

# *Tufte Handout*

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## *Contents*

*Headings*      2

*Tables*      2

*Using pander*      3

*Figures*      3

*Margin Figures*      3

*Equations*      4

*Full Width Figures*      4

*Main Column Figures*      4

*Sidenotes*      4

## # Introduction

The Tufte- $\text{\LaTeX}$ <sup>1</sup> document classes define a style similar to the style Edward Tufte uses in his books and handouts. Tufte's style is known for its extensive use of sidenotes, tight integration of graphics with text, and well-set typography.<sup>4</sup>

<sup>1</sup> <https://code.google.com/p/tufte-latex/>

## Headings

This style provides a- and b-heads (that is, # and ##), demonstrated above. An error is emitted if you try to use ### and smaller headings.

IN HIS LATER BOOKS<sup>2</sup>, Tufte starts each section with a bit of vertical space, a non-indented paragraph, and sets the first few words of the sentence in small caps. To accomplish this using this style, use the `\newthought` command as demonstrated at the beginning of this paragraph.

<sup>2</sup> [http://www.edwardtufte.com/tufte/books\\_be](http://www.edwardtufte.com/tufte/books_be)

## Tables

You can use the `xtable` package to format  $\text{\LaTeX}$  tables that integrate well with the rest of the Tufte handout style. Note that it's important to set the `xtable.comment` and `xtable.booktabs` options as shown below to ensure the table is formatted correctly for inclusion in the document.

	mpg	cyl	disp	hp
Mazda RX4	21.00	6.00	160.00	110.00
Mazda RX4 Wag	21.00	6.00	160.00	110.00
Datsun 710	22.80	4.00	108.00	93.00
Hornet 4 Drive	21.40	6.00	258.00	110.00
Hornet Sportabout	18.70	8.00	360.00	175.00
Valiant	18.10	6.00	225.00	105.00
Duster 360	14.30	8.00	360.00	245.00
Merc 240D	24.40	4.00	146.70	62.00
Merc 230	22.80	4.00	140.80	95.00
Merc 280	19.20	6.00	167.60	123.00
Merc 280C	17.80	6.00	167.60	123.00
Merc 450SE	16.40	8.00	275.80	180.00
Merc 450SL	17.30	8.00	275.80	180.00
Merc 450SLC	15.20	8.00	275.80	180.00

Table 1: First rows of mtcars

## Using pander

Another option is of course the **pander** package to format  $\text{\LaTeX}$  tables. Lorem ipsum dolor sit amet, consectetur dolor auctor sed malesuada volutpat, sit id. Fermentum orci urna quam est enim, elementum ligula et. Sociosqu iaculis sodales. Nec lorem class sed ac tincidunt volutpat neque suscipit sociis sed risus litora phasellus. Metus montes ullamcorper neque cras elementum lectus at id. Non placerat donec urna sed nec, ullamcorper ultrices sit, eros sed, hac. Dignissim vitae nec, mattis nullam cursus ac ante egestas. Interdum non non non facilisis nostra odio. Lacus, ornare eu ad id. Vulputate ipsum id, odio commodo eros, varius libero nec. Pharetra neque amet purus ut vestibulum euismod. Nunc sed. Ipsum tempus, et congue lobortis. Ac ac metus curabitur, ac sed diam varius eros.

Table 2: First rows of mtcars

	mpg	cyl	disp	hp	drat	wt
<b>Mazda RX4</b>	21	6	160	110	3.9	2.62
<b>Mazda RX4 Wag</b>	21	6	160	110	3.9	2.875
<b>Datsun 710</b>	22.8	4	108	93	3.85	2.32
<b>Hornet 4 Drive</b>	21.4	6	258	110	3.08	3.215
<b>Hornet Sportabout</b>	18.7	8	360	175	3.15	3.44
<b>Valiant</b>	18.1	6	225	105	2.76	3.46

## Figures

### Margin Figures

Images and graphics play an integral role in Tufte's work. To place figures or tables in the margin you can use the `fig.margin knitr` chunk option. For example:

```
library(ggplot2)
qplot(Sepal.Length, Petal.Length, data = iris,
       color = Species)
```

Note the use of the `fig.cap` chunk option to provide a figure caption. You can adjust the proportions of figures using the `fig.width` and `fig.height` chunk options. These are specified in inches, and will be automatically scaled down to fit within the handout margin.

