


# The bartabs package

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## Abstract

This package provides support for generating small, horizontal bar data graphics, in the spirit of the data graphics discussed starting on p. 123 of Edward Tufte's *The Visual Display of Quantitative Information* (Cheshire, Connecticut, 2007). For example, here is a bar set at 50% of the default width with error bars set at 25%:  .

## 1 Getting the package

The `bartabs` package is hosted in a repository on GitHub at [github.com/justinmeza/bartabs](https://github.com/justinmeza/bartabs). If you have `git` installed, you can check out your own copy with the command:

```
git clone git@github.com:justinmeza/bartabs.git
```

There, you will find the style file as well as this example document.

## 2 Using the package



Once you obtain the style file, you must declare that you are using it in your document by adding the following line before `\begin{document}`:

```
\usepackage{bartabs}
```

Doing so will let you use several commands to create bar data graphics, described next in examples.



### Example 1

A solid bar of a percentage of the default width.

Lorem <code>\mbar{50}</code> ipsum.	Lorem  ipsum.
Lorem <code>\mbar{3.14159}</code> ipsum.	Lorem  ipsum.



### Example 2

A solid bar of a normalized fraction of the default width.

Lorem <code>\mbarnorm{50}{100}</code> ipsum.	Lorem  ipsum.
Lorem <code>\mbarnorm{50}{75}</code> ipsum.	Lorem  ipsum.



### Example 3

A solid bar of a percentage of the default width with left and right error lines of a fraction of that width.

Lorem <code>\mbarerr{50}{0.5}</code> ipsum.	Lorem  ipsum.
Lorem <code>\mbarerr{100}{1.0}</code> ipsum.	Lorem  ipsum.

### Example 4

A solid bar of a normalized fraction of the default width with left and right error lines of a fraction of that width.

Lorem <code>\mbarnormerr{50}{100}{0.5}</code> ipsum.	
	Lorem  ipsum.
Lorem <code>\mbarnormerr{50}{75}{0.618}</code> ipsum.	
	Lorem  ipsum.



### Example 5

The default width of the bars can be controlled with the `\mbarwidth` length.

<code>\setlength{\mbarwidth}{8em}</code>		
Lorem <code>\mbar{50}</code> ipsum	Lorem  ipsum.	
Lorem <code>\mbar{3.14159}</code> ipsum.	Lorem  ipsum.	

### Example 6



The default height of the bars can be controlled with the `\mbarheight` length.

<code>\setlength{\mbarheight}{2.5em}</code>		
Lorem <code>\mbar{50}</code> ipsum.	Lorem  ipsum.	
Lorem <code>\mbar{3.14159}</code> ipsum.	Lorem  ipsum.	

### Example 7

The default thickness of the error line can be controlled with the `\mbarerrlinelen` length.

```



\setlength{\mbarerrlinelen}{2pt}
Lorem \mbarerr{50}{0.5} ipsum.      Lorem  ipsum.
Lorem \mbarerr{100}{1.0} ipsum.      Lorem  ipsum.

```

### Example 8

A solid bar of a normalized fraction of the default width with a left error line a fraction of that width.

```



Lorem \mbarerrl{50}{0.5} ipsum.      Lorem  ipsum.
Lorem \mbarerrl{100}{0.95} ipsum.    Lorem  ipsum.

```

### Example 9

A solid bar of a normalized fraction of the default width with a right error line a fraction of that width.

```



Lorem \mbarerrr{50}{0.25} ipsum.      Lorem  ipsum.
Lorem \mbarerrr{100}{0.05} ipsum.    Lorem  ipsum.

```

### Example 10

A solid bar of a percentage of the default width with right and left error lines separate fraction of that width.

```



Lorem \mbarerrlr{50}{0.5}{0.25} ipsum.
                                           Lorem  ipsum.
Lorem \mbarerrlr{100}{0.95}{0.05} ipsum.
                                           Lorem  ipsum.

```

### Example 11

A solid bar of a normalized fraction of the default width with a left error line of a fraction of that width.

```



Lorem \mbarnormerrl{50}{100}{0.5} ipsum.
                                           Lorem  ipsum.
Lorem \mbarnormerrl{50}{75}{0.618} ipsum.
                                           Lorem  ipsum.

```

### Example 12

A solid bar of a normalized fraction of the default width with a right error line of a fraction of that width.

```



Lorem \mbarnormerrr{50}{100}{0.5} ipsum.
                                Lorem  ipsum.
Lorem \mbarnormerrr{50}{75}{0.618} ipsum.
                                Lorem  ipsum.

```

### Example 13

A solid bar of a normalized fraction of the default width with right and left error lines separate fraction of that width.

```

Lorem \mbarerrlr{50}{0.5}{0.25} ipsum.
                                Lorem  ipsum.
Lorem \mbarerrlr{100}{0.95}{0.05} ipsum.
                                Lorem  ipsum.

```





### Example 14

Bars can be used to provide a simple illustration of scientific data in a table.

```

\begin{center}
\begin{tabular}{lrl}
\toprule
Name & \multicolumn{2}{c}{Datum} \\
\midrule
Lorem & $10\pm0.1$ & \mbarerr{10}{0.1} \\
Ipsum & $20\pm0.2$ & \mbarerr{20}{0.2} \\
Dolor & $40\pm0.3$ & \mbarerr{40}{0.3} \\
Sit & $80\pm0.4$ & \mbarerr{80}{0.4} \\
\bottomrule
\end{tabular}
\end{center}

```

Name	Datum	
Lorem	$10 \pm 0.1$	
Ipsum	$20 \pm 0.2$	
Dolor	$40 \pm 0.3$	
Sit	$80 \pm 0.4$	

### 3 To Do

- Right now, the source code is incredibly ugly. It needs to be cleaned up and make more modular.
- Colored bars and error lines could be interesting to implement.