Exercise 3

Data manipulation

Manipulate the `temperature` dataset

i) Load the dataset `temperature.csv` from the `01_Data` folder and give it a new name (e.g. `temp`)

ii) Filter the dataset for the site `Bern`

ii) Add a column with the variable `year` (the year is `2013`)

For those who have time left...

iv) Create a new `date` column

- Create a new column with the variables `year`, `month` and `day` combined (in the form of `"2013-01-25"`)
- Convert the `class` of the column from `"character"` to `"date"`

v) Calculate the average temperature for periods without frost (i.e. the temperature is above `0 °C`) for the site `Zurich`

Hints

i) Load the dataset `temperature.csv` from the `01_Data` folder and give it a new name

- 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) Check the function `subset` (`?subset`)

ii) Use a command in the form of `dataframe$year` and assign the value `2013` to this column.

For those who have time left...

iv) Create a new `date` column

- Create a vector that combines the columns `year`, `month` and `day`. Check the function `paste` (`?paste`) and the argument `sep` inside the function `paste`
- Add this vector to the dataset and name the column `date`
- Check the function `as.Date` (`?as.Date`) to change the class of the column from `"character"` to `"Date"`

v) Calculate the average temperature for periods without frost (i.e. the temperature is above `0 °C`) for the site `Zurich`

- Filter the dataset with the function `subset` (`?subset`)
- Calculate the average temperature with the function `mean` (`?mean`)