Indian \TeX\ Users Group

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On-line Tutorial on \LaTeX

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Footnotes, Marginpars, and Endnotes

\LaTeX{} has facilities to typeset “inserted” text, such as footnotes, marginal notes, figures and tables. This chapter looks more closely at different kinds of notes.

14.1. Footnotes

Footnotes are generated with the command

\footnote{footnote_text}

which comes immediately after the word requiring an explanation in a footnote. The next \{footnote_text\} appears as a footnote in a smaller typeface at the bottom of the page. The first line of the footnote is indented and is given the same footnote marker as that inserted in the main text. The first footnote on a page is separated from the rest of the page text by means of a short horizontal line.

The standard footnote marker is a small, raised number\(^1\), which is sequentially numbered.

\footnote{See how the footnote is produced: “... raised number \footnote{See how the footnote is produced: ...}.”}

\(^1\) See how the footnote is produced: “... raised number \footnote{See how the footnote is produced: ...}.”
Footnotes produced with the \footnote command inside a minipage environment use the mpfootnote counter and are typeset at the bottom of the parbox produced by the minipage.\footnote{With nested minipages, the footnote comes after the next \end{minipage} command, which could be at the wrong place.}

However, if you use the \footnotemark command in a minipage it will produce a footnote mark in the same style and sequence as the main text footnotes—i.e., stepping the mpfootnote counter and using the \thefootnote command for the representation. This behavior allows you to produce a footnote inside your minipage that is typeset in sequence with the main text footnotes at the bottom of the page: you place a \footnotemark inside the minipage and the corresponding \footnotetext after it. See below:

\begin{minipage}{5cm}
Footnotes in a minipage are numbered using lowercase letters.\footnote{Inside minipage} \par This text references a footnote at the bottom of the page.\footnotemark
\end{minipage}
\footnotetext{At bottom of page}

The footnote numbering is incremented throughout the whole document for the article class, where it is reset to 1 for each new chapter in the report and book classes.

\section{Footnotes in Tabular Material}

Footnotes appearing inside tabular material are not typeset by standard \LaTeX. Only \texttt{tabularx} and \texttt{longtable} environments will treat footnotes correctly. But footnotes used in these tables won’t come just following the tables, but appear at the bottom of the page just like the footnotes
\footnote{At bottom of page}
used in the text. But in *longtable* you can place the footnotes as table notes by placing the longtable in a minipage. See below:

\begin{minipage}{.47\textwidth}
\renewcommand{\thefootnote}{\thempfootnote}
\begin{longtable}{ll}
\caption{PostScript type 1 fonts}\\
 Courier\footnote{Donated by IBM.} & cour,courb,courbi,couri \\
 Nimbus\footnote{Donated by URW GmbH.} & unmr, unmrs \\
 URW Antiqua\footnotemark[\value{mpfootnote}] & uaqrrc \\
 URW Grotesk\footnotemark[\value{mpfootnote}] & ugqp \\
 Utopia\footnote{Donated by Adobe.} & putb, putbi, putr, putri \\
\end{longtable}
\end{minipage}

You can also put your *tabular* or *array* environment inside a *minipage* environment, since in that case footnotes are typeset just following that environment. Note the redefinition of \texttt{\thefootnote} that allows us to make use of the \texttt{\footnotemark} command inside the \texttt{minipage} environment. Without this redefinition \texttt{\footnotemark} would have generated a footnote mark in the style of the footnotes for the main page.
PostScript type 1 fonts

<table>
<thead>
<tr>
<th>Font</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courier</td>
<td>cour, courb, courbi, couri</td>
</tr>
<tr>
<td>Charter</td>
<td>bchb, bchbi, bchr, bchri</td>
</tr>
<tr>
<td>Nimbus</td>
<td>unmr, unmrs</td>
</tr>
<tr>
<td>URW Antiqua</td>
<td>uaqrrc</td>
</tr>
<tr>
<td>URW Grotesk</td>
<td>ugqp</td>
</tr>
<tr>
<td>Utopia</td>
<td>putb, putbi, putr, putri</td>
</tr>
</tbody>
</table>

\footnote{Donated by IBM.}
\footnote{Donated by Bitstream.}
\footnote{Donated by URW GmbH.}
\footnote{Donated by Adobe.}

Of course this approach does not automatically limit the width of the footnotes to the width of the table, so a little iteration with the \texttt{minipage} width argument might be necessary.

