Exercise 3

Data exploration

Explore the `temperature` dataset

i) Load the dataset `temperature.csv` from the `01_Data` folder and assign it to an object with a meaningful name (e.g. `temperature`)

ii) Get an overview of the dataset:

- View the first six rows of the dataset
- How many rows does the dataset have?
- How many columns does the dataset have?
- What class do the columns have? Can you guess?

iii) Calculate the mean temperature

For those who have time left...

iv) In which months were the measurements taken?

v) What month and day was the maximum temperature measured?

vi) Load the internal dataset `airquality` and caluclate the Pearson correlation between `Wind` and `Temp`. Do you expect a positive or negative correlation?

Hints

i) Load the dataset `temperature.csv` from the `01_Data` folder and assign it to an object with a meaningful name (e.g. `temp`)

- Set the working directory to the `01_Data` folder in the course material (`?setwd` or look at the video tutorial in the `02_Slides_tutorials` folder)
- Load the dataset with the function `read.csv` (`?read.csv`)

ii) Get an overview of the dataset:

- First six rows: Check the function `head` (`?head`)
- Number of rows: Check the functions `nrow` (`?nrow`) or `dim` (`?dim`)
- Number of columns: Check the functions `ncol` (`?ncol`) or `dim` (`?dim`)
- Column classes: Check the function `class` (`?class`)
- *All in one*: Check the function `str` (`?str`)

iii) Check the function `mean` (`?mean`).
Select the column `temp` (in the form of `df$temp` or `df[, 2]`)

iv) Check the function `unique` (`?unique`)

v) Check the function `which.max` (`?which.max`)

vi) Load the dataset with `data(airquality)`
Check the function `cor` (`?cor`) and the argument `method`