The vsg LaTeX 2ε document class*

The Very Short Guide to LaTeX

Peter Flynn
Silmaril Consultants

(peter@silmaril.ie)

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Summary

This is a document class derived from the original *Very Short Guide to LaTeX*, a 4pp folder designed as an aide-mémoire for people who have just done a course in LaTeX and need something by them on their desk the next day to refresh their memories. It is *not* intended as a substitute for full documentation.

This class is designed for this document only, but adds parameterisation to allow reformatting tweaks for different paper sizes (A4 and Legal) to allow it to be printed two-sided as a 4pp folder.

Please do not complain that there is no math here. It won't fit. Someone else can do a math leaflet. IANAM.

*This document corresponds to vsg *v.* 0.6β, dated 2016/08/12.

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Latest changes

v.0.6 (2016-08-12)

Fixed bug in imposition

- Added `-sPAPERSIZE` to the reconversion to PDF. Thanks to Bruno Le Floch for spotting this.

v.0.5 (2016-08-10)

Started documenting actual text

- Trying to explain why I wrote what I wrote. This is unfinished at the moment.

v.0.4 (2016-06-14)

Moved into ClassPack

- Added parameterisation for A4 and Legal

v.0.3 (2016-06-04)

Updated to XeLaTeX

- Changed fonts again, switched to *biber*

See p. 38 for details of earlier changes.

1 Acknowledgements

Thanks to all those on c.t.t whose suggestions made this version more useful.

Alan Munn for the distinction between base font and font package and for suggesting "expected functionality" packages on sectioning, long tables, headers, and double spacing, and links to FAQ and CTAN.

Lars Madsen, Will Robertson, Robin Fairbairns and others for asking for the center environment in tables and figures to be replaced with the `\centering` command (I still disagree, but WTF :-)

Tsy for spotting a typo in the table code sample.

Rob Felty and Domink Wass for pointing me at Winston Chang's excellent *LaTeX Cheat Sheet* summary.

2 Usage

The document class is designed solely for the Very Short Guide, and it is not envisaged that it would be of any use for other types of document except similar short guides.

2.1 Options

The only available options are:

a5paper: (the default) formats it as four pages of A5, suitable for imposition two-up on A4 for double-sided printing.

legalpaper: format it as four pages each half the size of a sheet of US Legal (8.5x14in) so that the same imposition can be used to print on Legal paper.

> **Warning**
>
> A lot of stuff is faked up in the document, because we're combining incompatible things for the sake of showing examples which would not normally occur in a normal document, let alone one as small as this. The demands of space mean that there is far more manual adjustment needed than would be seen in a standard continuous-text document. Live with it.

2.2 Printing

To impose for printing, use the *pdf2ps* utility to convert the PDF output to PS. Pass it through the *pstops* utility to perform imposition, and then use *ps2pdf* to convert the output back to PDF. For each format generated, this means:

```
pdf2ps veryshortguide.pdf - |\
  pstops -pa4 -b \
    "4:-3L(21cm,0mm)+0L(21cm,14.85cm),1L(21cm,0mm)+-2L(21cm,14.85cm)" |\
  ps2pdf -sPAPERSIZE=a4 - veryshortguide-A4-imposed.pdf

pdf2ps veryshortguide.pdf - |\
  pstops -plegal -b \
    "4:-3L(8.5in,0in)+0L(8.5in,7in),1L(8.5in,0in)+-2L(8.5in,7in)" |\
  ps2pdf -sPAPERSIZE=legal - veryshortguide-Legal-imposed.pdf
```

Pages are referenced from zero (the first page). This outputs page 3 (p.4) and page 0 (p.1) on the first side. The 21cm or 8.5in places the reference point (top left corner) at that distance *up* (y-axis, the short side of a piece of landscape paper),

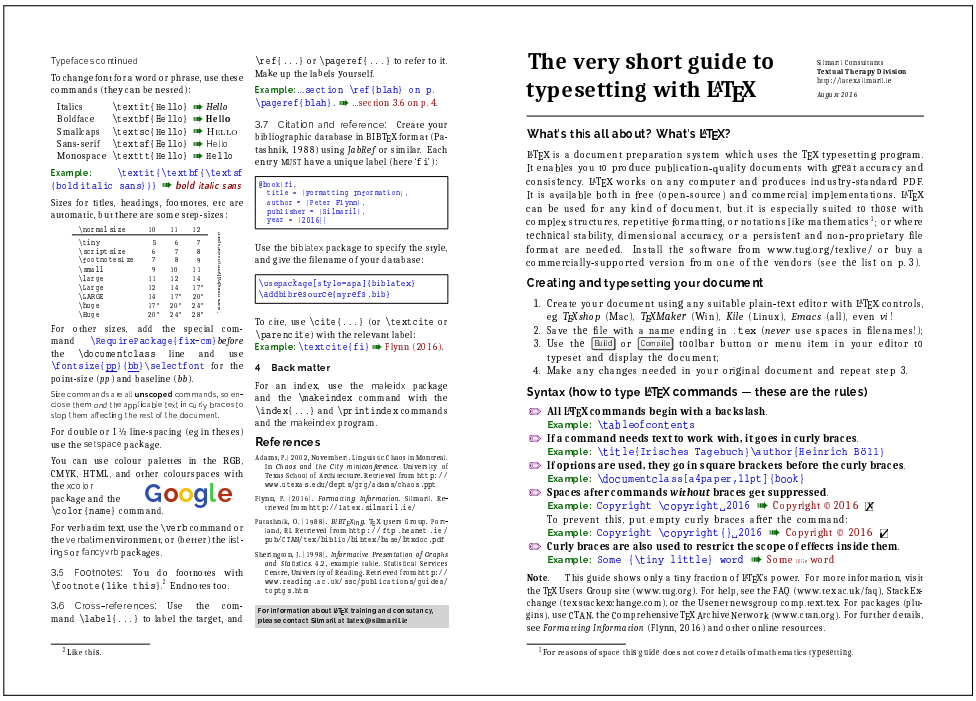
and 0mm/0in to the *right* (x-axis, the long side) for p.4, and half the paper-length (14.85mm or 7in) to the right for p.1.

The verso is produced by the second expression, outputting page 1 (p.2) and page 2 (p.3) in exactly the same way.

You may need to adjust these dimensions if your printer cannot print all the way to the edge of the sheet. Normally, there would be no horizontal adjustment, but because my printer cannot print the bottom 12mm of a sheet (the last edge to emerge from the printer), if I print 2–up A5 pages on an A4 sheet like this, I need to allow for the fact that one edge of two of the pages must have a 12mm margin, so I have to add 5mm to the horizontal offset to make it symmetrical. If your printer can bleed off the trailing edge, then you can adjust the horizontal dimensions accordingly.

When printing from Acrobat Reader, it generates the *lpr* (1) command that it will use. The example below is from my own system:

```
lpr -P \
  Officejet-Pro-K8600 -o PageSize=A6.SM -o PageRegion=A4 \
  -o Duplex=DuplexTumble -o InputSlot=Auto -o ColorModel=RGB \
  -o MediaType=Automatic -o OutputMode=Normal -o OptionDuplex=True
```



Typefaces continued

To change font for a word or phrase, use these commands (they can be nested):

Italics	`\textit{Hello}`	➠ *Hello*
Boldface	`\textbf{Hello}`	➠ **Hello**
Smallcaps	`\textsc{Hello}`	➠ HELLO
Sans-serif	`\textsf{Hello}`	➠ Hello
Monospace	`\texttt{Hello}`	➠ Hello

Example: `\textit{\textbf{\textsf{bold italic sans}}}` ➠ ***bold italic sans***

Sizes for titles, headings, footnotes, etc are automatic, but there are some step-sizes:

	10	11	12
`\tiny`	5	6	7
`\scriptsize`	6	7	8
`\footnotesize`	7	8	9
`\small`	9	10	11
`\large`	11	12	14
`\Large`	12	14	17*
`\LARGE`	14	17*	20*
`\huge`	17*	20*	24*
`\Huge`	20*	24*	28*

For other sizes, add the special command `\RequirePackage{fix-cm}` *before* the `\documentclass` line and use `\fontsize{pp}{bb}\selectfont` for the point-size (*pp*) and baseline (*bb*).

Size commands are all **unscoped** commands, so enclose them *and* the applicable text in curly braces to stop them affecting the rest of the document.

For double or 1½ line-spacing (eg in theses) use the setspace package.

You can use colour palettes in the RGB, CMYK, HTML, and other colourspaces with the xcolor package and the `\color{name}` command.

