

The **linegoal*** package

A new “dimen” corresponding to the remainder of the line

FC

2010/11/19 – version 2.2

Abstract

linegoal provides a macro `\linegoal` which expands to the dimension of the remainder of the line. It requires pdf_TE_X for its `\pdfsavepos` primitive. With pdf_TE_X, `\pdfsavepos` works in pdf mode (`\pdfoutput>0`) **and also in dvi mode** (`\pdfoutput=0`). Two compilations (at least) are necessary to get the correct line goal.

Saying: `\somedimen = \linegoal`

or: `\setlength \somedimen {\linegoal}`

sets `\somedimen` to be the (horizontal) length of the remainder of the current line. This can be useful for use with `tabularx`, `tabular*` or `tabu` for example.

At first run: `\linegoal` expands to `\linewidth` and writes the correct line goal into the `.aux` file.

Other runs: `\linegoal` expands to the value read in the `.aux` file and (eventually) updates the correct line-goal into the `.aux` file, if the value has changed.

linegoal requires pdf_TE_X (in pdf or dvi mode) and the module `zref-savepos` of `zref`¹ package.

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This documentation is produced with the +DocStrip+ utility.

→ To get the documentation, run (thrice): `pdflatex linegoal.dtx`
To get the index, run: `makeindex -s gind.ist linegoal.idx`
→ To get the package, run: `etex linegoal.dtx`

The `.dtx` file is embedded into this pdf file thank to `embedfile` by H. Oberdiek.

1. zref: CTAN:macros/latex/contrib/oberdiek/

1 User interface

The first aim of `\linegoal` is to give a facility to get the length of the remainder of the line. This is possible with pdfTeX and its `\pdfsavepos` primitive. For convenience, `linegoal` loads and uses the `zref-savepos` package from H. Oberdiek.

`\pdfsavepos` is supplied by pdfTeX in both pdf and dvi modes. If the document is not compiled with pdfTeX then `\linegoal` will expand to `\linewidth` in any case.

This is a tabularx that fills the remainder of the line:

```
\begin{tabularx}{\linegoal{1|X|}}\hline
  Something & Something else \\
  Something & Something else \\ \hline
\end{tabularx}
```

Typical application is for tabular of variable width like tabularx or tabu. Package tabu has a `linegoal` option to use `\linegoal` as default target for the whole tabular.

This is a tabularx that fills the remainder of the line:

Something	Something else
Something	Something else

This is a tabu that fills the half of the remainder of the line:

```
$\begin{tabu}to .5\linegoal{ |[red]X[$c]| [red]X[2$c]| [red]} \tabucline[red]-
  \alpha & \beta      \\ \tabucline[on 2pt,red]-
  \gamma & \delta      \\ \end{tabu}$
```

This is a tabu that fills the half of the remainder of the line:

α	β
γ	δ

Please, refer to tabu documentation for more information on the preamble and the command `\tabucline` used here as an example.

2 Implementation

2.1 Identification

- The package namespace is `\LNGL@`

```
1 <*package>
2 \NeedsTeXFormat{LaTeX2e}% LaTeX 2.09 can't be used (nor non-LaTeX)
3   [2005/12/01]% LaTeX must be 2005/12/01 or younger
4 \ProvidesPackage{linegoal}
5   [2010/11/19 v2.2 - A new dimen corresponding to the remainder of the line]
```

2.2 Requirements

The package requires `zref` and its module `zref-savepos`.

It requires `srcfile` for a patch when using the `calc` package.

```
6 \ifdefined\pdfsavepos\else % works also in dvi mode
7   \PackageWarning{linegoal}
8     {This package requires pdfTeX for its \string\pdfsavepos\space primitive\MessageBreak
9     pdfTeX has not been detected and \string\linegoal\space will expand\MessageBreak
10    to \string\linewidth\space in any case}
11   \gdef\linegoal{\linewidth}%
12   \expandafter\endinput
13 \fi
```

```
14\RequirePackage{etex,zref,zref-savepos,scrfile}
```

2.3 zref property : page as arabic number

2.4 The linegoal macro

\linegoal

```
15\newcommand*\linegoal{%
16  \zref@extract{linegoal.\the\LNGL@unique}{linegoal}\LNGL@setlinegoal
17}% \linegoal
18\zref@newprop*{linegoal}[\linewidth]{\dimexpr
19  \linewidth-\the\pdfloatxpos sp
20  +\ifodd\zref@extractdefault{linegoal/page.\the\LNGL@unique}{page}\c@page
21    \oddsidemargin
22  \else\evensidemargin
23  \fi
24  +1in+\hoffset
25  \relax
26}% linegoal zref-property
27\globcount\LNGL@unique
28\globdimen\LNGL@tempdim
29\let\LNGL@calc@stop=\relax
30\let\LNGL@calc@cleanup=\relax
31\AfterPackage*{calc}{%
32  \let\LNGL@calc@stop=!%
33  \def\LNGL@calc@cleanup!{}}%
34}
35\def\LNGL@setlinegoal{\relax\csname LNGL@set\ifdefined\calc@next!\fi\endcsname}
36\expandafter\def\csname LNGL@set!\endcsname!{\LNGL@set}
37\protected\def\LNGL@set{%
38  \@bsphack
39  \if@filesw
40    \pdfsavepos
41    \zref@refused{linegoal.\the\LNGL@unique}%
42    \LNGL@tempdim\zref@extractdefault{linegoal.\the\LNGL@unique}{linegoal}\maxdimen
43    \zref@labelbyprops{linegoal/page.\the\LNGL@unique}{page,posx}%
44    \zref@labelbyprops{linegoal.\the\LNGL@unique}{linegoal}%
45    \ifdim\zref@extract{linegoal.\the\LNGL@unique}{linegoal}=\LNGL@tempdim
46    \else \expandafter\LNGL@warn%
47      \number\zref@extractdefault{linegoal/page.\the\LNGL@unique}{page}\c@page\relax
48    \fi
49    \global\advance\LNGL@unique\@ne
50  \else\LNGL@noauxerr
51  \fi
52  \@esphack
53}% \LNGL@set
54\def\LNGL@warn#1\relax{\PackageWarning{linegoal}
55  {\string\linegoal\space value on page #1
56  \MessageBreak has changed since last run
57  \MessageBreak Please rerun to get correct values}%
58}% \LNGL@warn
59\def\LNGL@noauxerr{\PackageError{linegoal}
60  {\string\linegoal\space does not work if output file are disabled
61  \MessageBreak please check the value of \string\if@filesw!}\@ehd
62}% \LNGL@noauxerr
63\end{package}
```

3 History

[2010/11/19 v2.2]

- Fix a bug when using a syntax like `.5\linegoal`.
Hence a better fitting with `tabu` package (version 1.4 – 2010/11/20).

[2010/10/31 v2.1]

- `linegoal` works also without pdfTeX, but `\linegoal` is replaced by `\linewidth` in any case.
A warning is displayed.

[2010/09/25 v2.0]

- New approach: `\setlength` is not used anymore.
`\linegoal` behaves more like a real `dimen`.
code like: `\hspace*\linegoal` is now possible.

[2010/06/20 v1.2]

- Modification in warning message...

[2010/06/06 v1.1]

- The first release required some small corrections !

[2010/05/07 v1.0]

- First version.

4 References

[1] Heiko Oberdiek: *The zref package*; 2010/05/01 v2.17; CTAN:macros/latex/contrib/oberdiek/.

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