lineno.sty

Users Manual

Stephan I. Böttcher

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1 When to use \texttt{lineno.sty}

The primary use of \texttt{lineno.sty} is to get line numbers in your LaTeX document. \texttt{lineno.sty} directly supports line numbers in various modes, and if you have any wishes that are not directly supported, chances are good that \texttt{lineno.sty} can be adapted to do it. And if it turns out to be difficult with \texttt{lineno.sty}, then it will be even more difficult without.

There is one class of cases however, where \texttt{lineno.sty} is not the most appropriate tool. When your text already comes in lines, like source listings, tables, poetry, then \texttt{lineno.sty} will probably do the job, but other tools could do it much more efficiently.

\texttt{lineno.sty} can only number lines in the main text. Lines in any kind of boxes cannot be numbered. But see section 7.4 below.

\texttt{lineno.sty} is especially useful when the text is broken into lines by \TeX itself. In this case, the task to attach line numbers is not easy, and a tool like \texttt{lineno.sty} has good chances to break when used together with other packages.

On the other hand, \texttt{lineno.sty} proved to be quite stable, and I did not get any reports of complete failure yet.

With \texttt{lineno.sty}, you can refer to the line numbers via \LaTeXs \texttt{\ref} and \texttt{\pageref} macros.

There are other applications, not directly related to line numbering. Whenever you want to attach something to your text, after a paragraph was broken into lines, across pagebreaks, lineno may do the job.

Say, you need a frame around some text, but the text should be able to break across pages, \texttt{lineno.sty} can be used to draw rules on both margins, which can be completed at the top and bottom by some special environment, see section 7.6.

There may be cases, where other packages do a better job, e.g., CTAN: macros/latex/contrib/supported/numline.

2 Where to get \texttt{lineno.sty}

\texttt{lineno.sty} is available on the \textit{Comprehensive \TeX Archive Network} (CTAN), e.g, \url{https://mirrors.ctan.org/macros/latex/contrib/lineno/lineno.sty}.

The home of \texttt{lineno.sty} is \url{https://github.com/latex-lineno/lineno}.

Here you can get the latest version.
3 How to use \texttt{lineno.sty}

As any other \LaTeX\ package, you need to load it with

\begin{verbatim}
\usepackage[⟨options⟩]{lineno}
\end{verbatim}

3.1 Package options

The available ⟨options⟩ are:

[left]: Put the line numbers into the left margin (default).

[right]: Put the line numbers into the right margin.

[switch]: Put the line numbers into the outer margin (left on even numbered pager, right on odd numbered pages).

[switch*]: Put the line numbers into the inner margin.

[pagewise]: Number the lines from 1 on each page.

[running]: Continuously number the lines (default).

[modulo]: Print line numbers only if they are multiples of five.

[mathlines]: When using the \{linenomath\} environment for display math, put line numbers also on the lines of the display.

[displaymath]: Automatically wrap the standard \LaTeX\ display math environments in \{linenomath\}.

\textit{Change from v2 to v3}: \texttt{mathlines} was called \texttt{displaymath} before, and \texttt{displaymath} was \texttt{\usepackage{mlineno}}.

All effects of these option can also be obtained by calling certain macros later in the document, except for \texttt{displaymath}.

3.2 How to turn on line numbering

The line numbering is not activated by default. If you want line numbers, you have to turn it on. The simplest way is to say

\begin{verbatim}
\linenumbers
\end{verbatim}
This will turn on line numbers within the current group, according to the currently selected mode. If you do it right at the beginning, the whole document will be numbered.

\linenumbers takes effect only when a paragraph is finished. This is important if you use \linenumbers for a single paragraph only. This will not work:

\begingroup
\linenumbers
Text of your paragraph.
\endgroup

because the \endgroup terminates the effect of \linenumbers before the paragraph is finished. The solution is to insert an empty line, or an explicit \par before the \endgroup.

The preferred solution is to use an environment:

\begin{linenumbers}
Text of your paragraph.
\end{linenumbers}

\end{linenumbers} terminates the paragraph for you. It will also make sure that the next paragraph is not indented, if there is no empty line in between.

This form will not finish any preceding paragraph. If you do not leave an empty line before \begin{linenumbers}, the previous paragraph may also get line numbers (this is not true after a list environment).

A quite esoteric form to number a single paragraph is:

Text of your paragraph.
{\linenumbers\par}

Here, the \linenumbers is turned on in a group that just executes the \par to terminate the previous paragraph. Only this paragraph will have line numbers. (\par is exactly equivalent to an empty line).