Google

For verbatim text, use the `\verb` command or the verbatim environment, or (better) the listings or fancyvrb packages.

3.5 Footnotes: You do footnotes with `\footnote{like this}`.[2] Endnotes too.

3.6 Cross-references: Use the command `\label{...}` to label the target, and `\ref{...}` or `\pageref{...}` to refer to it. Make up the labels yourself.

Example: `...section \ref{blah} on p. \pageref{blah}.` ➠ ...section 3.6 on p. 4.

3.7 Citation and reference: Create your bibliographic database in BIBTEX format (Patashnik, 1988) using *JabRef* or similar. Each entry MUST have a unique label (here 'fi'):

```
@book{fi,
  title = {Formatting Information},
  author = {Peter Flynn},
  publisher = {Silmaril},
  year = {2016}}
```

Use the biblatex package to specify the style, and give the filename of your database:

```
\usepackage[style=apa]{biblatex}
\addbibresource{myrefs.bib}
```

To cite, use `\cite{...}` (or `\textcite` or `\parencite`) with the relevant label:
Example: `\textcite{fi}` ➠ Flynn (2016).

4 Back matter

For an index, use the makeidx package and the `\makeindex` command with the `\index{...}` and `\printindex` commands and the makeindex program.

References

Adams, P.; 2002, November. Linguistic Chaos in Montreal. In *Chaos and the City minisymposium*. University of Texas School of Architecture. Retrieved from http://www.utexas.edu/dept/arg/arg/adams/chaos.ppt

Flynn, P. (2016). *Formatting Information*. Silmaril. Retrieved from http://latex.silmaril.ie/

Patashnik, O. (1988). *BIBTEXing*. TEX Users Group. Portland, OR. Retrieved from http://ftp.heanet.ie/pub/CTAN/tex/biblio/bibtex/base/btxdoc.pdf

Shernganu, J. (1998). *Informative Presentation of Graphs and Statistics*. 4.2, example table. Statistical Services Centre, University of Reading. Retrieved from http://www.reading.ac.uk/ssc/publications/guides/tpgs.htm

For information about LATEX training and consultancy, please contact Silmaril at latex@silmaril.ie

[1] Like this.

The very short guide to typesetting with LATEX

Silmaril Consultants
Textual Therapy Division
http://latex.silmaril.ie

August 2016

What's this all about? What's LATEX?

LATEX is a document preparation system which uses the TEX typesetting program. It enables you to produce publication-quality documents with great accuracy and consistency. LATEX works on any computer and produces industry-standard PDF. It is available both in free (open-source) and commercial implementations. LATEX can be used for any kind of document, but it is especially suited to those with complex structures, repetitive formatting, or notations like mathematics[1]; or where technical stability, dimensional accuracy, or a persistent and non-proprietary file format are needed. Install the software from www.tug.org/texlive/ or buy a commercially-supported version from one of the vendors (see the list on p. 3).

Creating and typesetting your document

1. Create your document using any suitable plain-text editor with LATEX controls, eg *TEXshop* (Mac), *TEXMaker* (Win), *Kile* (Linux), *Emacs* (all), even *vi*!
2. Save the file with a name ending in `.tex` (*never* use spaces in filenames!);
3. Use the Build or Compile toolbar button or menu item in your editor to typeset and display the document;
4. Make any changes needed in your original document and repeat step 3.

Syntax (how to type LATEX commands — these are the rules)

➠ **All LATEX commands begin with a backslash.**
Example: `\tableofcontents`

➠ **If a command needs text to work with, it goes in curly braces.**
Example: `\title{Irisches Tagebuch}\author{Heinrich Böll}`

➠ **If options are used, they go in square brackets before the curly braces.**
Example: `\documentclass[a4paper,11pt]{book}`

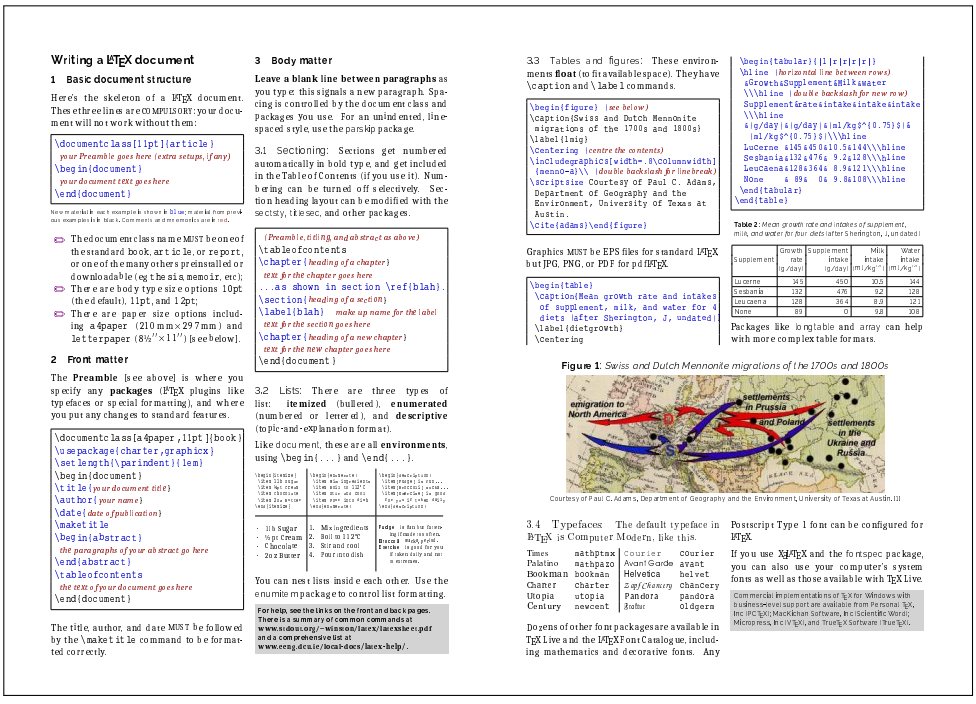
➠ **Spaces after commands *without* braces get suppressed.**
Example: `Copyright \copyright 2016` ➠ Copyright © 2016 ✗
To prevent this, put empty curly braces after the command:
Example: `Copyright \copyright{}2016` ➠ Copyright © 2016 ✓

➠ **Curly braces are also used to restrict the scope of effects inside them.**
Example: `Some {\tiny little} word` ➠ Some word

Note. This guide shows only a tiny fraction of LATEX's power. For more information, visit the TEX Users Group site (www.tug.org). For help, see the FAQ (www.texac.uk/faq), StackExchange (tex.stackexchange.com), or the Usenet newsgroup comp.text.tex. For packages (plugins), use CTAN, the Comprehensive TEX Archive Network (www.ctan.org). For further details, see *Formatting Information* (Flynn, 2016) and other online resources.

[1] For reasons of space this guide does not cover details of mathematics typesetting.

Figure 1: Effect of imposition (A4 version) above: front and back; below: inside.



Writing a LATEX document

1 Basic document structure

Here's the skeleton of a LATEX document. These three lines are COMPULSORY; your document will not work without them:

```
\documentclass[11pt]{article}
  your Preamble goes here (extra setups, if any)
\begin{document}
  your document text goes here
\end{document}
```

New material in each example is shown in blue; material from previous examples is in black. Comments and memories are in red.

➠ The document class name MUST be one of the standard book, article, or report, or one of the many others preinstalled or downloadable (eg thesis, memoir, ecrc);
➠ There are body type size options 10pt (the default), 11pt, and 12pt;
➠ There are paper size options including a4paper (210 mm × 297 mm) and letterpaper (8½″ × 11″) [see below].

2 Front matter

The **Preamble** [see above] is where you specify any **packages** (LATEX plugins like typefaces or special formatting), and where you put any changes to standard features.

```
\documentclass[a4paper,11pt]{book}
\usepackage{charter,graphicx}
\setlength{\parindent}{1em}
\begin{document}
\title{your document title}
\author{your name}
\date{date of publication}
\maketitle
\begin{abstract}
  the paragraphs of your abstract go here
\end{abstract}
\tableofcontents
  the text of your document goes here
\end{document}
```

The title, author, and date MUST be followed by the `\maketitle` command to be formatted correctly.

3 Body matter

Leave a blank line between paragraphs as you type: this signals a new paragraph. Spacing is controlled by the document class and Packages you use. For an unindented, line-spaced style, use the parskip package.

