Univariate Data and Modelling

Exercise Session 1 : Descriptive statistics

Exercise 1

a) Import the BETACAR2 dataset as beta.df (hint: use the function **read.table**).

b) Call the column names of beta.df (hint: use the function **names**).

Exercise 2

a) Import the ChickWeight dataset as chick.df (hint: use the function **read.table**).

b) Call the column names of chick.df (hint: use the function **names**).

c) Give the mean, median, quartiles, variance and standard deviation of the "weight" variable (hint : use the functions **summary**, **var** and **sd**).

d) Do the same for the "chicken" variable. Does this make sense? Any solutions? (hint : use the functions **summary**, **var** and **sd**).

e) Change the name of the "chicken" variable to "No." (hint: convert the "chicken" variable to categorical by using the function **as.factor** then use the function **names**)

f) Give the mean, median, quartiles, variance and standard deviation of the "weight" variable by feed (hint: use the function **by**).

g) Give the frequency table of the feed used in the experiment (hint: use the function **table**).

Exercise 3

a) Import the monica dataset as monica.df (hint: use the function **read.table**).

b) Give the mean, median, quartiles, variance and standard deviation of the "age" variable by sex (hint: use the functions **by**,**summary**, **var** and **sd**).

c) Draw a boxplot of the "age" variable (hint: use the function **boxplot**).

d) Draw a separate boxplot of the "age" variable for each sex (hint: use the functions **by** and **boxplot**).

e) Draw (by hand) a possible density function of the age of the population for each sex.

f) Draw (in R) an estimation of the density function of the age of the population for each sex (hint: For each sex, use the functions **hist** and **lines**)

Remark

When a function is mentioned in the hints, it is useful to read on the input arguments and output values of the function, by using the keyword "?**function**". For example, executing **?read.table** will give you information on the **read.table** function.