Introduction to R

- To install R, it is available at KTH computers:
  - R is available at `https://cran.r-project.org/`
  - Rstudio an IDE for R is available at `https://www.rstudio.com/products/RStudio/`
- Can write commands into the console to execute them directly, but good practice is to create a script file and then execute from that file. Doing this will keep the code and can help you a lot with the projects.
- The easiest way of learning R is to use it. One way can be to follow the steps below:
  - Follow "Lab: Introduction to R" beginning on page 42 in the course book[1]
  - Follow the instruction in exercise 8 on page 54, this is a guided exercise studying a data set[2]
  - Write a function in R that as an input takes a vector of values and return the sample mean and the sample variance as a vector.
    - Try to not use `mean` and `var` functions.
    - Test your function by simulating normal distributed random variables with the command `rnorm(n,mean = mu,sd = s)`, where `n` is number of samples, `mu` is the mean and `s` is the standard deviation.
- To find out how to use the R function `function` type `?function`
- `https://cran.r-project.org/doc/contrib/Hiebeler-matlabR.pdf` gives reference between R and matlab function names.

[1] If you don't have the course book it can be downloaded as a pdf for free at `http://www-bcf.usc.edu/~gareth/ISL/`

[2] The data set is available at the course book homepage `http://www-bcf.usc.edu/~gareth/ISL/` and in the package ISLR