Another way to typeset table notes is with the package \texttt{threeparttable} by Donald Arseneau. This package has the advantage that it indicates unambiguously that you are dealing with notes inside tables and, moreover, it gives you full control of the actual reference marks and offers the possibility of having a caption for your tabular material. In this sense, the \texttt{threeparttable} environment is similar to the nonfloating \texttt{table} environment.
14.1.2. Customizing footnotes

If the user wishes the footnote numbering to be reset to 1 for each \section command with the article class, this may be achieved with putting

\setcounter{footnote}{0}
before every sections or using the following command at preamble \footnote
code
\@addtoreset{footnote}{section}

The internal footnote counter has the name \footnote. Each call to \footnote increments this counter by one and prints the new value in Arabic numbering as the footnote marker. A different style of marker can be implemented with the command \renewcommand\code{\thefootnote}{\numberstyle{footnote}}

where number_style is one of the counter print commands. \arabic, \roman, \Roman, \alph, or \Alph. However, for the counter \footnote, there is an additional counter print command available, \fnsymbol, which prints the counter values 1–9 as one of nine symbols:

\* \dagger \ddagger \S \P \| \|\* \dagger\dagger \ddagger\ddagger

It is up to the user to see that the footnote counter is reset to zero sometime before the tenth \footnote call is made. If the user wants to add values above nine, then he has to edit the definition of \fnsymbol. See an example, here which allows up to 12 footnotes without resetting the counter

\makeatletter
\def@fnsymbol#1{\ensuremath{\ifcase#1\or \ast\or \dagger\or \ddagger\or
\mathsection\or \mathparagraph\or \|\or \ast\ast\or \dagger\dagger
\or \ddagger\ddagger\or \mathsection\mathsection
\or \mathparagraph\mathparagraph \or \||\|\else@ctrerr\fi}}
\renewcommand{\thefootnote}{\fnsymbol{footnote}}
\makeatother

\footnote This command will only work within \makeatletter and \makeatother
An optional argument may be added to the \footnote command

{\footnote[\textit{num}]{\textit{footnote\_text}}}

where \textit{num} is a positive integer that is used instead of the value of the footnote counter for the marker. In this case, the footnote counter is not incremented. For example**,

\renewcommand{\thefootnote}{\fnsymbol{footnote}}
For example\footnote[7]{The 7th symbol .... marker.},
\renewcommand{\thefootnote}{\arabic{footnote}}

where the last line is necessary to restore the footnote marker style to its standard form. Otherwise, all future footnotes would be marked with symbols and not with numbers.

14.1.3. Footnote style parameters

The appearance of the standard footnote can be changed by customizing the parameters shown below:

{\footnotesize}
\textit{The font size used inside footnotes}

{\footnoteseq}
\textit{The height of a strut placed at the beginning of every footnote. If it is greater than the \textit{\baselineskip} used for \textit{\footnotesize}, then additional vertical space will be inserted above each footnote.}

** The 7th symbol appears as the footnote marker.
A low-level \TeX command that defines the space between the main text and the start of the footnotes. You can change its value with the \setlength or \addtolength commands by putting \skip\footins into the first argument, e.g.,

\addtolength{\skip\footins}{3mm}

A macro to draw the rule separating footnotes from the main text. It is executed right after the vertical space of \skip\footins. It should take zero vertical space, i.e., it should use a negative skip to compensate for any positive space it occupies, for example:

\renewcommand{\footnoterule}{\vspace*{-3pt}\rule{.4\columnwidth}{0.4pt}\vspace*{2.6pt}}

You can also construct a fancier “rule” e.g., one consisting of a series of dots:

\renewcommand{\footnoterule}{\vspace*{-3pt}\quad\dotfill\quad\vspace*{2.6pt}}

14.2. Marginal notes

The \marginpar command generates a marginal note. This command typesets the text given as an argument in the margin, the first line at the same height as the line in the main text where the
The \texttt{\textbackslash marginpar} command occurs. The marginal note appearing here was generated with \marginpar{This is a marginal note}.