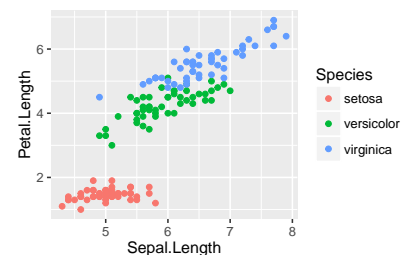


Figure 1: Sepal length vs. petal length, colored by species

## Equations

You can also include L<sup>A</sup>T<sub>E</sub>X equations in the margin by explicitly invoking the `marginfigure` environment.

Note the use of the `\caption` command to add additional text below the equation.

$$\frac{d}{dx} \left( \int_0^x f(u) du \right) = f(x).$$

Figure 2: An equation

## Full Width Figures

You can arrange for figures to span across the entire page by using the `fig.fullwidth` chunk option.

```
qplot(wt, mpg, data = mtcars, colour = factor(cyl))
```

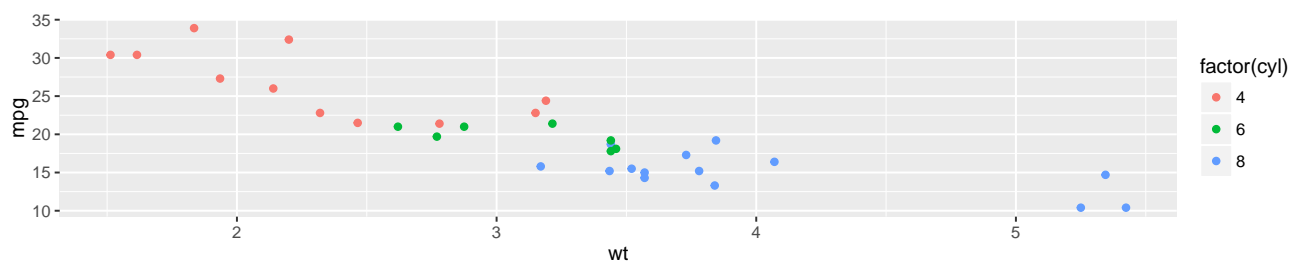


Figure 3: Full width figure

Note the use of the `fig.width` and `fig.height` chunk options to establish the proportions of the figure. Full width figures look much better if their height is minimized.

## Main Column Figures

Besides margin and full width figures, you can of course also include figures constrained to the main column.

```
qplot(factor(cyl), mpg, data = mtcars, geom = "boxplot")
```

## Sidenotes

One of the most prominent and distinctive features of `thalign(xt.Modality) <- c('l', 'p{3.5in}')` style is the extensive use of sidenotes. There is a wide margin to provide ample room for sidenotes and small figures. Any use of a footnote will automatically be converted to a sidenote.<sup>3</sup>

If you'd like to place ancillary information in the margin without the sidenote mark (the superscript number), you can use the `\marginnote` command.

<sup>3</sup> This is a sidenote that was entered using a footnote.

This is a margin note. Notice that there isn't a number preceding the note.

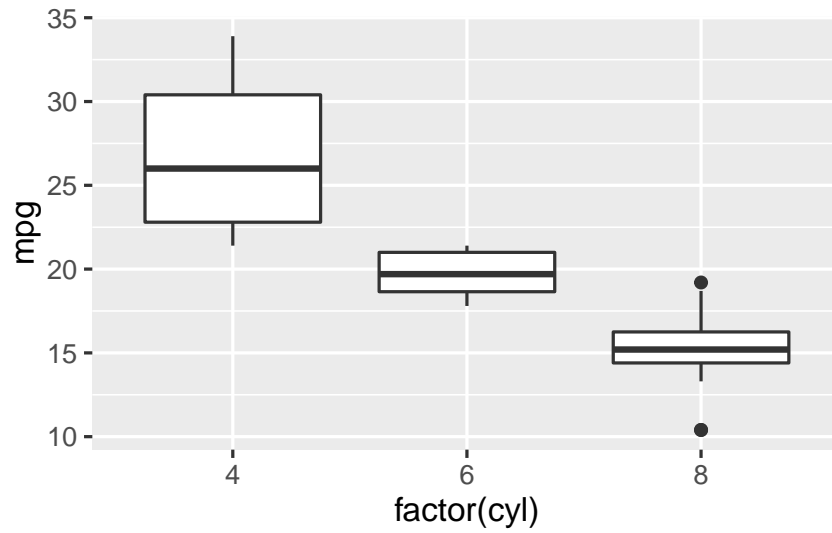


Figure 4: Another figure

Note also that the two footnote references (`tufte_latex` and `books_be`, both defined below) were also included in the margin on the first page of this document.