3.3 How to turn off line numbering

You do not usually turn off line numbering explicitly, but rather restrict line numbering to a group or an environment. However, you can turn it off with the command

\nolinenumbers

This macro can also be used as an environment. The same restrictions apply as for \linenumbers.
4 Numbering modes

Attaching line numbers after \TeX{} has broken the paragraph into lines is already quite a difficult job for \TeX{}. Why? Because \TeX{} does not normally give you any control after line breaking. \texttt{lineno.sty} does it by pretending that the current page ends after each and every line. This keeps \TeX{} quite busy, but works.

Often, you want the line numbers to depend on the page they finally end up. E.g., you want the numbers to start with 1 one each new page, or you want them to appear on the outer margins in twoside mode. This is an almost impossible demand, but \texttt{lineno.sty} can do it, at some cost, in terms of computing time, memory, and disk space. \texttt{lineno.sty} needs to write a note into the auxiliary file for each line in the numbered part of the text, and \TeX{} keeps some memory for each page, and all that takes some computation time to figure out on which page the line was in the last \TeX{} run.

Thus, there are two basic numbering modes

1. \textit{Running} line numbers. The numbers run continuously along the document, without considering page breaks.

   The line numbers can be reset, or preset at any point in the document (except within a paragraph). Margin switching (or any other dependence on the page breaks) is not possible.

2. \textit{Pagewise} line numbers. The lines on each page are numbered from one. Automatic margin switching is possible.

   \textit{Running} mode can be simulated in pagewise mode, to get automatic margin switching with continuous line numbers, but without the ability to reset/preset the line numbers anywhere in the document.

   Any feature that depends on the page breaks must use this mode.

4.1 \textbf{Running} line numbers

This is the default mode of operation. The lines of your text are numbered continuously across page breaks.

You cannot get automatic margin switching in this mode, because at the time when the line numbers are attached, it is not yet decided on which page the line will end up. However, you can simulate continuous line numbers in \texttt{pagewise} mode (see below), where margin switching becomes possible.

You get this mode by

\begin{itemize}
  \item \texttt{not} specifying any of the package options \texttt{[switch,pagewise]},
\end{itemize}
• specifying the package option \texttt{[running]},
• give the command \texttt{\setrunninglinenumbers} in the document, or
• turn on line numbering with \texttt{\runninglinenumbers} or \texttt{\begin{runninglinenumbers}}.

4.1.1 Reseting or setting the line number

You can reset the line number with
\begin{verbatim}
\resetlinenumber[⟨number⟩]
\end{verbatim}

where the default is to reset the line number to one.
Alternatively, you can give the line number in an optional argument to any command that turns on the line numbering in this mode:
\begin{verbatim}
\linenumbers[⟨number⟩]
\runninglinenumbers[⟨number⟩]
\begin{linenumbers}[⟨number⟩]
\begin{runninglinenumbers}[⟨number⟩]
\end{verbatim}

or reset the line number to 1 with any of the following:
\begin{verbatim}
\linenumbers*
\runninglinenumbers*
\begin{linenumbers*}
\begin{linenumbers}*
\begin{runninglinenumbers}*
\begin{runninglinenumbers}*
\end{verbatim}

This section of the manual is enclosed in
\begin{verbatim}
\begin{runninglinenumbers*}
\end{verbatim}
4.2 Pagewise line numbers

Basically, this mode prints line numbers starting with 1 on top of each page, counting only lines where this mode is active. If you turn on this mode in the middle of a page, the numbers start with 1 at that point.

The pagewise mode of operation is quite a bit more work for \TeX. When the line numbers are printed, \TeX does not know on which page the current line will go. To get pagewise mode working, \TeX has to remember on which page the line went in a previous run. This information is written into the .aux file, and like a table of contents, you will not see the numbers until you run \TeX at least twice on the document. Sometimes the information in the .aux file becomes invalid in a way that causes \texttt{lineno.sty} to hang. In such a case you’ll have to delete all .aux files of the document to get it going again.

You get this mode by

\begin{itemize}
\item specifying the package option \texttt{[pagewise]}, but not \texttt{[running]},
\item give the command \texttt{\setpagewiselinenumbers} in the document, or
\item turn on line numbering with \texttt{\pagewiselinenumbers} or \texttt{\begin{pagewiselinenumbers}}.
\end{itemize}

You cannot reset or preset the line numbers in pagewise mode. This mode uses a different counter than running mode. You can switch between the mode, and the running numbers will continue where they left of, unless you reset the counter.

