

# R Markdown

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## In LaTeX

# Section Heading

This is normal text in a paragraph. This text is **\textbf{bold}**, and this text is in *\emph{italics}*. Note

% Comments begin with a percent-sign and are not printed with the document

## Subsection

Here is more text. Let's also make a list:

```
\begin{itemize}
  \item First item
  \item Second item
\end{itemize}
```

This time let's make the list numbered instead of bullet points:

```
\begin{enumerate}
  \item First item
  \item Second item
\end{enumerate}
```

The best use of `\LaTeX{}` is for math. We can make really fancy equations, that center on the page with:

```
\begin{equation}
  \hat{\beta}_1 = \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sum_{i=1}^n (X_i - \bar{X})^2}
\end{equation}
```

We can also put math into the same line as text with dollar signs  $\frac{2}{3} \times \pi^2$ .

Latex also is useful for creating tables and figures, both are called "float" environments that must be

```
\begin{table}[h!] % h! places the table here in the doc, instead of where latex optimizes the location
  \begin{tabular}{lcr} %to create three columns, the first left-aligned (l), the second center-aligned
    c & l & r \\ \hline % hline creates a horizontal line
    Example 1 & Example 2 & Example 3 \\
    44 & 66 & 88 \\ \hline
  \end{tabular}
\end{table}
```

## Section Heading

This is normal text in a paragraph. This text is **bold**, and this text is in *italics*. Note the syntax for commands to modify text looks like ‘`\command{text}`’.

### Subsection

Here is more text. Let’s also make a list:

- First item
- Second item

This time let’s make the list numbered instead of bullet points:

1. First item
2. Second item

The best use of L<sup>A</sup>T<sub>E</sub>X is for math. We can make really fancy equations, that center on the page with:

$$\hat{\beta}_1 = \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sum_{i=1}^n (X_i - \bar{X})^2} \quad (1)$$

We can also put math into the same line as text with dollar signs  $\frac{2}{3} \times \pi^2$ .

Latex also is useful for creating tables and figures, both are called “float” environments that must be initiated with a “`\begin{floattype}`” and ended with a “`\end{floattype}`”, e.g.:

c	l	r
Example 1	Example 2	Example 3
44	66	88

## R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

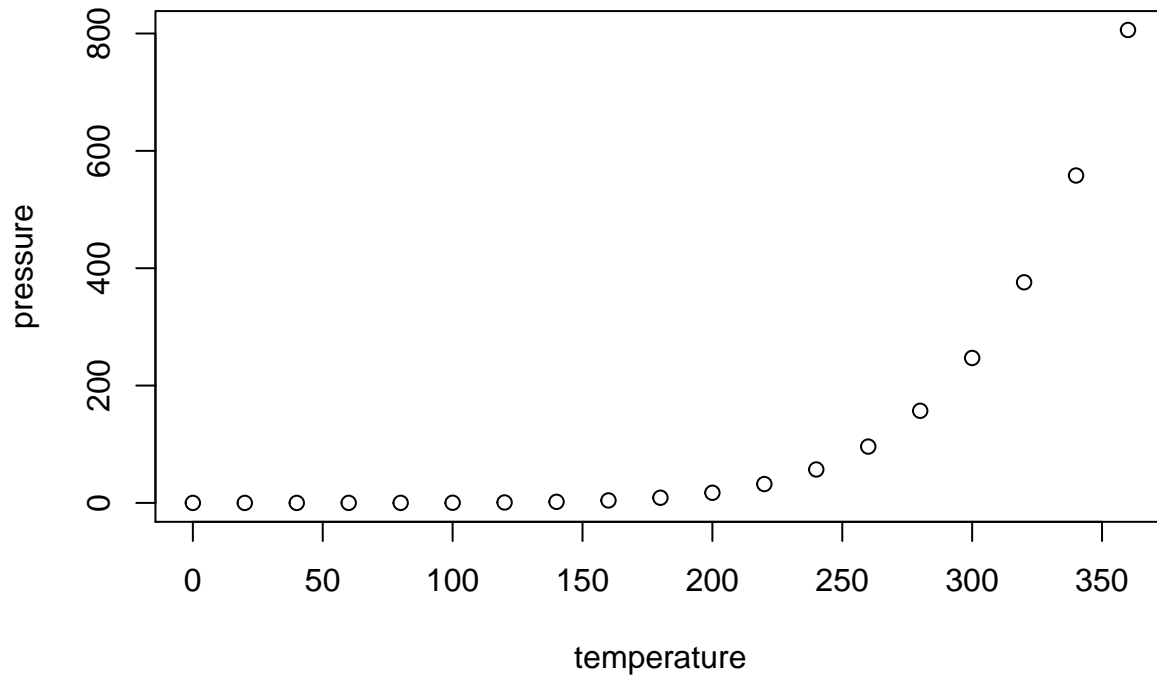
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(cars)
```

```
##           speed           dist
##  Min.   : 4.0    Min.    : 2.00
##  1st Qu.:12.0    1st Qu.: 26.00
##  Median :15.0    Median : 36.00
##  Mean   :15.4    Mean    : 42.98
##  3rd Qu.:19.0    3rd Qu.: 56.00
##  Max.   :25.0    Max.    :120.00
```

## Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.