

# Basics

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## Introduction

Rstudio is a statistical programming language used to create models and plots.

### r setup

Ctrl+Alt+i = insert a new code chunk.

```
{r chunk-name, include=FALSE}
# code goes here
# include prevents code and results from appearing in the finished file. However, code in the chunk still runs
and results can be used by other chunks.
# echo prevents code but results are still displayed.
```

First chunk of code will be used to setup rstudio packages and knitting settings. Ex: `install.packages("tidyverse")`. After first installation of package, it is always ideal to comment (`#`) it out to reduce runtime (so it does not have to download the package every time you run). To use the packages, you are required to load it with `library` function.

## 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.