4.2.1 Margin switching

As a side effect of all the business to find out on which page the lines end up, margin switching becomes possible. It is now possible to print the line number differently on odd and even pages. The command

\texttt{\switchlinenumbers}

will cause the line numbers to be printed on the outer margins, on the right side for odd pages, and on the left side for even numbered pages. If you add a star, the numbers go on the inner margins

\texttt{\switchlinenumbers*}

You can achieve the same effect by specifying the package option \texttt{[switch]} or \texttt{[switch*]} together with \texttt{[pagewise]}.

Margin switching is independent of any \texttt{[twoside]} option of the document class.
4.2.2 Running mode with margin switching

Margin switching is not possible in running mode, but you can abuse the pagewise mode to produce continuous line numbers. This mode is activated with the command

\runningpagewiselinenumbers

It is not possible to reset the line number counter for this mode, the lines will be numbered starting from one at the beginning of the document, and continue. You can switch back to real pagewise mode with

\realpagewiselinenumbers

but when you resume running-pagewise, the numbers will not continue where they left off, but jump by the number of lines that were numbered real-pagewise.

The package options [switch] and [switch*] will turn on running page-wise mode with margin switching, unless you also specify [pagewise].

Finally, if you give these options together with [running], like

\usepackage[switch,pagewise,running]{lineno}

the mode is set to plain running line numbers, but later in your document, if you say \pagewiselinenumbers, the settings of the [switch] and [pagewise] options will take effect.

4.2.3 Page numbers

Any pages that contain pagewise numbered lines must have a different page number. This may cause trouble with titlepages or simmilar fudging with the page number counter in the document. (I am talking about \c@page or \count 0 here, not \thepage).

If you get strange errors, like “the use of \nextLN does not match its definition”, you should first delete all .aux files, and rerun \LaTeX\ several times. If the error does not reappear, fine, else check your page numbers, including those that are not printed. You may use running line numbers on your titlepages, since the page boundaries are predefined, usually.

4.3 Margin selection

In any mode you can select a fixed margin on which the numbers shall be printed. You can either give a package option [left] or [right], or change the margin within the document with
Neither of these commands actually turns on line numbering. The margin setting is changed for the currently selected mode \textit{running} or \textit{pagewise}. If you want to set the margin for both modes, append a star

\leftlinenumbers*
\rightlinenumbers*

The default is \leftlinenumbers*.

\section*{4.4 Summary of mode selection commands}

The following commands change the major line numbering mode.

\setrunninglinenumbers
\setpagewiselinenumbers
\textit{set} the current mode, without activating or deactivating line numbering.

\runninglinenumbers*[\textit{⟨number⟩}]
\pagewiselinenumbers
\textit{set} the current mode and activate line numbering, optionally reset (*), or set the line number for \textit{running} mode.

The following commands do not change the major mode, but modify the the behaviour of \textit{pagewise} mode

\realpagewiselinenumbers
\runningpagewiselinenumbers
\textit{select} if \textit{pagewise} mode should number continuously, or really pagewise.

\section*{4.5 Summary of margin selection commands}

The following command select into which margin the numbers should be printed

\leftlinenumbers*
\rightlinenumbers*
\textit{put} the line numbers in the left/right margin in both modes.
\leftlinenumbers
\rightlinenumbers
  put the line number into the left/right margin in the currently selected mode.
\switchlinenumbers
  put the line numbers into the outer margin, when using pagewise mode.
\switchlinenumbers*
  put the line numbers into the inner margin, when using pagewise mode.

4.6 Numbering only one in five lines

You can ask lineno to print the line numbers only if they devide by \(n\), by saying

\modulolinenumbers[\langle n\rangle]

If you omit the optional argument, it will be every fifth line, or whatever you used last (the current value of the counter linenumbermodulo). You get the same effect by giving the package option [modulo].

If you set \(n\) to 1, the modulo value is not changed, but modulo numbering is turned off.

Changing the counter linenumbermodulo does not turn on modulo numbering, it just changes the modulo, if it is turned on without the optional argument.

This section of the manual is enclosed in

\begin{linenumbers*}
  \modulolinenumbers[2]
\end{linenumbers*}

4.7 How the line numbers look like

This section of the manual is enclosed in

\begin{pagewiselinenumbers}
  \switchlinenumbers
  \switchlinenumbers
\end{pagewiselinenumbers}

By default, the line numbers are set in

\normalfont\tiny\sffamily
right justified to 10 pt left of the nominal left edge of the text. If the number is to appear on the right margin, it is right justified to 20 pt right of the nominal right edge of the text.

