

The **linegoal*** package

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

FC

2010/12/07 – version 2.7

Abstract

linegoal provides a macro `\linegoal` which expands to the dimension of the remainder of the line. It requires pdf_T_EX for its `\pdfsavepos` primitive. With pdf_T_EX, `\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 **tabu**, **tabularx**, or **tabular*** 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.

Limitation: if `\linegoal` is used inside an expression with `\dimexpr`, `\glueexpr` or inside `\setlength` (package **calc**), then `\linegoal` must be at the very last position in the expression:

`\begin {tabu} to\dimexpr -2in + .5\linegoal {XX}`
`\setlength \dimen@ {-2in + .5\linegoal }` } are admissible

linegoal requires pdf_T_EX (in pdf or dvi mode) and the module **zref-savepos** of **zref** package.

Contents

1	User interface	2	3	References	4
1.1	<code>\linegoal</code> : a macro which behaves mostly like a dimen		4	History	4
1.2	The verbose package option			[2010/12/07 v2.7]	
2	Implementation	2		[2010/11/30 v2.6]	
2.1	Identification			[2010/11/19 v2.2]	
2.2	Requirements			[2010/10/31 v2.1]	
2.3	zref properties			[2010/09/25 v2.0]	
2.4	The linegoal macro			[2010/06/20 v1.2]	
2.5	Error, Warning and Info			[2010/06/06 v1.1]	
2.6	The verbose package option		5	Index	5

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 User interface

1.1 `\linegoal`: a macro which behaves mostly like a `dimen`

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

Typical application is for tabulars 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$c]||[red]} \tabucline[red]-
  \alpha & \beta      \\\ \tabucline[on 2pt,red]-
  \gamma & \delta      \\\ \tabucline[red]-
\end{tabu}$
```

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.

1.2 The verbose package option

You can load `linegoal` with the `[verbose]` option to get the line-goals as information in your `.log` file.

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   [2010/12/07 v2.7 - A new dimen corresponding to the remainder of the line]
```

2.2 Requirements

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

It requires `srclfile` 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}

```

2.3 zref properties

```

15 \zref@newprop*{\linegoal}[\linewidth]{\dimexpr
16   \linewidth-\the\pdfastxpos sp
17   +\ifodd\zref@extractdefault{\linegoal/posx.\the\LNGL@unique}{page}\c@page
18     \oddsidemargin
19   \else\evensidemargin
20   \fi
21   +1in+\hoffset
22   \relax
23 }% linegoal zref-property

```

2.4 The linegoal macro

\linegoal

```

24 \newcommand*\linegoal{%
25   \zref@extract{\linegoal.\the\LNGL@unique}{\linegoal}\LNGL@setlinegoal
26 }% \linegoal
27 \globcount\LNGL@unique
28 \globdimen\LNGL@tempdim
29 \def\LNGL@setlinegoal{\relax\csname LNGL@set\ifdefined\calc@next!\fi\endcsname}
30 \expandafter\def\csname LNGL@set!\endcsname!{\LNGL@set}
31 \protected\def\LNGL@set{%
32   \@bsphack
33   \if@filesw
34     \pdfsavepos
35     \zref@refused{\linegoal.\the\LNGL@unique}%
36     \LNGL@tempdim\zref@extractdefault{\linegoal.\the\LNGL@unique}{\linegoal}\maxdimen
37     \zref@labelbyprops{\linegoal/posx.\the\LNGL@unique}{page,posx}%
38     \zref@labelbyprops{\linegoal.\the\LNGL@unique}{\linegoal}%
39     \ifdim\zref@extract{\linegoal.\the\LNGL@unique}{\linegoal}=\LNGL@tempdim
40       \LNGL@info
41     \else \expandafter\LNGL@warn%
42       \number\zref@extractdefault{\linegoal/posx.\the\LNGL@unique}{page}\c@page\relax
43     \fi
44     \global\advance\LNGL@unique\@ne
45   \else\LNGL@noauxerr
46   \fi
47   \@esphack
48 }% \LNGL@set

```

2.5 Error, Warning and Info

```

49 \def\LNGL@noauxerr{\PackageError{\linegoal}
50   {\string\linegoal\space does not work if output file are disabled
51   \MessageBreak please check the value of \string\if@filesw!}\@ehd
52 }% \LNGL@noauxerr
53 \def\LNGL@warn#1\relax{\PackageWarning{\linegoal}
54   {\string\linegoal\space value on page #1 has changed
55   \MessageBreak since last run. Please rerun to get
56   \MessageBreak the correct value}%
57 }% \LNGL@warn
58 \def\LNGL@@info{\message{Package linegoal Info:
59   \string\linegoal=\the\LNGL@tempdim\on@line, page \the\c@page}}

```


```
60 \let\LNGL@info\@empty
```

2.6 The verbose package option

`\verbose` (package option)

```
61 \DeclareOption{verbose}{\let\LNGL@info \LNGL@@info}
62 \ProcessOptions
63 \</package>
```

3 References

- [1] *The zref package* by Heiko Oberdiek
2010/05/01 v2.17 New reference scheme for LaTeX2e
CTAN:help/Catalogue/entries/zref.html
- [2] *The tabu package* by 
2010/12/07 v1.5 - flexible LaTeX tabulars
CTAN:help/Catalogue/entries/tabu.html

4 History

[2010/12/07 v2.7]

- Updated documentation. Compatibility with tabu package (version 1.5 – 2010/12/07).

[2010/11/30 v2.6]

- Added the verbose package option.

[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.

5 Index

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

Symbols		
\@bsphack	32	\LNGL@set 30, 31, 48
\@ehd	51	\LNGL@setlinegoal 25, 29
\@esphack	47	\LNGL@tempdim 28, 36, 39, 59
		\LNGL@unique 17, 25, 27, 35, 36, 37, 38, 39, 42, 44
		\LNGL@warn 41, 53, 57
C		
\c@page	17, 42, 59	M
\calc@next	29	\maxdimen 36
		\message 58
D		
\DeclareOption	61	N
\dimexpr	15	\number 42
E		
\evensidemargin	19	O
		\oddsidemargin 18
		\on@line 59
G		
\globcount	27	P
\globdimen	28	\PackageError 49
		\PackageWarning 7, 53
H		\pdflastxpos 16
\hoffset	21	\pdfsavepos 6, 8, 34
I		\ProcessOptions 62
\if@filesw	33, 51	\protected 31
\ifdim	39	V
\ifodd	17	\verbose_(package_option) <u>61</u>
L		Z
\linegoal	9, 11, <u>24</u> , 50, 54, 59	\zref@extract 25, 39
\linewidth	10, 11, 15, 16	\zref@extractdefault 17, 36, 42
\LNGL@@info	58, 61	\zref@labelbyprops 37, 38
\LNGL@info	40, 60, 61	\zref@newprop 15
\LNGL@noauxerr	45, 49, 52	\zref@refused 35