{\texttt{\textbackslash makeescape}, \texttt{\textbackslash makegroup}, \ldots, \texttt{\textbackslash makecomment}; used, for example, as \texttt{\textbackslash makeescape\{}\}. which change the category code of characters within the verbatim text. This is (of course) a facility that should only be used with the utmost caution.

Two caveats about these optional arguments:

- The search for the optional argument can be confused by the appearance of a [ character as the first character of the displayed verbatim. An author who wishes to start verbatim text with a [ character should provide an empty optional argument (i.e., ‘[]’) to the \texttt{verbatim} environment.

- The \texttt{TUGboat} facility is lost when any package is loaded that also defines the \texttt{verbatim} environment, as discussed next.

Authors may wish to use a more featureful verbatim package, such as \texttt{listings} [1] or \texttt{fancyvrb} [5]. This is ok; it just means the \texttt{TUGboat} optional-argument feature is not available. On the other hand, please do not use the \texttt{minted} package if possible; it is harder to customize and correct at the \TeX{} level, and the shell escape requirement is troublesome. In any case, we will almost always wish to print code listings in straight black, not colored or even grayscaled.

If you use the \texttt{listings} package, please set:

\lstset{columns=fullflexible, keepppaces=true, commentstyle=\slshape, basicstyle=\ttfamily \life \textbf{\small\textbackslash ifdisplaystyle\small\fi,}}

Explanations:

- \texttt{columns=fullflexible}: The other values for the \texttt{columns} option don’t work well in \texttt{TUGboat}; we want the program text to be typeset normally, not forcibly aligned into large character cells.

- \texttt{keepppaces=true}: However, having flexible columns makes spaces in the input not necessarily correspond to spaces in the output. That’s usually desired, for alignment of the sources, hence \texttt{keepppaces}.

- \texttt{commentstyle=\slshape}: We prefer slanted to Computer Modern typewriter italic. Using regular upright typewriter for comments is fine too.

- \texttt{basicstyle=\ldots}: We usually prefer \texttt{\textbackslash small} for displayed verbatim, but not inline verbatim, hence the conditional.

4.4 Typesetting urls

In short:

1. Please load either the \texttt{url} or (preferably) the \texttt{hyperref} package so that reasonable line breaking of urls can happen.

2. Add \texttt{\textbackslash def\{\texttt{\textbackslash url}\{tburl\}}} to your preamble and use \texttt{\textbackslash url} in your document as usual. (It seems too intrusive for the \texttt{TUGboat} classes to redefine something as fragile and widespread as \texttt{\textbackslash url}.)

The rest of this section is more details about the above.

The main reason for preferring the above is that for the printed (visible) \texttt{TUGboat} page, nowadays we typically prefer to omit a leading \texttt{https://}. But for the link to actually work in the output PDF or HTML, the protocol is required (else the PDF reader thinks it is a local filesystem path). Therefore the \texttt{ltugboat} class provides (as of 2023) the command \texttt{\textbackslash tburl} for this.\footnote{This and related commands are wrappers around \texttt{\textbackslash hyperlink}. Thanks to Ulrike Fischer for doing the real work: \url{github.com/latex3/hyperref/issues/125}}

For example, the commands \texttt{\textbackslash tburl\{tug.org\}} and \texttt{\textbackslash tburl\{https://tug.org\}} both typeset the text ‘tug.org’ (with the usual url line breaks possible) as a link to \url{tug.org}.

Since so few web sites do not support https, \texttt{\textbackslash tburl\{http://example.org\}} typesets the full url as text ‘http://example.org’ as a link to itself. If it’s desirable to elide the http://, the variant \texttt{\textbackslash tbhurl} can be used.

Thus, as shown, the correct protocol can be explicitly specified, and will be stripped for display. Just use \texttt{\textbackslash tburl}.

In short, \texttt{\textbackslash tburl} and related make live links and omit the protocol if \texttt{hyperref} is loaded. We highly recommend this.

Without \texttt{hyperref}, they are merely synonyms for \texttt{\textbackslash url}. This is ok, and we still request that the protocol not be included; if live links are not being produced in the output, the printed url without the protocol suffices. (When a user copies/pastes url text into a browser, it will normally work.)

In order to keep using \texttt{\textbackslash url} in a document body, we suggest \texttt{\textbackslash def\{\textbackslash url\}}.