3.1 Sectioning: Sections get numbered automatically in bold type, and get included in the Table of Contents (if you use it). Numbering can be turned off selectively. Section heading layout can be modified with the sectsty, titlesec, and other packages.

```
  (Preamble, titling, and abstract as above)
\tableofcontents
\chapter{heading of a chapter}
  text for the chapter goes here
...as shown in section \ref{blah}.
\section{heading of a section}
\label{blah}   make up name for the label
  text for the section goes here
\chapter{heading of a new chapter}
  text for the NEW chapter goes here
\end{document}
```

3.2 Lists: There are three types of list: **itemized** (bullered), **enumerated** (numbered or lettered), and **descriptive** (topic-and-explanation format).

Like document, these are all **environments**, using `\begin{...}` and `\end{...}`.

```
\begin{itemize}
\item Milk
\item Egg whites
\item Sugar
\end{itemize}
```

- Milk
- ½ pt Cream
- Chocolate
- 2oz Butter

```
\begin{enumerate}
\item Melt ingredients
\item Boil to 112°C
\item Stir and cool
\item Pour into dish
\end{enumerate}
```

1. Melt ingredients
2. Boil to 112°C
3. Stir and cool
4. Pour into dish

```
\begin{description}
\item[Fudge] is made by heating ingredients to soften,
Biscuits Wash, grate, Bake
\item[Vanilla] is good for you
\end{description}
```

Fudge is made by heating ingredients to soften,
Biscuits Wash, grate,
Vanilla is good for you
Evidently and not a commas.

You can nest lists inside each other. Use the enumitem package to control list formatting.

For help, see the links on the front and back pages. There is a summary of common commands at www.sidou.org/~wilson/latex/latexsheet.pdf and a comprehensive list at www.eeng.dcu.ie/local-docs/latex-help/.

3.3 Tables and figures: These environments **float** (to fit available space). They have `\caption` and `\label` commands.

```
\begin{figure}  [see below]
\caption{Swiss and Dutch Mennonite
 migrations of the 1700s and 1800s}
\label{fig}
\Centering  [centre the contents]
\includegraphics[width=.8\Columnwidth]
 {menno-a}\\  [double backslash for line break]
\scriptsize Courtesy of Paul C. Adams,
 Department of Geography and the
 Environment, University of Texas at
 Austin.
\cite{Adams}\end{figure}
```

Graphics MUST be EPS files for standard LATEX but JPG, PNG, or PDF for pdfLATEX.

```
\begin{table}
 \caption{Mean growth rate and intakes
  of supplement, milk, and water for 4
  diets (after Sherington, J, undated)}
 \label{dietgrowth}
 \Centering
```

```
\begin{tabular}{|l|r|r|r|r|}
\hline  [horizontal line between rows]
 &Growth&Supplement&Milk&water
 \\\hline  [double backslash for new row]
 Supplement&rate&intake&intake&intake
 \\\hline
 &(g/day)|&(g/day)|&(ml/kg^{0.75})|&
  (ml/kg^{0.75})|\\\hline
 Lucerne &145&450&308&144\\\hline
 Sesbania&132&476&92&128\\\hline
 Leucaena&128&364&82&123\\\hline
 None    &89 &0   &98&108\\\hline
\end{tabular}
\end{table}
```

Table 2: *Mean growth rate and intakes of supplement, milk, and water for four diets (after Sherington, J, undated)*

Supplement	Growth rate (g/day)	Supplement intake (g/day)	Milk intake (ml/kg^{-1})	Water intake (ml/kg^{-1})
Lucerne	145	450	308	144
Sesbania	132	476	92	128
Leucaena	128	364	82	123
None	89	0	98	108

Packages like longtable and array can help with more complex table formats.

Figure 1: *Swiss and Dutch Mennonite migrations of the 1700s and 1800s*

Courtesy of Paul C. Adams, Department of Geography and the Environment, University of Texas at Austin, (J)

3.4 Typefaces The default typeface in LATEX is Computer Modern, like this.

Dozens of other font packages are available in TEX Live and the LATEX Font Catalogue, including mathematics and decorative fonts. Any Postscript Type 1 font can be configured for LATEX.

If you use XELATEX and the fontspec package, you can also use your computer's system fonts as well as those available with TEX Live.

Times	`mathptmx`	`Courier`	`courier`
Palatino	`mathpazo`	`AvantGarde`	`avant`
Bookman	`bookman`	`Helvetica`	`helvet`
Chancer	`chancer`	*`ZapfChancery`*	`chancery`
Utopia	`utopia`	`Pandora`	`pandora`
Century	`newcent`	`Zapfar`	`oldgerm`

Commercial implementations of TEX for Windows with business-level support are available from Personal TEX, Inc (PCTEX); MacKichan Software, Inc (Scientific Word); Micropress, Inc (VTEX), and TrueTEX Software (TrueTEX).

3 Auto-initialisation

This section is added automatically by *ClassPack* as a preamble to all classes. The fixltx2e package is no longer preloaded, as all its features are now a part of the latest LaTeX kernel.

fix-cm Preloaded functions to override the default LaTeX step-size font sizes (which can still be used, but are no longer restrictions).

```
\RequirePackage{fix-cm}
```

svgnames Pass the **svgnames** option to the xcolor package if that gets loaded later. This avoids a conflict with whatever other packages (eg hyperref) use as their own default is when they load xcolor.

```
\PassOptionsToPackage{svgnames}{xcolor}
\PassOptionsToPackage{hyphens}{url}
```

4 Implementation

4.1 Define the paper-size options:

\iflegal To make the selection persist so we can us it later, we define two TEX conditionals, one for Legal paper;

```
\newif\iflegal
```

\ifafive and one for A5:

```
\newif\ifafive
```

\afivetrue and set the A5 one as the default

```
\afivetrue
```

\VSG@papersize Now parameterise the options with macros to hold the paper size:

```
\gdef\VSG@papersize{a5paper}
```

\VSG@margins and the appropriate margins for the geometry package (later):

```
\gdef\VSG@margins{margin=12mm,bottom=10mm}
```

a5paper Then define the A5 option to set the paper size and margins and set its switch to true (and the other to false):

```
\DeclareOption{a5paper}{%
  \gdef\VSG@papersize{a5paper}%
  \gdef\VSG@margins{margin=12mm,bottom=10mm}
  \afivetrue\legalfalse}
```

legalpaper And repeat for the Legal option:

```
\DeclareOption{legalpaper}{%
  \gdef\VSG@papersize{papersize={7in,8.5in}}%
  \gdef\VSG@margins{margin=15mm,bottom=15mm}
  \legaltrue\afivefalse}
```

4.2 Load the base document class

This class is based on the standard LaTeX article class, with no special options.

```
\DeclareOption*{%
  \PassOptionsToClass{%
    \CurrentOption}{article}}
\ProcessOptions\relax
\LoadClass{article}
```

4.3 Packages required for the class

geometry Package for establishing margins and text area. Use the paper size and margins that were specified when the relevant option was selected by the used (or the A5 default). ()

```
\RequirePackage[nohead,\VSG@papersize,
  \VSG@margins]{geometry}
```

fontspec Font specification setup for use with XeLaTeX.

```
\RequirePackage{fontspec}
```

caladea Caladea family of fonts, designed by Carolina Giovagnoli and Andres Torresi of the Huerta Tipografica foundry and adopted by Google for ChromeOS as a font-metric compatible replacement for Cambria.

```
\RequirePackage{caladea}
```

raleway The current Raleway family is an extension of the original Raleway Thin by Matt McInerney. The family has been extended by Impallari, for more information see the impallari website `http://www.impallari.com/projects/overview/matt-mcinerneys-raleway-family`.

```
\RequirePackage[scale=.9]{raleway}
```

graphicx Provide for graphics (PNG, JPG, or PDF format (only) for pdflatex; EPS format (only) for standard LaTeX).

```
\RequirePackage{graphicx}
```

url Handling of URI formatting.

```
\RequirePackage{url}
```

fancybox This provides round-cornered and drop-shadow boxes.

```
\RequirePackage{fancybox}
```

enumitem List variants: inline and compact. Note that this replaces the earlier defaults of paralist and mdwlist.

```
\RequirePackage[inline]{enumitem}
  \setlist[description]{style=unboxed}
```

fix-cm Allow infinitely-variable font scaling.

```
\RequirePackage{fix-cm}
```

multicol Provides multi-column typesetting.

```
\RequirePackage{multicol}
```

nicefrac Slanted fractions, even in math mode.

```
\RequirePackage{nicefrac}
```

fancyvrb Add more robust verbatim facilities.

```
\RequirePackage{fancyvrb}
```

bbding Karel Horak's dingbats symbols.

```
\RequirePackage{bbding}
```

parskip Creates paragraphs separated by white-space with no indentation.

```
\RequirePackage{parskip}
```

