The tidyverse is a powerful collection of R packages that are actually data tools for transforming and visualizing data. All packages of the tidyverse share an underlying philosophy and common APIs.

The core packages are:
- dplyr: which implements the grammar of data manipulation. You can use it to manipulate your data.
- ggplot2: which implements the grammar of graphics. You can use it to visualize your data.
- purrr: which implements the grammar of data manipulation. You can use it to solve the most common data manipulation challenges.
- stringr: which helps you to create tidy data or data where each variable is a column, each observation is a row and each value is a cell.
- tidyverse: which is a fast and friendly way to read rectangular data.
- tibble: which is a modern replacement of the data.frame.
- stringi: which provides a cohesive set of functions designed to make working with strings as easy as possible.
- dplyr, which provides a fast and nimble set of tools for working with data frames.

Useful Functions
- dplyr: which implements the grammar of data manipulation.
- ggplot2: which implements the grammar of graphics.

Installing the packages:
```r
install.packages("tidyverse")
```

You can install the complete tidyverse with:
```r
library(tidyverse)
```

## Tidyverse

### Filter

Filter() allows you to select a subset of rows in a data frame.
```r
iris %>% filter(Species == "virginica")
```

### Arrange

Arrange() sorts the observations in a data frame in ascending or descending order based on one of its variables.
```r
iris %>% arrange(Sepal.Length)
```

### Mutate

Mutate() allows you to update or create new columns in a data frame.
```r
iris %>% mutate(Sepal.Length = Sepal.Length + 5)
```

### Summarize

Summarize() allows you to turn many observations into a single data point.
```r
iris %>% summarize(mean(Sepal.Length))
```

## Useful Functions

- `dplyr` for data manipulation and visualization.
- `ggplot2` for data visualization.
- `tidyr` for data tidying.
- `stringr` for string manipulation.
- `purrr` for functional programming.

## Loading in the data

- r eighth data science tidyverse for beginners cheat sheet