You can easily change that, of course. The font is defined by the macro \linenumberfont.

You can redefine it to make the numbers appear in a different font (with \renewcommand). I'll say right here in this manual

\renewcommand\linenumberfont{\normalfont\bfseries\small}

The distance on the left margin can be changed with \setlength{\linenumbersep}{⟨distance⟩}

The distance on the right margin is \linenumbersep plus \linenumberwidth, both are set to 10 pt by default. Let's do right here

\setlength{\linenumbersep}{1cm}

I put the command at the end of the paragraph, but it effects the whole paragraph, because that is where everything happens: at the end of the paragraphs.

The line numbers are printed as arabic numerals, as defined in the macro \thelinenumber for the \LaTeX counter \{linenumber\}. You can redefine that, as for any other \LaTeX counter. E.g.,

\renewcommand{\thelinenumber}{\roman{linenumber}}

(For heavy duty line numbering, you should use \LaTeXs internal format, e.g.,

\@roman\c@linenumber.)

4.7.1 Deeper customization

The line number is attached to the line by the macro \makeLineNumber

→ which is expanded inside a zero width \hbox alligned to the origin of the ← → current line (left edge, baselines alligned). You can do anything in this macro. ← → Let’s assume you do not want line numbers at all, but just attach something ← → else to each line of text: this is the macro to modify. You can refer to the ←
→ line number by the macro \LineNumber, which prints the current value of the ← → counter \{linenumber\}, or nothing if modulo mode is active, and the number ← → does not divide by \{linenumbermodulo\}. You should not modify this macro ← → when using any form of pagewise mode. At the end of this paragraph I put ← → the following

\begin{runninglinenumbers}
\renewcommand\makeLineNumber{
\hss$\rightarrow$ \rlap{$\leftarrow$}}
\end{runninglinenumbers}

Redefining \makeLineNumber cuts deep into the linenumber mode setting. If you still want to use the basic modes running and pagewise you should go one level up and modify one of the following macros, which are called by (or assigned to) \makeLineNumber depending on the current mode, and with the counter \{linenumber\} allready adjusted for the current page when using pagewise mode.

\makeLineNumberRunning
\makeLineNumberOdd
\makeLineNumberEven

The first is used in running mode, the other two in pagewise mode. If you modify those, you cut into the margin selection mechanism as advertised above. You will have to call a mode selection command after changing these macros, to make them take effect (at least for \makeLineNumberRunning).

You can go up one more step. The margin selection commands redefine the above macros by making them equivalent (\let) to one of the following macros

\makeLineNumberLeft
\makeLineNumberRight

You may redefine these, and afterwards issue a margin selection command followed by a mode selection command. The default definitions are

\def\makeLineNumberLeft{
\hss\linenumberfont\LineNumber\hskip\linenumbersep}
\def\makeLineNumberRight{
\hskip\linenumbersep\hskip\textwidth\hbox to\linenumberwidth{\hss\LineNumber}\hss}
Whatever you do, use \LineNumber to print the digits. This ensures that the modulo mode setting is acknowledged. If you want to customize that as well, this is the macro to change. \LineNumber eventually refers to \thelinenum, which is the place to customize the numerals themselves.

At the end of this paragraph I said

\renewcommand\LineNumber
\{\ifodd\value{linenumber} \thelinenum\fi\}

Line number references are not affected by \LineNumber, but you should keep track of \thelinenum. Look at the following reference

The section title of the next section is on page 12, line xiii.

There is a mismatch in the definition of \thelinenum, from the point of the referred line to the reference here.

5 Line number references

lineno.sty allows to refer to a line number with \ref{⟨label⟩}. The label is set by \linelabel{⟨label⟩}, anywhere in a paragraph that gets line numbers. If you put a \linelabel somewhere else, the line number it refers to is pretty meaningless, but no error message is issued. (This section begins on line 13, page 12 and ends on line 16, page 13.)

References work both in running and pagewise modes. However, you have to be very careful when using both real pagewise mode and running pagewise mode: The mode setting must be the same during reference as during labeling.

The restrictions on placing a \linelabel are the same as for a \marginpar. (In fact, they are implemented as fake \marginpars.) E.g., the linelabel on the section header of this chapter could not be placed in the straight forward way, because it would cause an error in the table of contents. (It should be disabled during toc processing.) Instead, I typed

\section[Line number references]
\{Line number references\linelabel{ll1}}

This works fine, with the standard \LaTeX \article document style. If more generic markup is required, you should avoid things like this (you should avoid lineno.sty altogether, in that case).

\linelabel does not work in display math. (Why, you do not use equation numbers?)
The 	exttt{\linelabel} command starts a new paragraph if it is issued after an empty line. It will properly ignore further whitespace before the first word of text. Thus you can easily get a label to the first line of a paragraph.

Furthermore, 	exttt{\linelabel} uses \LaTeX\xspace's standart tricks to avoid unnecessary spaces if you place is between two words with spaces around, but you should not do that anyway, if you want to make sure that the label applies to a certain word in the text. You should attach the line label to the word in question without intervening spaces, either before or after the word. If you leave spaces both before and after the \texttt{\linelabel} command, the current implementenation attaches the line label to the following word (by ignoring the trailing space).

Special care should be taken at the end of a paragraph. You better put the line label without intervening spaces behind the period, like this

\begin{verbatim}
This is the end of this section.\%
\linelabel{ll2}
\end{verbatim}

This is the end of this section.

\section{Known incompatibilities}

This section will expand whenever somebody discovers problems when using \texttt{\linenosty} together with other \LaTeX\xspace packages.

\subsection{wrapfig.sty}

\texttt{\linenosty} used to have problems with \texttt{wrapfig.sty}, but this is solved but \texttt{\linenosty}, version 2.05.

\section{Extension packages}

The extension packages were abolished with version v3.00 of \texttt{\linenosty}. One package, \texttt{itemrule.sty}, was dropped, the others were put directly into the the main \texttt{\linenosty} package file.

\subsection{Display math, mlineno}

\texttt{\linenosty} does not work well with display math. The parts of a paragraph preceeding a display math will not get line numbers. The reason is that the paragraph is not finished, but the part above the display is broken into lines anyway.
Let me demonstrate the effect. This paragraph contains a \{displaymath\} environment. The part before the Formula does not get line numbers. Here comes the Formula

\[ 6 \text{H}_2\text{O} + 6 \text{CO}_2 \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{O}_2 \]

which makes the line numbers disappear. The trailing part of the paragraph does get line numbers.

There are several means to solve the problem, but none of them is fully satisfactory. \texttt{lineno.sty} defines a \{linenomath\} environment, which can be wrapped around a display math to make the line numbering work. This will work with any kind of display math, even if you use explicit $$ pairs. There is a *-form \{linenomath*\} which also numbers the lines of the display itself, as good as it can. Here comes an example use of \{linenomath*\}

\[
\begin{align*}
b_1 &= a_{11}x_1 + a_{12}x_2 \\
b_2 &= a_{21}x_1 + a_{22}x_2
\end{align*}
\]

wrapping an \{align\*\} like this

\[
\begin{align*}
b_1 &= a_{11}x_1 + a_{12}x_2 \\
b_2 &= a_{21}x_1 + a_{22}x_2
\end{align*}
\]

Specifying the package option \texttt{[mathlines]}, causes the \{linenomath\} environment to switch its function with its *-form. This allows you to later decide if you want the numbers on the formulas or not, without putting in stars everywhere (as long as you have been consistent).

The \{linenomath\} wrapper does nothing if line numbering is not activated. You do not need to remove them if you decide to omit the line numbering later (although you still have to load \texttt{lineno.sty}).

The \texttt{mlinenomath} extension redefines the standard \LaTeX display math environments to wrap themselves automatically into \{linenomath\}:

\[
\[
\begin{align*}
b_1 &= a_{11}x_1 + a_{12}x_2 \\
b_2 &= a_{21}x_1 + a_{22}x_2
\end{align*}
\]

\[
\[
\begin{align*}
b_1 &= a_{11}x_1 + a_{12}x_2 \\
b_2 &= a_{21}x_1 + a_{22}x_2
\end{align*}
\]

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As of version 3.00 you can activate this by the package option \texttt{[displaymath]}.
You can keep existing explicit \texttt{\{linenomath\}} wrappers without harm.

This will probably not work with AMSmath.

Other solutions to make \texttt{lineno.sty} work with display math are either ugly or less stable. The ugly possibility is to precede every display math with an empty line, or better with

\begin{verbatim}
\par\nobreak\noindent
\end{verbatim}

but this gains you nothing compared to using the \texttt{\{linenomath\}} environment, since you still have to modify your document.

