

# \linegoal\*

## A “dimen” measuring the remainder of the line

requires pdfTeX or XeTeX

FC

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### Abstract

`\linegoal` provides a single macro: `\linegoal` which expands to the dimension of the remainder of the line. It requires pdfTeX (or XeTeX) for its `\pdfsavepos` primitive. With pdfTeX, `\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` <sup>1</sup>  
or: `\setlength\somedimen{\linegoal}`

sets `\somedimen` to be the (horizontal) length from the current position to the right margin. 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 when using `\linegoal` inside `calc` of  $\epsilon$ -TeX expressions:

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

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

`\linegoal` requires pdfTeX (in pdf or dvi mode) or XeTeX and the module `zref-savepos` of `zref`.

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\* This documentation is produced with the DocStrip utility.

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

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

1. Note that only this syntax allows the `\global` prefix in case the `calc` package is loaded.

# 1 User interface

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

### `\linegoal`

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 (which is supplied by XeTeX as well). For convenience, `linegoal` loads and uses the `zref-savepos` package from H. Oberdiek.

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

t1xr at 10.95ptXeTeX XeTeX

---

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

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

---

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

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

Something	Something else
Something	Something else

Listing 1: This is a `tabu` that fills the half of the remainder of the line

```
\tabulinestyle{red}
$\begin{tabu} to .5\linegoal {|X[$c]|X[2$c]|} \tabucline-
\alpha & \beta \\ \tabucline[on2pt red]-
\gamma & \delta \\ \end{tabu}$
```

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

$\alpha$	$\beta$
$\gamma$	$\delta$

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 the `.log` file.

## 2 Implementation

### 2.1 Identification

- The package namespace is `\LNGL@`

```
1 \langle *package \rangle
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 [2011/02/25 v2.9 - Measuring the remaining width of the line]
```

### 2.2 Requirements

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

```

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  +\lin+\hoffset
22  \relax
23}% linegoal zref-property

```

## 2.4 The linegoal macro

`\linegoal` `\linegoal` first expands to the current value (`\linewidth` or the line goal stored in the `.aux` file as a zref property).

Thereafter, `\LNGL@setlinegoal` is expanded in order to set the new value of the zref property, to be used for the next compilation. The case is slightly different when using the `calc` package, for `\setlength` is modified by the `calc` package.

```

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

```

## 2.5 Error, Warning and Info

```

50\def\LNGL@noauxerr{\PackageError{linegoal}
51  {\string\linegoal\space does not work if output file are disabled
52  \MessageBreak please check the value of \string\if@filesw!}\@ehd

```

```

53 }% \LNGL@noauxerr
54 \def\LNGL@warn#1\relax{\PackageWarning{linegoal}
55   {\string\linegoal\space value on page #1 has changed
56   \MessageBreak since last run. Please rerun to get
57   \MessageBreak the correct value}%
58 }% \LNGL@warn
59 \def\LNGL@@info{message{Package linegoal Info:
60   \string\linegoal=\the\LNGL@tempdim\on@line, page \the\c@page}}
61 \let\LNGL@info\@empty

```

## 2.6 The verbose package option

\verbose (package option)

```

62 \DeclareOption{verbose}{\let\LNGL@info \LNGL@@info}
63 \ProcessOptions
64 \end{package}

```

## 3 History

[2011/02/25 v2.9]

- Modification of \LNGL@setlinegoal in order to be able to use \linegoal inside the argument of tabulars (or \multicolumn) **p** (or **m** or **b**) columns when the calc package is loaded. array.sty unfortunately expands the argument of **p**, **m** or **b** columns during the rewriting process...

```

\edef\x{\linegoal }
\setlength\somedimen{\x } } now works...

```

[2011/01/15 v2.8]

- Banner modification.

[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.

## 4 References

- [1] *The `zref` package* by Heiko Oberdiek  
2010/05/01 v2.17 New reference scheme for LaTeX2e
- [2] *The `tabu` package* by FC  
2011/02/24 v2.6 - flexible LaTeX tabulars

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