For \texttt{ftp, rsync}, and other protocols, it is best to always include them explicitly and use \texttt{\textbackslash url}: \texttt{\textbackslash url\{ftp://tug.org\}}, \texttt{\textbackslash url\{rsync://tug.org\}}, etc.
Finally, sometimes it is best to allow line breaks at hyphens in urls. We’ve found that this is not confusing in practice. To enable this and hyperref at the same time, it’s necessary to load url explicitly and enable the hyphens option:
\usepackage[hyphens]{url}
\usepackage[hidelinks]{hyperref}

4.4.1 Url footnotes
The shortcut macro \texttt{\tburlfootnote} makes a ragged-right footnote using the \texttt{\tburl} command. We recognize that when writing url references, sometimes the best option is to put urls in footnotes.

However, when it’s sensible, we prefer to have urls as either parentheticals in the main text or in bibliography entries, to ease page breaking and reading flow. It is ideal to minimize/avoid footnotes in general.

4.4.2 Url shortcuts
A different aspect of urls: the TUG web server supports a shortcut url mechanism, \texttt{tug.org/1/(ident)}, where \texttt{(ident)} can be any tag, similar to \texttt{tinyurl.com} and similar sites. The idea is that \texttt{tug.org} shortcuts can be used in \texttt{TUGboat} articles needing to link to excessively long and/or unstable web resources; then we update the shortcut if needed, and not worry that a commercial shortcut provider will disappear.

The only way to create a \texttt{tug.org/1/} shortcut is by request, which we are happy to receive.

5 Bibliographies
In short: our basic recommendation for handling bibliographies is to use \texttt{BibLaTeX} and the \texttt{tugboat} bibliography style. No document options are needed or recommended. All that is required in the article source (as in the template available from \texttt{tug.org/TUGboat}) is the following:
\begin{verbatim}
\bibliographystyle{tugboat}
\bibliography{yourbibfile}
\end{verbatim}

If you use \texttt{BibLaTeX}, feel free to take advantage of the accumulated bibliography of \texttt{TUGboat} itself (\texttt{mirror.ctan.org/info/biblio/tugboat.bib} on CTAN, also in \TeX{} Live, etc.), and the other compilations by Nelson Beebe in that same directory.

If you don’t have \texttt{tugboat.bst} (our \texttt{BibLaTeX} style file), which was released in 2018, it’s fine to use \texttt{plain} or \texttt{abbrv}. If you do have it, though, you may enjoy the following small but useful features:

- It is based on \texttt{abbrvurlbst} (see \texttt{ctan.org/pkg/urlbst}),
- and thus supports \texttt{url} and \texttt{doi} fields, among others. Please use \texttt{url} instead of putting urls in the \texttt{note} field, where possible. Also, please don’t bother to include “access date” information for \texttt{TUGboat}; we find that extraneous.

- The \texttt{url} field is ignored if either the \texttt{doi} or \texttt{howpublished} field is present. In practice we observe that people put the same information in all those fields, and we don’t want to typeset redundant information.

- Does even more abbreviating than \texttt{abbrv}, such as printing only two author names (plus “et al.”) if there are more than four authors (thanks to Mico Loretan and Oren Patashnik).

- New field \texttt{bookauthor} for the \texttt{@incollection} and \texttt{@inproceedings} allows for citing a part, written by author X, of a publication written by author Y, and not just edited by Y.

- For the \texttt{@misc} entry type, \texttt{editor} is accepted as well as \texttt{author}.

- Defines entry types \texttt{@online} and \texttt{@software} as aliases for \texttt{@misc}.

- Defines an \texttt{@ctan} entry type to reference packages on CTAN, following the fields output by the \texttt{ctanbib} script (in the package of the same name, \texttt{ctan.org/pkg/ctanbib}).

- For completeness only: \texttt{tugboat.bst} provides several fields intended to be used by the editors: \texttt{journal} to output a tie instead of space after the \texttt{journal} value, \texttt{month} for the same after \texttt{month}, \texttt{newpage} to force a page break after the current item, \texttt{nowarning} to omit empty field warnings, \texttt{prebibitem} to output material before \texttt{bibitem} (e.g., a section heading), \texttt{pagesnodashify} to avoid autoconverting -- to -- in the \texttt{pages} field, \texttt{urlnewline} to force a line break before the \texttt{url} value.

As editors, we’ve found that these presentation tweaks can be desirable for the final typeset output. Authors need not worry about them.

By the way, we recommending using commas to terminate all fields in \texttt{.bib} files, including the last one in an entry. That makes for one less thing to worry about when changing fields in the source.