ragged2e Allow hyphenation in ragged setting.

```
\RequirePackage{ragged2e}
```

calc Required for calculations involving lengths or counters, such as changes to widths for margin adjustment.

```
\RequirePackage{calc}
```

ifthen Package to enable if–then–else conditional processing.

```
\RequirePackage{ifthen}
```

textcomp Additional commands for common symbols and punctuation.

```
\RequirePackage{textcomp}
```

array Additional column formatting for tables.

```
\RequirePackage{array}
```

relsize Provides size-relative font size changes (smaller, larger, etc).

```
\RequirePackage{relsize}
```

textcase Provides a more sophisticated casing function than the default.

```
\RequirePackage{textcase}
```

flexlogo Allows user-programmable changes to the positioning of letters in the TEX-related logos on a per-font basis.

```
\RequirePackage{flexlogo}
```

ulem Underlining as an option (*not* automatically replacing italics).

```
\RequirePackage[normalem]{ulem}
```

xcolor Provide color.

```
\RequirePackage{xcolor}
  \@ifundefined{T}{%
    \newcommand{\T}[2]{{\fontencoding{T1}\selectfont#2}}}{}
```

babel Add language, cultural changes, and H&J support for many languages.

```
\RequirePackage[british]{babel}
```

biblatex Use biblatex instead of BIBTEX

```
\RequirePackage[backend=biber,doi=true,
  isbn=true,url=true,uniquename=false,style=apa]{biblatex}
  \AtBeginDocument{\setlength{\bibitemsep}{1ex}
  \defbibheading{shortbib}[Bibliography]{\section{#1}}}
    \@ifpackagewith{babel}{british}{%
    \DeclareLanguageMapping{british}{british-apa}}{\relax}
```

csquotes Adds correct curly quotes for cited titles when using biblatex

```
\RequirePackage{csquotes}
```

menukeys Graphical representations of menus, directories, and keys.

```
\RequirePackage{menukeys}
  \renewmenumacro{\menu}[>]{roundedmenus}
  \renewmenumacro{\directory}[/]{hyphenatepathswithfolder}
  \renewmenumacro{\keys}{shadowedroundedkeys}
```

4.4 Additions and changes to package defaults

As we're using XeLaTeX, the first thing to do is add any non-package fonts, then everything else.

zcoN This is the Nimbus–15 Narrow replacement for Courier.

```
\setmonofont[Scale=MatchLowercase]{zcoN}
```

\labelitemi Use a pointy pencil from the bbding package for itemized lists.

```
\renewcommand{\labelitemi}{%
  \raisebox{-.5ex}{\textcolor{Purple}{\PencilRight}}}
\setlength{\leftmargini}{18pt}% don't waste margin space in lists
```

\example Provide commands for distinguishing examples and their output.

```
\newcommand{\example}{%
 \color{DarkGreen}\textsf{\bfseries Example:} \color{MediumBlue}}
\def\endexample{\color{black}}
\newcommand{\gives}[1]{%
  \thinspace\color{DarkGreen}\raisebox{-.4ex}
    {\ArrowBoldRightStrobe}~\color{DarkRed}{\rmfamily
     #1}\color{black}}
\newcommand{\nobox}{~\raisebox{-.25ex}{%
  \footnotesize\Square\llap\XSolidBrush}}
\newcommand{\yesbox}{~\raisebox{-.25ex}{%
  \footnotesize\Square\llap\CheckmarkBold}}
```

\comment In fancyverb's Verbatim, allow rubric embedded as marked text in red

```
\newcommand{\comment}[1]{\ifthenelse{\equal{#1}{ }}{}{#1}\normalfont
  \itshape\footnotesize\color{DarkRed}}
```

```
% Allow notification of newly-added material
\newcommand{\added}{\color{MediumBlue}}
% This reverts rubric back to normal, to avoid embedded spaces
\newcommand{\revert}{\ttfamily\upshape\color{black}}
```

\monthdate Define a month-year date European way round.

```
\newcommand{\monthdate}{\ifcase\month\or January\or
 February\or March\or April\or May\or June\or July\or August\or
 September\or October\or November\or December\fi\space\number\year}
```

\hyphenation There's something odd about the hyphenation...these were broken:

```
\hyphenation{mathe-mati-cal auto-mati-cal-ly docu-ment docu-ments
  docu-men-tation statis-ti-cal}
```

\maketitle

```
\renewcommand{\maketitle}{%
  \hbox to\textwidth{%
    \vbox{\hsize=.73\textwidth\huge\bfseries\raggedright
      \@title}
    \hss
    \vbox{\hsize=.27\textwidth\scriptsize\raggedright
      \@author
      \par
      \textit{\@date}}}
  \par\bigskip\hrule\medskip
}
```

\section Pack headings together more tightly.

```
\renewcommand\section{\@startsection{subsection}{1}{\z@}%
  {-0pt\@plus -.2ex \@minus -.2ex}%
  {1pt \@plus .2ex}%
  {\sffamily\Large\bfseries}}
\renewcommand\subsection{\@startsection{subsection}{2}{\z@}%
  {-0pt\@plus -.2ex \@minus -.2ex}%
  {1pt \@plus .2ex}%
  {\sffamily\large\bfseries}}
\renewcommand\subsubsection{\@startsection{subsubsection}{3}{\z@}%
  {-.5ex\@plus -1ex \@minus -.2ex}%
  {.25ex \@plus .2ex}%
  {\sffamily\normalsize\bfseries}}
```

```
\renewcommand\paragraph{\@startsection{paragraph}{4}{\z@}%
  {1ex \@plus1ex \@minus.2ex}%
  {-1em}%
  {\sffamily\normalsize}}
\setcounter{secnumdepth}{5}% we don't want numbered sections
\renewcommand{\thesection}{}
\renewcommand{\thesubsection}{}
\renewcommand{\thesubsubsection}{\arabic{subsubsection}}
```

\DeclareTeXLogo

```
\DeclareTeXLogo{Caladea(0)}{m}{n}{.1667}{.125}[.4]
\DeclareTeXLogo{Caladea(0)}{m}{it}{.1667}{.08}[.4]
\DeclareTeXLogo{Caladea(0)}{bx}{n}{.1667}{.125}[.4]
\DeclareLaTeXLogo{Caladea(0)}{bx}{n}{.27}{.1333}[.1]
\DeclareLaTeXLogo{Caladea(0)}{m}{n}{.3}{.1}[.1]
\DeclareTeXLogo{Raleway(0)}{bx}{n}{.1667}{.125}[.38]
\DeclareLaTeXLogo{Raleway(0)}{m}{n}{.3}{.1}[.1]
\DeclareLaTeXLogo{Raleway(0)}{b}{n}{.27}{.15}[.1]
```

\footnoterule Adjust footnote fence.

```
\renewcommand{\footnoterule}{\kern-3pt
  \hrule height.2pt width.25\columnwidth\kern 2.8pt}
```

\pagestyle No page numbers, we're faking it; and let text go very sloppy to fit.

```
\pagestyle{empty}
\spaceskip=4pt plus4pt minus3pt
```

\textsc Cater for some fonts not having small caps.

```
\renewcommand{\textsc}[1]{{\smaller\MakeTextUppercase{#1}}}
```

\ff Abbreviate changes of font.

```
\newcommand{\ff}[2][T1]{\fontencoding{#1}\fontfamily{#2}\selectfont}
```

\descriptionlabel Stop the `\descriptionlabel`command reverting to the serif font.

```
\renewcommand{\descriptionlabel}[1]{%
  \hspace\labelsep{\sffamily\bfseries #1}}
```

`note` A trivial environment for notes

```
\newenvironment{note}{\small\textbf{Note.}\quad}{\par}
```

A The Very Short Guide to Typesetting with LaTeX

This is the base text for the Very Short Guide. The default layout is for A4 paper

```
\documentclass[a5paper]{vsg}
```

A.1 Preamble

The BibTeX file is generated from section B on page 28 (a future version should probably do this via XML too). To save space, we compress the space between entries.

```
\addbibresource{veryshortguide.bib}
\setlength{\bibnamesep}{-\itemsep}
```

Titling is standard except for the additional material in the `\author`.

```
\begin{document}
\title{The very short guide to typesetting with~\LaTeX}
\author{Silmaril Consultants\\
  \textbf{Textual Therapy Division}\\
  \protect\url{http://latex.silmaril.ie}}
\date{\monthdate}
\maketitle
```