When only the mandatory argument \texttt{right-text} is specified, then the text goes to the right margin for one-sided printing; to the outside margin for two-sided printing; and to the nearest margin for two-column formatting. When you specify an optional argument, then it is used for the left margin, while the second (mandatory) argument is used for the right.

There are few important things to understand when using marginal notes. Firstly, the \texttt{\textbackslash marginpar} command does not start a paragraph, that is, if it is used before the first word of a paragraph, the vertical alignment may not match the beginning of the paragraph. Secondly, if the margin is narrow, and the words are long (as in German), you may have to precede the first word by a \texttt{\textbackslash hspace{0pt}} command to allow hyphenation of the first word. These two potential problems can be eased by defining a command \texttt{\textbackslash marginlabel{text}}, which starts with an empty box \texttt{\textbackslash mbox{}}, typesets a marginal note ragged left, and adds a \texttt{\textbackslash hspace{0pt}} in front of the argument.

\begin{verbatim}
\newcommand{\marginlabel}[1]{\mbox{}\marginpar{\raggedleft\hspace{0pt}#1}}
\end{verbatim}

By default, in one-sided printing the marginal notes go on the outside margin. These defaults can be changed by the following declarations:

\begin{verbatim}
\reversemarginpar\normalmarginpar
\end{verbatim}

\begin{itemize}
\item \texttt{\reversemarginpar} marginal notes go into the opposite margin with respect to the default one
\item \texttt{\normalmarginpar} marginal notes go into the default margin
\end{itemize}
14.2.1. **Uses of marginal notes**

\marginpar{} can be used to draw attention to certain text passages by marking them with a vertical bar in the margin. The example marking this paragraph was made by including

\marginpar{\rule[-10.5mm]{1mm}{10mm}}

in the first line.

By defining a macro \query as shown below

\def\query#1#2{\underline{#1}\marginpar{#2}}

we can produce queries. For example \LaTeX. This query is produced with the following command.

For example \query{\LaTeX}{Hey!\ Look}{}. This ...

14.2.2. **Style parameters for marginal notes**

The following style parameters may be changed to redefine how marginal notes appear:

\marginparwidth determines the width of the margin box

\marginparsep sets the separation between the margin box and the edge of the main text

\marginparpush is the smallest vertical distance between two marginal notes
These parameters are all lengths and are assigned new values as usual with the \setlength command

14.3. **Endnotes**

Scholarly works usually group notes at the end of each chapter or at the end of the documents. These are called endnotes. Endnotes are not supported in standard \LaTeX, but they can be created in several ways.

The package **endnotes** (by John Lavagnino) typesets endnotes in a way similar to footnotes. It uses an extra external file, with extension `.ent`, to hold the text of the endnotes. This file can be deleted after the run since a new version is generated each time.

With this package you can output your footnotes as endnotes by simply giving the command:

\renewcommand{\footnote}{\endnote}

The user interface for endnotes is very similar to the one for footnotes after substituting the word “foot” for “end”. The following example shows the principle of the use of endnotes, where you save text in memory with the `\endnote` command, and then typeset all accumulated text material at a point in the document controlled by the user.

This is simple text.\footnote{The first endnote.} This is simple text.\footnote{The second endnote.} This is simple text.\footnote{The third endnote.}

\begin{tabular}{|l|}
  \hline
  Notes \\
  1 The first endnote. \\
  2 The second endnote. \\
  3 The third endnote. \\
  \hline
\end{tabular}

This is some more simple text

\begin{tabular}{|l|}
  \hline
  Notes \\
  1 The first endnote. \\
  2 The second endnote. \\
  3 The third endnote. \\
  \hline
\end{tabular}

This is some more simple text

This is some more simple text

\texttt{\theendnotes}