Seminar 1: Week 35

1) Start RStudio on the computer.
   Identify the different windows
2) R as a calculator
   Use the Console window to compute
   a. 567 plus 440
   b. 414 times 82
   c. 57 squared

Write one or more scripts to answer the remaining questions. To open a new script, go to File > New File > R Script.

3) Variables
   a. Create a variable `a` with the value 75.
      - What happens in the Values window?
      - What variable type is `a`?
   b. Create a variable `b` which is 3 times a
   c. Create a vector `v` with the values 25, 17, 24, 25, 15, 17, 19, 25
      - What happens in the Values window?
   d. Use the function `table` to make a frequency table of the temperatures from exercise 4.
4) Use the function `plot` to plot the distribution of v. You may want to combine the function with `table`
   a. Modify the title, axis labels, formatting etc. to something you could include in a report
   b. Use the cut and paste function to export the graph to Word
   c. Try to use the script to export the graph
5) Data frames
   In this exercise, we are going to use a data set with data on wage income and net wealth, as well as age and gender, on a sample of Norwegians.
   a. Download the file `inc_wealth.csv` from Canvas and read it into a data frame `inc_wealth`
   b. Add a variable `inc_euro` to `inc_wealth`, the income in Euros (say 1 Euro is NOK 11.57)
   c. Add a logical vector `neg_wealth` to the data frame, indicating individuals with negative net wealth.
   d. Show the third observation of `inc_wealth`, then the second variable of the fourth observation. The tools from subsetting are useful here.
   e. Make a new data frame `some.persons` with the four first observations from the original data frame
   f. Make a data frame `women` with all the women (female=1).
   g. Make a data frame `wealthy` with the data of the individuals with the 10% highest wealth.
   h. Extract the ages of all the "wealthy" individuals as a vector. How is the distribution of ages in the group of "wealthy" compared to the non-wealthy?
   i. Install the package `ineq`. Use its function `Gini` to compute the Gini coefficient of the income in the full data set.