

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
- iv) In which months were the measurements taken?

For those who have time left...

- v) What month and day was the maximum temperature measured?
- vi) Load the internal dataset `airquality` and calculate 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 slides in the `02_Slides` 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`