

# Week 01: Introduction to R and R-Markdown

Alison

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## Introduction

Packages.

The `tidyverse` package just loads many different packages at once:

- `ggplot2` - charts and plots
- `dplyr` - chaining data manipulation (filtering, mutation, reshaping)
- `tibble` - for effective data tables
- `tidyr` - helpful functions for cleaning data
- `readr` - functions for reading and writing data
- `purrr` - functional programming tools
- `stringr` - for manipulating text and character strings
- `forcats` - for dealing with categorical or ordinal data (factors)

Summarize data. The data `mtcars` is available in the base version of R.

```
summary(mtcars)
```

```
##      mpg          cyl          disp          hp
##  Min.   :10.40   Min.   :4.000   Min.   : 71.1   Min.   : 52.0
## 1st Qu.:15.43   1st Qu.:4.000   1st Qu.:120.8   1st Qu.: 96.5
## Median :19.20   Median :6.000   Median :196.3   Median :123.0
## Mean   :20.09   Mean   :6.188   Mean   :230.7   Mean   :146.7
## 3rd Qu.:22.80   3rd Qu.:8.000   3rd Qu.:326.0   3rd Qu.:180.0
## Max.   :33.90   Max.   :8.000   Max.   :472.0   Max.   :335.0
##      drat          wt          qsec          vs
##  Min.   :2.760   Min.   :1.513   Min.   :14.50   Min.   :0.0000
## 1st Qu.:3.080   1st Qu.:2.581   1st Qu.:16.89   1st Qu.:0.0000
## Median :3.695   Median :3.325   Median :17.71   Median :0.0000
## Mean   :3.597   Mean   :3.217   Mean   :17.85   Mean   :0.4375
## 3rd Qu.:3.920   3rd Qu.:3.610   3rd Qu.:18.90   3rd Qu.:1.0000
```

```
## Max.      :4.930   Max.      :5.424   Max.      :22.90   Max.      :1.0000
##          am          gear          carb
## Min.      :0.0000   Min.      :3.000   Min.      :1.000
## 1st Qu.   :0.0000   1st Qu.   :3.000   1st Qu.   :2.000
## Median    :0.0000   Median   :4.000   Median    :2.000
## Mean      :0.4062   Mean     :3.688   Mean     :2.812
## 3rd Qu.   :1.0000   3rd Qu.  :4.000   3rd Qu.  :4.000
## Max.      :1.0000   Max.     :5.000   Max.     :8.000
```

## Including Plots

You can also embed plots, for example:

