R -PACTICE EXERCISE

Some of the exercises contain more than what was covered by the lecture to show you some of the common and nice features of R. If you can't find the answer in the lecture slides or the help menus (or Google) I have also put out the solutions on the bottom of the page.

Exercise 1

Getting started

-Calculate 10 times 3

-Make a variable x equal to 5

-Calculate 10 times x

Matrix operations

Make the matrix A equal to the one below:

1 2 4 4

3 5 3 4

-Give A columns name by using the function `colnames()`

-Add 3 to each element in the matrix and call this matrix B

-Add A and B. What do you get?

-Include a 5th column equal to [1,2] to your matrix A and call the new matrix D. Use the command `cbind()`

-Get the third column of D

Dataframe

There are built-in data frames examples in R. One of them are called mtcars

 # edaar resources

-What does mtcars look like? If you write `head(mtcars)` you will only see the first 6 rows.

-How big is the data frame? Use the function `dim()` or the functions `nrow()` and `ncol()` .

-What is the cell value from the first row, second column of mtcars?

-Could you get the same value by using row and column names instead? Which names?

Exercise 2

One of the big strengths of R is the easy and nice plotting functions. Here you can try some of them:

-Make a histogram of `mpg(miles per gallon)` in mtcars, use `hist()` (hint: use the '$' sign to access mpg)

-Make a histogram of mpg in mtcars with more breaks. (hint: see the available options for the `hist()` function with f1 or `?hist()` . Hint2: 'breaks =').

-Make a boxplot of mpg in mtcars, use `boxplot()` . (To make a boxplot for each number of cylinders use: `boxplot(mtcars$mpg ~ mtcars$cyl)`)

-Make a scatterplot of mpg in mtcars using `plot()`

–Plot horsepower (hp) versus mpg using plot (hint: `plot(x, y)`)