**R exercise for lecture 2 -** Sok- 3020

1. **Simple calculations**: Use R to calculate the following:
2. 34+25
3. 5479
4. 698/52
5. , where
6. Assign the value of 24 to x

Assign the value of 30 to y

Make z the value of x+y, and display the value in the console

Make k the value of 2, and display the value in the console

1. **Working with vectors**

* Create a vector called *a* containing the numbers 12,8,10,15, and 20. Find the length of the vector a, and the minimum and maximum value of a.
* Use [lower]: [upper] notation to make a second vector called *b* containing the numbers 10 to 14.
* Add vector *a* and *b* and look at the result.
* Create a vector called *p* containing the elements of vector *a* & *b.*
* Use *seq ()* to make a vector 100 values starting at 2 and increasing by 3 each time and store it in a new variable called *q*
* Extract the values at positions 5,10,15 and 20 in the vector of 100 values you made.
* Extract the values at positions 10 to 30 in the vector of 100 values you made, assign this extracted vector as vector x
* Then, find/calculate:
* Find the sum of elements of the vector x
* Length of the vector x
* Mean of x
* Deviation from mean of x, and sum of deviation from mean of x
* Sum of square of deviations from mean of x
* Variance of x
* Standard deviation of x
* Generate a vector t <- x+2\*x, and then calculate covariance and correlation between x and t.
* Plot t against x

1. **Lists and data frames**

* Enter the following in a vector with the name “*stname*”. Remember to surround each piece of text with quotes.

Alex

Tomas

John

James

Evan

* Display the 2nd element in the vector (Tomas) in the console
* Enter the following into a vector with the name *mark*:

75

90

99

85

100

* Join the 2 vectors together using the *data.frame* function to make a data frame named *mark.info* with 2 columns and 5 rows. Display the data frame in the console
* Change the first Colum of the vector to *student* and the second one to *point.* Display the data frame in the console
* Display just row 3 in the console
* Display just column 1 in the console
* Display the item of data in row 4, column 1.
* Replace the item of data in row 4, column 1 to 98

1. **Reading in data from a file (R**ead/import in data from the page[**http://www.principlesofeconometrics.com/poe5/poe5data.html**](http://www.principlesofeconometrics.com/poe5/poe5data.html)**)**

a)

* Use the function called “*load (url(“ ”))* ” to read in the file “ *andy.rdata* ”.
* View the dataset using the “*view()”* function to check that you imported the data correctly.
* Use *hist* to draw a histogram for sales. Make a scatter plot of sales on the x-axis, and price on the y-axis. Use *plot()* function. Use *main* or *title* to add a tittle to the plot.

b)

* Read the file “andy.csv”. This is a comma-delimited file so use *read.csv().*
* View the dataset using the “*view()”* function to check that you imported the data correctly