\section*{7.2 \texttt{rlineno}}

It is currently not possible to put a \texttt{\linelabel} into math mode. This should not impose problems with inline math, since you can attach the label just outside the math shift, like

\begin{verbatim}
... \linelabel{⟨label⟩}$x=f(y)$ ...
\end{verbatim}

but to refer to a line in display math, you cannot label it directly.

The extension \texttt{rlineno} offers a solution, allowing to refer to a line number with an offset.

This extension is now available with plain \texttt{lineno.sty} v3.00.

You put the \texttt{\linelabel} at the end of the preceeding line, and refer to that number, plus 1 or, in case of multiline displays, by any other offset.

\begin{verbatim}
...\linelabel{⟨label⟩} \begin{equation}
  y=f'(x)
\end{equation}
... the formula in line \lineref[+1]{⟨label⟩}
\end{verbatim}

The offset calculation is different for pagewise or running line numbers, and you will have to make sure the right method is used.

The macro \texttt{\lineref[⟨offset⟩]{⟨label⟩}} uses the method of the currently selected mode (line numbering need not be activated). To specify the mode explicitly, use \texttt{\linerefr} or \texttt{\linerefp} for running or pagewise mode respectively.

For example, the manual sets a \texttt{\linelabel{rll1}} at the end of the line preceeding the single line quote environment at line 62 in the first paragraph of this chapter, and refered to it via

\begin{verbatim}
\linerefr[+1]{rll1}
\end{verbatim}
and another one preceding the quote environment in the second paragraph of this chapter, with the central line numbered 8, which I just referred to via

\lineref\{rll2\}

If the correct mode is selected (e.g., \setrunninglinenumbers), you can use \lineref\{rll1\} to refer to line 62.

7.3 numquote

This extension defines two environments, each of them with a *-form or alternatively an optional argument.

\begin{numquote}
\end{numquote}

is like \{quote\},

\begin{numquotation}
\end{numquotation}

is like \{quotation\}, but with the lines numbered. Numbering restarts with 1 each time it is used, except you use the *-form, or specify the line number to start with in an optional argument.

1. The line numbers set to the left of the text, indented by the same amount as the quote or quotation. This works as expected even if the quote appears in a nested list.

To customize the distance from the text or the shape of the numbers, you can modify the macros \quotelinenumbersep and \quotelinenumberfont respectively.

As of version 3.00, this is available directly with \texttt{lineno.sty}.
7.4 ilineno

Sometimes you need line numbers within a \parbox or figure. This extension can do that, if the text is simple enough. It works by drawing a ladder of numbers next to the paragraph, each number vertically separated by \baselineskip from the other. This obviously dose not work nicely with anything but straight text. Extra high lines (like this: \(x = \frac{A}{B}\)) will disturb the alignment. The power of lineno.sty is not necessary to achieve this, but you may need both in one document with a somewhat coherent interface, and some of the necessary infrastructure from lineno.sty is actually useful.

The preceding paragraph was set like this:

\begin{center}\fbox{\parbox{0.8\textwidth}{\internallinenumbers
\resetlinenumber[13]

Sometimes you need \ldots}}\end{center}

7.5 itemrule.sty

Somebody asked me if he can get a rule next to an itemized item, from the bullet downwards. This style did that. It was unstable and of little interest, so it is gone from the lineno.sty distribution.

7.6 bframe

lineno.sty can be used for unexpected purposes. The environment

\begin{bframe}
\end{bframe}

draws boxes around some text, even across page breaks. At a page break, the box is open (it is difficult to fix that). There are two parameters:

\bframesep
  defines the separation of the box from the text.
\bframerule
  defines the thickness of the lines around the text.
It works by asking `lineno.sty` to draw small rules left and right to the lines. The total height of the rules is `\baselineskip` plus `\bframesep`. This leaves some extra space for extra high lines.

The current version is very preliminary. In a future version there may be a possibility to move the vertical lines inwards for indented text. The box may optionally be closed at page breaks. It will not likely be possible to have a colored background in the box, at least not with a graphics driver that cannot put a background behind existing foreground (Postscript cannot, I’ve been told). Tell me how to make a gray background, like block dots on transparent, and I can do shaded boxes.

8 How to print the documented source

`lineno.sty` is written in three programming languages: \TeX, sh, and awk.

The file can be loaded as a \LaTeX\ package as it is. However, if you feed it into a Unix shell, like

```
csh> source ./lineno.sty
```

it will produce the files `lineno.tex` and `lineno.dvi`, which is the documented source of `lineno.sty`. If you want to learn how it works, or you need to adapt `lineno.sty` for some special requirements, you should read that document.