Introduction to R continued

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26/04/2020

Introduction to R continued

Functions: -

Getting Help

While working with R if we need some additional info about what a function does, we can get detailed info about it in the following ways.

```
help(mean)  #asking for info about the function mean
```

```
## starting httpd help server ... done
```

```
?mean       #another way of doing the same thing
```

We can also know what arguements a function takes in the following way:-

```
args(mean)
```

```
## function (x, ...) 
## NULL
```

More about FUnctions

Now that we have seen a bit about the function mean(). Lets actually calculate mean() We can calculate mean by 2 methods:- 1. Matching by name: - mean(x= data)

```
grades<-c(8.5, 7, 9, 5.5, 6)
mean(x= grades)
```

```
## [1] 7.2
```

2. Matching by position : - mean(data)

```
mean(grades)
```

```
## [1] 7.2
```

If our data set has missing values then mean() will throw an error if not specified as follows: -

```
grades <- c(8.5, 7, 9, NA, 6)
mean(grades)
```

```
## [1] NA
```

```
mean(x=grades, trim = 0, na.rm = TRUE)
```

```
## [1] 7.625
```

Making Your own Functions

Apart from builtin functions, we can make functions of our own like: -

```
multiply_a_b <- function(a,b){
  return(a*b)
}
multiply_a_b(3,7)
```

```
## [1] 21
```

Getting your data into R

One important thing before you actually do analyses on your data, is that you will need to get your data into R. R contains many functions to read in data from different formats. Some Examples are as follows: -

```
cars<-read.csv("http://s3.amazonaws.com/assets.datacamp.com/course/uva/mtcars.csv")
head(cars)
```

```
##    mpg cyl disp  hp drat    wt  qsec vs am gear carb                car
## 1 21.0   6  160 110 3.90 2.620 16.46  0  1    4    4          Mazda RX4
## 2 21.0   6  160 110 3.90 2.875 17.02  0  1    4    4      Mazda RX4 Wag
## 3 22.8   4  108  93 3.85 2.320 18.61  1  1    4    1         Datsun 710
## 4 21.4   6  258 110 3.08 3.215 19.44  1  0    3    1     Hornet 4 Drive
## 5 18.7   8  360 175 3.15 3.440 17.02  0  0    3    2  Hornet Sportabout
## 6 18.1   6  225 105 2.76 3.460 20.22  1  0    3    1            Valiant
```

Sometimes the sperator is not what we expect it to be so we can easily change the separator by: -

```
cars<-read.csv("http://s3.amazonaws.com/assets.datacamp.com/course/uva/mtcars_semicolon.csv", sep = ';')
head(cars)
```

```
##    mpg cyl disp  hp drat    wt  qsec vs am gear carb
## 1 21.0   6  160 110 3.90 2.620 16.46  0  1    4    4
## 2 21.0   6  160 110 3.90 2.875 17.02  0  1    4    4
## 3 22.8   4  108  93 3.85 2.320 18.61  1  1    4    1
## 4 21.4   6  258 110 3.08 3.215 19.44  1  0    3    1
## 5 18.7   8  360 175 3.15 3.440 17.02  0  0    3    2
## 6 18.1   6  225 105 2.76 3.460 20.22  1  0    3    1
```

Working directories in R

If you would work with R studio on your own computer, you would probably like to read in local files.

- getwd(): This function will retrieve the current working directory for the user - setwd(): This functions allows the user to set her own working directory

```
getwd()
```

```
## [1] "F:/Education/College/Computer Science/Data_Science"
```

```
setwd("F:/Education/College/Computer Science/Data_Science")
```

Checking files in your working directory

```
list.files()
```

```
## [1] "Certificates Data Science Specialisation"
## [2] "Data_Science.Rproj"
## [3] "HelloWorld.md"
## [4] "Introduction-to-R-continued.Rmd"
## [5] "Introduction to R continued.Rmd"
## [6] "mtcars_semicolon.csv"
## [7] "The-Basics-of-R.html"
## [8] "The Basics of R.Rmd"
## [9] "The R Programming Course"
```

```r
cars<-read.csv("mtcars_semicolon.csv", sep=';')
head(cars)
```

```
##    mpg cyl disp  hp drat    wt  qsec vs am gear carb
## 1 21.0   6  160 110 3.90 2.620 16.46  0  1    4    4
## 2 21.0   6  160 110 3.90 2.875 17.02  0  1    4    4
## 3 22.8   4  108  93 3.85 2.320 18.61  1  1    4    1
## 4 21.4   6  258 110 3.08 3.215 19.44  1  0    3    1
## 5 18.7   8  360 175 3.15 3.440 17.02  0  0    3    2
## 6 18.1   6  225 105 2.76 3.460 20.22  1  0    3    1
```

Importing R packages

```r
library(ggplot2)
require(ggplot2)
```