A.2 Introduction on front page

The introduction needs to get across *a*) what LaTeX is *b*) what it's for *c*) where you can get it

```
\subsection*{What's this all about? What's \LaTeX?}
\LaTeX\ is a document preparation system which uses the \TeX\
typesetting program. It enables you to produce
publication-quality documents with great accuracy and
consistency. \LaTeX\ works on any computer and produces
industry-standard PDF. It is available both in free (open-source)
and commercial implementations. \LaTeX\ can be used for any kind
of document, but it is especially suited to those with complex
structures, repetitive formatting, or notations like
mathematics\footnote{For reasons of space this guide does not
```

```
cover details of mathematics typesetting.}; or where technical
stability, dimensional accuracy, or a persistent and
non-proprietary file format are needed. Install the software from
\url{www.tug.org/texlive/} or buy a commercially-supported
version from one of the vendors (see the list on
p.\thinspace\pageref{comm}).
```

Summarise the process: show that it's simple.

```
\subsection*{Creating and typesetting your document}
\begin{enumerate}[noitemsep]\setlength{\fboxsep}{1pt}
  \item Create your document using any suitable plain-text
    editor with \LaTeX\ controls, eg \textit{\TeX shop}
    (Mac), \textit{\TeX Maker} (Win), \textit{Kile}
    (Linux), \textit{Emacs} (all), even
    \textit{vi}\thinspace!
  \item Save the file with a name ending in \verb+.tex+
    (\emph{never} use spaces in filenames!);
  \item Use the {\small\keys{Build}} or
    {\small\keys{Compile}} toolbar button or menu item in
    your editor to typeset and display the
    document;\label{typeset}
  \item Make any changes needed in your original document
    and repeat step \ref{typeset}.
\end{enumerate}
```

And summarise the syntax to demystify it.

```
\subsection*{Syntax (how to type \LaTeX\ commands --- these
  are the rules)}
\begin{itemize}[noitemsep]
  \item \textbf{All \LaTeX\ commands begin with a
    backslash}.\\ \example
    \verb+\tableofcontents+\endexample
  \item \textbf{If a command needs text to work with, it
    goes in curly braces}.\\ \example
   \verb+\title{Irisches Tagebuch}\author{Heinrich Böll}+\endexample
  \item \textbf{If options are used, they go in square
    brackets before the curly braces}.\\ \example
    \verb+\documentclass[a4paper,11pt]{book}+\endexample
  \item \textbf{Spaces after commands \emph{without} braces
    get suppressed}.\\ \example
    \verb+Copyright \copyright␣+\texttt{\number\year}
    \gives{Copyright ©\number\year} \nobox\\ To prevent
    this, put empty curly braces after the
```

```
    command:\\ \example
    \verb+Copyright \copyright{}␣+\texttt{\number\year}
    \gives{Copyright ©~\number\year} \yesbox
  \item \textbf{Curly braces are also used to restrict the
    scope of effects inside them}.\\ \example
    \verb+Some {\tiny little} word+ \gives{Some {\tiny
        little} word}
\end{itemize}
```

Point readers at sources of information. If they read nothing else but the front page, at least they now know what they're dealing with.

```
\begin{note}
This guide shows only a tiny fraction of \LaTeX's power. For
more information, visit the \TeX\ Users Group site
(\url{www.tug.org}). For help, see the FAQ
(\url{www.tex.ac.uk/faq}), StackExchange
(\url{tex.stackexchange.com}), or the Usenet newsgroup
\url{comp.text.tex}. For packages (plugins), use CTAN, the
Comprehensive \TeX\ Archive Network
(\url{www.ctan.org}). For further details, see
\citetitle{fi} \parencite{fi} and other online resources.
\end{note}
```

A.3 Getting started with a short document

Now we start the meat: a skeleton document structure that shows the document class, Preamble, and where you put the text.

```
\begin{multicols}{2}\small\parskip4pt
\subsection*{Writing a \LaTeX\ document}
\subsubsection{Basic document structure}
Here's the skeleton of a \LaTeX\ document. These three lines are
\textsc{compulsory}: your document will not work without them:
\begin{Verbatim}[frame=single,fontsize=\small,commandchars=!<>]
!added\documentclass[11pt]{article}
!comment your Preamble goes here (extra setups, if any)
!added\begin{document}
!comment your document text goes here
!added\end{document}
\end{Verbatim}
\vspace*{-.5\baselineskip}
{\fontsize67\selectfont\sffamily New material in each example is
```

```
shown in {\ttfamily\added blue}; material from previous examples
is in black. Comments and mnemonics are in
\textcolor{DarkRed}{red}.\par}
```

Explain the rubrication.

```
\begin{itemize}[noitemsep]
  \item The document class name \textsc{must} be one of the
    standard \verb+book+, \verb+article+, or \verb+report+,
    or one of the many others preinstalled or downloadable
    (eg \verb+thesis+, \verb+memoir+, etc);
  \item There are body type size options \verb+10pt+ (the
    default), \verb+11pt+, and \verb+12pt+;
  \item There are paper size options including
    \verb+a4paper+ (210\thinspace mm$\times$297\thinspace
    mm) and \verb+letterpaper+ (8½$''\times$11$''$) [see
      below].
\end{itemize}

\subsubsection{Front matter}

The \textbf{Preamble} [see above] is where you speci\-fy any
\textbf{packages} (\LaTeX\ plugins like typefaces or special
formatting), and where you put any changes to standard features.

\begin{Verbatim}[frame=single,fontsize=\small,commandchars=!<>]
\documentclass[a4paper,11pt]{book}
!added\usepackage{charter,graphicx}!revert
!added\setlength{\parindent}{1em}!revert
\begin{document}
!added\title!comment{your document title!revert}
!added\author!comment{your name!revert}
!added\date!comment{date of publication!revert}
!added\maketitle
!added\begin{abstract}
!comment the paragraphs of your abstract go here
!added\end{abstract}
!added\tableofcontents
!comment the text of your document goes here
\end{document}
\end{Verbatim}

The title, author, and date \textsc{must} be followed by the
\verb+\maketitle+ command to be formatted correctly.
```

```
269
270 \subsubsection{Body matter}
271
272 \textbf{Leave a blank line between paragraphs} as you type: this
273 signals a new paragraph. Spacing is controlled by the
274 document class and packages you use. For an unindented,
275 line-spaced style, use the \textsf{parskip} package.
276
277 \paragraph{Sectioning:}
278 Sections get numbered automatically in bold type, and get included in
279 the Table of Contents (if you use it). Numbering can be turned off
280 selectively. Section heading layout can be modified with the
281 \textsf{sectsty}, \mbox{\textsf{titlesec}}, and other packages.
282
283 \begin{Verbatim}[frame=single,fontsize=\small,commandchars=!<>]
284 !comment (Preamble, titling, and abstract as above)
285 \tableofcontents
286 !added\chapter!comment{heading of a chapter!revert}
287 !comment text for the chapter goes here
288 !added...as shown in section \ref{blah}.
289 !added\section!comment{heading of a section!revert}
290 !added\label{blah} !comment make up name for the label
291 !comment text for the section goes here
292 !added\chapter!comment{heading of a new chapter!revert}
293 !comment text for the new chapter goes here
294 \end{document}
295 \end{Verbatim}
296
297 \paragraph{Lists:}
298 There are three types of list: \textbf{itemized} (bulleted), \textbf{enumerated}
299 or lettered), and \textbf{descriptive} (topic-and-explanation
300 format).
301
302 Like \textsf{document}, these are all \textbf{environments}, using
303 \verb+\begin{...}+ and \verb+\end{...}+.
304
305 \begingroup\fontsize{4.5}{5.5}\selectfont
306 \renewcommand{\labelitemi}{\textbullet}
307 \leftmargini=2em
308 \setlength{\tabcolsep}{3pt}
309 \begin{tabular}{@{}%
310     p{.25\columnwidth}|%
311     p{.32\columnwidth}|%
```

```
    p{.33\columnwidth}@{}}
\begin{verbatim}
\begin{itemize}
 \item 1lb Sugar
 \item ½pt Cream
 \item Chocolate
 \item 2oz Butter
\end{itemize}
\end{verbatim}
&
\begin{verbatim}
\begin{enumerate}
 \item Mix ingredients
 \item Boil to 112°C
 \item Stir and cool
 \item Pour into dish
\end{enumerate}
\end{verbatim}
&
\begin{verbatim}
\begin{description}
 \item[Fudge] is fun...
 \item[Broccoli] sucks...
 \item[Exercise] is good
  for you if taken daily
\end{description}
\end{verbatim}
\\\hline\scriptsize
\begin{itemize}[noitemsep]
\item 1lb Sugar
\item ½pt Cream
\item Chocolate
\item 2oz Butter
\end{itemize}
&\fontsize{6.5}{8}\selectfont
\begin{enumerate}[noitemsep]
\item Mix ingredients
\item Boil to 112°C
\item Stir and cool
\item Pour into dish
\end{enumerate}
&\tiny
\begin{description}[noitemsep]
```

```
\item[Fudge] is fun but fattening if made too often.
\item[Broccoli] sucks, period.
\item[Exercise] is good for you if taken daily and not to extremes.
\end{description}
\end{tabular}
\endgroup

You can nest lists inside each other. Use the \textsf{enumitem}
package to control list formatting.

\colorbox{LightGrey}{\color{black}\begin{minipage}{.965\columnwidth}%
\sffamily\scriptsize\bfseries\raggedright
For help, see the links on the front and back pages. There is a
summary of common commands at\\
\url{www.stdout.org/~winston/latex/latexsheet.pdf}
and a comprehensive list at
\url{www.eeng.dcu.ie/local-docs/latex-help/}~.
\end{minipage}}
\columnbreak
\paragraph{Tables and figures:}
These environments \textbf{float} (to fit
available space). They have \verb+\caption+ and \verb+\label+ commands.

\begin{Verbatim}[frame=single,fontsize=\footnotesize,commandchars=!<>]
!added\begin{figure} !comment(see below)
\caption{Swiss and Dutch Mennonite
 migrations of the 1700s and 1800s}
\label{lmig}
!added\centering !comment(centre the contents)
!added\includegraphics[width=.8\columnwidth]
!added {menno-a}\\ !comment(double backslash for linebreak)
!added\scriptsize!revert Courtesy of Paul C. Adams,
 Department of Geography and the
 Environment, University of Texas at
 Austin.
!added\cite{adams}\end{figure}
\end{Verbatim}

Graphics \textsc{must} be EPS files for standard \LaTeX, but JPG, PNG,
or PDF for pdf\LaTeX.

\begin{Verbatim}[frame=single,fontsize=\footnotesize,commandchars=!<>]
!added\begin{table}
```

```
!added\caption{Mean growth rate and intakes
!added of supplement, milk, and water for 4
!added diets (after Sherington, J, undated)}
\label{dietgrowth}
\centering
!added\begin{tabular}{|l|r|r|r|r|}
!added\hline !comment(horizontal line between rows)
 !added&Growth&Supplement&Milk&Water
 !added\\\hline !comment(double backslash for new row)
!added Supplement&rate&intake&intake&intake
 !added\\\hline
 !added&(g/day)&(g/day)&(ml/kg$^{0.75}$)&
 !added (ml/kg$^{0.75}$)\\\hline
!added Lucerne &145&450&10.5&144\\\hline
!added Sesbania&132&476& 9.2&128\\\hline
!added Leucaena&128&364& 8.9&121\\\hline
!added None    & 89&  0& 9.8&108\\\hline
!added\end{tabular}
!added\end{table}
\end{Verbatim}

\begin{center}\sffamily
  \fontsize78\selectfont
\setlength{\tabcolsep}{2pt}
\setlength{\arrayrulewidth}{.2pt}
\begin{tabular}{@{}|>{\vrule height1em width0pt}l|r|r|r|r|@{}}
\multicolumn5l{\textbf{Table 2}: \textit{Mean growth rate and intakes
of supplement,}}\\
\multicolumn5l{\textit{milk, and water for four diets} (after
    Sherington, J, undated)}\\[6pt]\hline
\vrule height1.1em width0pt&Growth&Supplement&Milk&Water\\[-1pt]
Supplement&rate&intake&intake&intake\\[-1pt]
&(g/day)&(g/day)&(ml/kg\textsuperscript{\fontsize34\selectfont 0.75})&(ml/kg\t
Lucerne &145&450&10.5&144\\\hline
Sesbania&132&476& 9.2&128\\\hline
Leucaena&128&364& 8.9&121\\\hline
None    & 89&  0& 9.8&108\\\hline
\end{tabular}
\end{center}
Packages like \textsf{longtable} and \textsf{array} can help
with more complex table formats.

\end{multicols}
```

```
441
442 \begin{center}\sffamily
443  \textbf{Figure 1}: \textit{Swiss and Dutch Mennonite migrations of the
444    1700s and 1800s}\\[3pt]
445  \ifafive\includegraphics[width=.8\columnwidth]{menno-a}\fi
446  \iflegal\includegraphics[width=.7\columnwidth]{menno-a}\fi
447  \\\scriptsize
448  Courtesy of Paul C. Adams, Department of Geography
449  and the Environment, University of Texas at Austin. [1]
450 \end{center}
451
452 \begin{multicols}{2}\small\parskip4pt
453 \paragraph{Typefaces:}
454 {\ff{lrm}\selectfont The default typeface in \LaTeX\ is Computer
455  Modern, like this.}
456
457 {\footnotesize\tabcolsep4pt
458 \begin{tabular}{@{}l@{\hspace{6pt}}>{\ttfamily}l|l@{\hspace{6pt}}>{\ttfamily}l
459 \ff{ptm}Times&mathptmx&\ff{pcr}Courier&courier\\
460 \ff{ppl}Palatino&mathpazo&\ff{pag}\scriptsize Avant Garde&avant\\
461 \ff{pbk}Bookman&bookman&\ff{phv}Helvetica&helvet\\
462 \ff{bch}Charter&charter&\ff{pzc}Zapf Chancery&chancery\\
463 \ff{put}Utopia&utopia&\ff[OT1]{pnr}Pandora&pandora\\
464 \ff{pnc}Century&newcent&\ff[U]{yfrak}Fraktur&oldgerm\\
465 \end{tabular}
466 }
467
468 Dozens of other font packages are available in \TeX\ Live and the \LaTeX\ Font
469 Catalogue, including mathematics and decorative fonts. Any
470 Postscript Type~1 font can be configured for \LaTeX.
471
472 If you use \XeLaTeX\ and the \textsf{fontspec} package, you can also
473 use your computer's system fonts as well as those available
474 with \TeX\ Live.
475
476 \colorbox{LightGrey}{\color{black}\begin{minipage}{.965\columnwidth}%
477 \sffamily\scriptsize\raggedright
478 Commercial implementations of \TeX\ for Windows with business-level
479 support are available from Personal \TeX, Inc (PC\TeX); MacKichan
480 Software, Inc (Scientific Word); Micropress, Inc (V\TeX), and
481 True\TeX\ Software (True\TeX).\label{comm}
482 \end{minipage}}
483
```

```
\columnbreak
\textsf{Typefaces continued}

To change font for a word or phrase, use these commands (they can be
nested):

{\small
\begin{tabular}{l@{\enspace}>{\ttfamily\char'134 text}l<{\char'173
      Hello\char'175}@{}>{\ \gives\bgroup}l<{Hello\egroup}}
Italics&it&\itshape\\
Boldface&bf&\bfseries\\
Smallcaps&sc&\ff{cmr}\scshape\\
Sans-serif&sf&\sffamily\\
Monospace&tt&\ttfamily\\
\end{tabular}}

\begingroup\small
\example\verb+\textit{\textbf{\textsf+\ifafive\linebreak\fi
\verb+{bold+ \iflegal\linebreak\fi\verb+italic sans}}}+
\gives{\ff{cmss}\textit{\textbf{bold italic sans}}}
\par\endgroup

Sizes for titles, headings, footnotes, etc are automatic, but
there are some step-sizes:

{\scriptsize\centering
\begin{tabular}{>{\ttfamily\char'134}lrrr}
normalsize&10&11&12\\\hline\vrule height1.1em width0pt
tiny&5&6&7\\
scriptsize&6&7&8\\
footnotesize&7&8&9\\
small&9&10&11\\
large&11&12&14\\
Large&12&14&17\rlap*\\
LARGE&14&17\rlap*&20\rlap*\\
huge&17\rlap*&20\rlap*&24\rlap*\\
Huge&20\rlap*&24\rlap*&28\rlap*\\
\end{tabular}
\quad
\rotatebox[origin=c]{90}{\tiny* sizes rounded here to save space}
\par}

For other sizes, add the special command
```

```
{\added\verb+\RequirePackage{fix-cm}+}\iflegal\linebreak\fi \emph{before} the
\verb+\documentclass+ line and use
{\added\verb+\fontsize{+\texttt{\uline{pp}}\verb+}{+\texttt{\uline{bb}}\verb+
for the point-size (\textit{pp}) and baseline
(\textit{bb}).

{\sffamily\footnotesize
 Size commands are all \textbf{unscoped} commands, so enclose them \emph{and}
the applicable text in curly braces to stop them affecting the rest
of the document.\par}
For double or 1½ line-spacing (eg in theses) use the \textsf{setspace}
package.

You can use colour palettes in the RGB, CMYK, HTML, and other
colourspaces with \iflegal\\\fi the \textsf{xcolor} \ifafive\\\fi
package and the\hfil
\smash{\raisebox{0ex}{\sffamily\bfseries\Huge\iflegal\quad\else\enspace\fi
\textcolor[HTML]{2F50AD}{G}%
\textcolor[HTML]{B32F17}{o}%
\textcolor[HTML]{F3C20B}{o}%
\textcolor[HTML]{2F50AD}{g}%
\textcolor[HTML]{48C847}{l}%
\textcolor[HTML]{B32F17}{e}}}%
\\\verb+\color{+\texttt{\textit{name}}\verb+}+ command.

For verbatim text, use the \verb+\verb+ command or the
\textsf{verbatim} environment, or (better) the \textsf{listings} or
\textsf{fancyvrb} packages.

\paragraph{Footnotes:}
You do footnotes with \iflegal\\\fi \verb+\footnote{like this}+.\footnote{Like
  this.} Endnotes too.

\paragraph{Cross-references:}\label{blah} Use the command
\verb+\label{...}+ to label the target, and \verb+\ref{...}+ or
\verb+\pageref{...}+ to refer to it. Make up the labels yourself.

\begingroup\small
\example{...\ttfamily section \verb+\ref{blah}+ on
  p.\\ \verb+\pageref{blah}+.}\gives{...section \ref{blah} on
  p.\thinspace\pageref{blah}}.
\par\endgroup