Bibliographies can be difficult to typeset at the best of times. \texttt{\LaTeX{}} sets \texttt{\sloppy} when typesetting the bibliography, but this typically leads to unpleasant output with \texttt{TUGboat}’s narrow columns. The author can specify typesetting parameters using the command \texttt{\SetBibJustification}. The classes remain \texttt{\sloppy} by default, but this can be changed with (for example),
Multiple citations: when citing more than one item, please include them in a single \cite command, as in \cite{foo,bar}. Also, please ensure that the result is in numerical order, so if foo ends up as reference [2] and bar as [1], use \cite{bar,foo}.

One more note on references: for TUGboat issues, please use the format volno:issno, e.g., “TUGboat 32:1” for volume 32, number 1.

Non-recommended bibliography facilities

The preceding gives the bibliography recommendations for current TUGboat articles. If, for whatever reason, you do not wish to follow those recommendations, this section is about some of the myriad historical and other possibilities.

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The preceding gives the bibliography recommendations for current TUGboat articles. If, for whatever reason, you do not wish to follow those recommendations, this section is about some of the myriad historical and other possibilities.

Notwithstanding that general recommendation for the tugboat style, TUGboat’s Harvard-style citation support may be selected by specifying harvardcite as an option of the \documentclass command. If your article demands Harvard-style citations, you may prefer to load natbib or similar instead of using TUGboat’s facilities; that’s fine.

This basic citation format is ‘author(s), year’, but the macros are capable of many variations. This in turn places somewhat of a load on the author to use the correct citation macro. The macros available are shown in figure 2; the figure assumes an entry in the bibliography with authors Tom, Dick, and Harry, and with a 1990 date.

\begin{table}[h]
\centering
\begin{tabular}{ll}
\hline
Macro & Output \\
\hline
\cite{key} & (Tom, Dick, and Harry, 1990) \\
\citeA{key} & (Tom, Dick, and Harry) \\
\citeNP{key} & Tom, Dick, and Harry, 1990 \\
\citeANP{key} & Tom, Dick, and Harry \\
\citeN{key} & Tom, Dick, and Harry (1990) \\
\shortcite{key} & (Tom et al., 1990) \\
\citeyear{key} & 1990 \\
\hline
\end{tabular}
\caption{The range of citations in harvard style}
\end{table}

Furthermore, if Tom, Dick, and Harry are a prolific team, there can easily be more than one reference to their work in one year. In such a case, the citations will be (Tom, Dick, and Harry, 1990a), (Tom, Dick, and Harry, 1990b), and so on. These extra ‘a’, ‘b’, etc., tags may also appear in the references section of the paper, attached to the year recorded for the reference: whether this indeed happens is controlled by the extralabel and noextralabel class options. The default state (option extralabel) attaches the extra characters.

As for BiBTeX: we don’t recommend it for TUGboat. If you feel you must use it, that is ok, but we may still change it to using the default \LaTeX{} facilities in processing for publication if the output from BiBTeX is problematic, as we have often seen it to be.

6 Equivalences between the ‘plain’ and \LaTeX{} TUGboat packages

A good proportion of the commands in the ‘plain’ packages also appear (with the same meaning) in the \LaTeX{} classes. Figure 3 gives a brief summary of where the macros differ significantly.

\begin{table}[h]
\centering
\begin{tabular}{ll}
\hline
Plain macro & \LaTeX{} macro \\
\hline
\head & \section \\
\subhead & \subsection \\
\subsubhead & \subsubsection \\
\list & itemize, enumerate, etc., \itemize, \enumerate environments \\
\verbatim & \verbatim or \verb \\
\figure & figure or figure* \environments \\
\hline
\end{tabular}
\caption{Equivalences between \LaTeX{} and BiBTeX TUGboat macros}
\end{table}

\LaTeX{} itself makes comprehensive provision for lists; the TUGboat classes make no attempt to emulate the list facilities of the ‘plain’ macros.

The ‘plain’ styles’ provision for verbatim text is also somewhat different from the \LaTeX{} approach; the TUGboat classes offer a small subset of the extra facilities that the ‘plain’ styles provide; for more elaborate facilities, the user is referred to the verbatim, listings, and fancyverb packages (see section 4.3). The syntax of commands given to the \LaTeX{} packages is different; arguments are (almost always) enclosed in braces instead of the various forms provided by the ‘plain’ macros.

References


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