```

```
\paragraph{Citation and reference:} Create your bibliographic database
in BIB\TeX\ format \parencite{bibtex} using \emph{JabRef} or
similar. Each entry \textsc{must} have a unique label (here `\verb+fi+'):
\begin{Verbatim}[frame=single,fontsize=\scriptsize,commandchars=!<>]
!added@book{fi,
!added  title = {Formatting Information},
!added  author = {Peter Flynn},
!added  publisher = {Silmaril},
!added  year = {2016}}
\end{Verbatim}
Use the
\textsf{biblatex} package to specify the style, and give
the filename of your database:
\begin{Verbatim}[frame=single,fontsize=\footnotesize,commandchars=!<>]
!added\usepackage[style=apa]{biblatex}
!added\addbibresource{myrefs.bib}
\end{Verbatim}
To cite, use \verb+\cite{...}+ (or
\verb+\textcite+ or \verb+\parencite+) with the relevant label:\\ \example{\verb

\subsubsection{Back matter}
For an index, use the \textsf{makeidx} package and the
\verb+\makeindex+ command with the \verb+\index{...}+
and \verb+\printindex+ commands and the \textsf{makeindex} program.

\nocite{*}
{\defbibheading{shortbib}[References]{\subsection*{#1}}\renewcommand*{\bibfon

\colorbox{LightGrey}{\color{black}\begin{minipage}{.965\columnwidth}%
\sffamily\scriptsize\bfseries\raggedright
For information about \LaTeX\ training and consutancy, please contact
Silmaril at \url{latex@silmaril.ie}
\end{minipage}}%
\end{multicols}
\end{document}
```

B The bibliography for the Very Short Guide to Typesetting with LaTeX

This is the bibliography for the Very Short Guide.

```
@book{fi,
  title = {{Formatting Information}},
  author = {Peter Flynn},
  publisher = {Silmaril},
  url = {http://latex.silmaril.ie/},
  year = {2016}}

@InProceedings{adams,
  author =       {Paul Adams},
  title =        {{Linguistic Chaos in Montreal}},
  booktitle =    {{Chaos and the City miniconference}},
  year =         2002,
  month =        {Nov},
 url =       {http://www.utexas.edu/depts/grg/adams/chaos.ppt},
  organization = {University of Texas School of Architecture}}

@Manual{bibtex,
  title =        {{BIB\TeX ing}},
  author =       {Oren Patashnik},
  organization = {\TeX\ Users Group},
  address =      {Portland, RI},
 url = {http://ftp.heanet.ie/pub/CTAN/tex/biblio/bibtex/base/btxdoc.pdf},
  year =         1988}


@Manual{sherington,
  author =       {Sherington, J},
 title =     {{Informative Presentation of Graphs and Statistics}},
 organization = {Statistical Services Centre, University of Reading},
  year =         1998,
 url =       {http://www.reading.ac.uk/ssc/publications/guides/toptgs.htm},
  note =         {4.2, example table}
}
```

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C.1 Preamble

The LaTeX Project Public License (LPPL) is the primary license under which the LaTeX kernel and the base LaTeX packages are distributed.

You may use this license for any work of which you hold the copyright and which you wish to distribute. This license may be particularly suitable if your work is TeX-related (such as a LaTeX package), but it is written in such a way that you can use it even if your work is unrelated to TeX.

The section *Whether and How to Distribute Works under This License*, below, gives instructions, examples, and recommendations for authors who are considering distributing their works under this license.

This license gives conditions under which a work may be distributed and modified, as well as conditions under which modified versions of that work may be distributed.

We, the LaTeX3 Project, believe that the conditions below give you the freedom to make and distribute modified versions of your work that conform with whatever technical specifications you wish while maintaining the availability, integrity, and reliability of that work. If you do not see how to achieve your goal while meeting these conditions, then read the document `cfgguide.tex` and `modguide.tex` in the base LaTeX distribution for suggestions.

C.2 Definitions

In this license document the following terms are used:

Work : Any work being distributed under this License.

Derived Work : Any work that under any applicable law is derived from the Work.

Modification : Any procedure that produces a Derived Work under any applicable law — for example, the production of a file containing an original file associated with the Work or a significant portion of such a file, either verbatim or with modifications and/or translated into another language.

Modify : To apply any procedure that produces a Derived Work under any applicable law.

Distribution : Making copies of the Work available from one person to another, in whole or in part. Distribution includes (but is not limited to) making any electronic components of the Work accessible by file transfer protocols such as FTP or HTTP or by shared file systems such as Sun's Network File System (NFS).

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Current Maintainer : A person or persons nominated as such within the Work. If there is no such explicit nomination then it is the 'Copyright Holder' under any applicable law.

Base Interpreter : A program or process that is normally needed for running or interpreting a part or the whole of the Work.

A Base Interpreter may depend on external components but these are not considered part of the Base Interpreter provided that each external component clearly identifies itself whenever it is used interactively. Unless explicitly specified when applying the license to the Work, the only applicable Base Interpreter is a 'LaTeX-Format' or in the case of files belonging to the 'LaTeX-format' a program implementing the 'TeX language'.

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2. You may distribute a complete, unmodified copy of the Work as you received it. Distribution of only part of the Work is considered modification of the Work, and no right to distribute such a Derived Work may be assumed under the terms of this clause.
3. You may distribute a Compiled Work that has been generated from a complete, unmodified copy of the Work as distributed under Clause item 2 above above, as long as that Compiled Work is distributed in such a way that the recipients may install the Compiled Work on their system exactly as it would

have been installed if they generated a Compiled Work directly from the Work.

4. If you are the Current Maintainer of the Work, you may, without restriction, modify the Work, thus creating a Derived Work. You may also distribute the Derived Work without restriction, including Compiled Works generated from the Derived Work. Derived Works distributed in this manner by the Current Maintainer are considered to be updated versions of the Work.

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   (b) Every component of the Derived Work contains prominent notices detailing the nature of the changes to that component, or a prominent reference to another file that is distributed as part of the Derived Work and that contains a complete and accurate log of the changes.

   (c) No information in the Derived Work implies that any persons, including (but not limited to) the authors of the original version of the Work, provide any support, including (but not limited to) the reporting and handling of errors, to recipients of the Derived Work unless those persons have stated explicitly that they do provide such support for the Derived Work.

   (d) You distribute at least one of the following with the Derived Work:

      i. A complete, unmodified copy of the Work; if your distribution of a modified component is made by offering access to copy the modified component from a designated place, then offering equivalent access to copy the Work from the same or some similar place meets this

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ii. Information that is sufficient to obtain a complete, unmodified copy of the Work.

7. If you are not the Current Maintainer of the Work, you may distribute a Compiled Work generated from a Derived Work, as long as the Derived Work is distributed to all recipients of the Compiled Work, and as long as the conditions of Clause item 6 above, above, are met with regard to the Derived Work.

8. The conditions above are not intended to prohibit, and hence do not apply to, the modification, by any method, of any component so that it becomes identical to an updated version of that component of the Work as it is distributed by the Current Maintainer under Clause item 4 above, above.

9. Distribution of the Work or any Derived Work in an alternative format, where the Work or that Derived Work (in whole or in part) is then produced by applying some process to that format, does not relax or nullify any sections of this license as they pertain to the results of applying that process.

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    (b) If a Derived Work is distributed under a different license, that Derived Work must provide sufficient documentation as part of itself to allow each recipient of that Derived Work to honor the restrictions in Clause item 6 above above, concerning changes from the Work.

11. This license places no restrictions on works that are unrelated to the Work, nor does this license place any restrictions on aggregating such works with the Work by any means.

12. Nothing in this license is intended to, or may be used to, prevent complete compliance by all parties with all applicable laws.

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There is no warranty for the Work. Except when otherwise stated in writing, the Copyright Holder provides the Work 'as is', without warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. The entire risk as to the

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In no event unless required by applicable law or agreed to in writing will The Copyright Holder, or any author named in the components of the Work, or any other party who may distribute and/or modify the Work as permitted above, be liable to you for damages, including any general, special, incidental or consequential damages arising out of any use of the Work or out of inability to use the Work (including, but not limited to, loss of data, data being rendered inaccurate, or losses sustained by anyone as a result of any failure of the Work to operate with any other programs), even if the Copyright Holder or said author or said other party has been advised of the possibility of such damages.

C.5 Maintenance of The Work

The Work has the status 'author-maintained' if the Copyright Holder explicitly and prominently states near the primary copyright notice in the Work that the Work can only be maintained by the Copyright Holder or simply that it is 'author-maintained'.

The Work has the status 'maintained' if there is a Current Maintainer who has indicated in the Work that they are willing to receive error reports for the Work (for example, by supplying a valid e-mail address). It is not required for the Current Maintainer to acknowledge or act upon these error reports.

The Work changes from status 'maintained' to 'unmaintained' if there is no Current Maintainer, or the person stated to be Current Maintainer of the work cannot be reached through the indicated means of communication for a period of six months, and there are no other significant signs of active maintenance.

You can become the Current Maintainer of the Work by agreement with any existing Current Maintainer to take over this role.

If the Work is unmaintained, you can become the Current Maintainer of the Work through the following steps:

1. Make a reasonable attempt to trace the Current Maintainer (and the Copyright Holder, if the two differ) through the means of an Internet or similar search.
2. If this search is successful, then enquire whether the Work is still maintained.
   (a) If it is being maintained, then ask the Current Maintainer to update their communication data within one month.

(b) If the search is unsuccessful or no action to resume active maintenance is taken by the Current Maintainer, then announce within the pertinent community your intention to take over maintenance. (If the Work is a LaTeX work, this could be done, for example, by posting to `news:comp.text.tex`.)

3. (a) If the Current Maintainer is reachable and agrees to pass maintenance of the Work to you, then this takes effect immediately upon announcement.

   (b) If the Current Maintainer is not reachable and the Copyright Holder agrees that maintenance of the Work be passed to you, then this takes effect immediately upon announcement.

4. If you make an 'intention announcement' as described in item 2b above above and after three months your intention is challenged neither by the Current Maintainer nor by the Copyright Holder nor by other people, then you may arrange for the Work to be changed so as to name you as the (new) Current Maintainer.

5. If the previously unreachable Current Maintainer becomes reachable once more within three months of a change completed under the terms of item 3b above or item 4 above, then that Current Maintainer must become or remain the Current Maintainer upon request provided they then update their communication data within one month.

A change in the Current Maintainer does not, of itself, alter the fact that the Work is distributed under the LPPL license.

If you become the Current Maintainer of the Work, you should immediately provide, within the Work, a prominent and unambiguous statement of your status as Current Maintainer. You should also announce your new status to the same pertinent community as in item 2b above above.

C.6 Whether and How to Distribute Works under This License

This section contains important instructions, examples, and recommendations for authors who are considering distributing their works under this license. These authors are addressed as 'you' in this section.

C.6.1 Choosing This License or Another License

If for any part of your work you want or need to use *distribution* conditions that differ significantly from those in this license, then do not refer to this license anywhere

in your work but, instead, distribute your work under a different license. You may use the text of this license as a model for your own license, but your license should not refer to the LPPL or otherwise give the impression that your work is distributed under the LPPL.

The document `modguide.tex` in the base LaTeX distribution explains the motivation behind the conditions of this license. It explains, for example, why distributing LaTeX under the GNU General Public License (GPL) was considered inappropriate. Even if your work is unrelated to LaTeX, the discussion in `modguide.tex` may still be relevant, and authors intending to distribute their works under any license are encouraged to read it.

C.6.2 A Recommendation on Modification Without Distribution

It is wise never to modify a component of the Work, even for your own personal use, without also meeting the above conditions for distributing the modified component. While you might intend that such modifications will never be distributed, often this will happen by accident — you may forget that you have modified that component; or it may not occur to you when allowing others to access the modified version that you are thus distributing it and violating the conditions of this license in ways that could have legal implications and, worse, cause problems for the community. It is therefore usually in your best interest to keep your copy of the Work identical with the public one. Many works provide ways to control the behavior of that work without altering any of its licensed components.

C.6.3 How to Use This License

To use this license, place in each of the components of your work both an explicit copyright notice including your name and the year the work was authored and/or last substantially modified. Include also a statement that the distribution and/or modification of that component is constrained by the conditions in this license.

Here is an example of such a notice and statement:

```
%%% pig.dtx
%%% Copyright 2005 M. Y. Name
%%
%% This work may be distributed and/or modified under the
%% conditions of the LaTeX Project Public License, either version 1.3
%% of this license or (at your option) any later version.
%% The latest version of this license is in
%%   http://www.latex-project.org/lppl.txt
%% and version 1.3 or later is part of all distributions of LaTeX
```

```
%% version 2005/12/01 or later.
%%
%% This work has the LPPL maintenance status `maintained'.
%%
%% The Current Maintainer of this work is M. Y. Name.
%%
%% This work consists of the files pig.dtx and pig.ins
%% and the derived file pig.sty.
```

Given such a notice and statement in a file, the conditions given in this license document would apply, with the 'Work' referring to the three files `pig.dtx`, `pig.ins`, and `pig.sty` (the last being generated from `pig.dtx` using `pig.ins`), the 'Base Interpreter' referring to any 'LaTeX-Format', and both 'Copyright Holder' and 'Current Maintainer' referring to the person M. Y. Name.

If you do not want the Maintenance section of LPPL to apply to your Work, change 'maintained' above into 'author-maintained'. However, we recommend that you use 'maintained' as the Maintenance section was added in order to ensure that your Work remains useful to the community even when you can no longer maintain and support it yourself.

C.6.4 Derived Works That Are Not Replacements

Several clauses of the LPPL specify means to provide reliability and stability for the user community. They therefore concern themselves with the case that a Derived Work is intended to be used as a (compatible or incompatible) replacement of the original Work. If this is not the case (e.g., if a few lines of code are reused for a completely different task), then clauses 6b and 6d shall not apply.

C.6.5 Important Recommendations

Defining What Constitutes the Work The LPPL requires that distributions of the Work contain all the files of the Work. It is therefore important that you provide a way for the licensee to determine which files constitute the Work. This could, for example, be achieved by explicitly listing all the files of the Work near the copyright notice of each file or by using a line such as:

```
%% This work consists of all files listed in manifest.txt.
```

in that place. In the absence of an unequivocal list it might be impossible for the licensee to determine what is considered by you to comprise the Work and, in such

a case, the licensee would be entitled to make reasonable conjectures as to which files comprise the Work.

Change History

v0.1

General: Reworked from 2006 original: Changed to 4pp A4. . . 1

v0.2

General: Reissue: Fixed typos and changed font. 1

v0.3

General: Updated to XeLaTeX: Changed fonts again, switched to biber. 1

v0.4

General: Moved into ClassPack: Added parameterisation for A4 and Legal. 1

v0.5

General: Started documenting actual text: Trying to explain why I wrote what I wrote. This is unfinished at the moment.. . 1

v0.6

General: Fixed bug in imposition: Added -sPAPERSIZE to the reconversion to PDF. Thanks to Bruno Le Floch for spotting this.. 1

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Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

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