R01 Introduction to R

Marco Kühne

Deadline 27.04.2022

This is the first assignment.

InstRuctions

Please create a new R script and name it `assignment1_name.R` replacing `name` by your name. RemembeR:

- R is case sensitive, i.e. `myVariable` and `myvariable` are different objects.
- Please only use data and images from URLs, abstain from using local paths.
- Abstain from destroying or overwriting any variables in your code.
- Abstain from using the `View()` command in your script submission.
- Abstain from installing packages in your script or put `install.packages()` in comments.
- Please use `#title ----` as a section heading to structure your code.
- Please hand in a script that runs without error.

Here is an example on how the code can look like:

```
# Fun with Flags ----

fun_flags <- "Sheldon Cooper presents fun with flags"
class(fun_flags) # additional comment: this command tells the type of variable
nchar(fun_flags) # tells the number of characters in a string variable

nchar("a b") # test whether nchar() counts spaces
```

Tasks

Complete the following tasks.

Basic operations

- Create a vector called `myVector` and have it store the integers 1, 2 and 3.
- Create a string called `myName` and have it store your name.
- Please compare `myVector` to `myName` by the logical operator `==` and store the result in `AmIaVector`. Hint: A logical value is expected. An alternative command is the `identical()` function.

Built-in Data

- Please load the built-in data set `Titanic` with the `data()` function. Please check the `class()` of Titanic and store it as `Titanic_class`.
- Change the class of Titanic to a data frame with `as.data.frame()` and store the result in `Titanic_DF`.

External Data

- Read in the data set https://raw.githubusercontent.com/MarcoKuehne/seminars_in_applied_economics/main/Data/GF_2020.csv (`GF_2020.csv`) from the Github repository, using the `read.csv()` command, call it `CourseData2020`. Hint: Put the URL for csv in quotation marks.
- Please calculate the `mean()` of `Age` of seminar participants in 2020. A variable in a dataset can be accessed by a dollar sign, e.g. `data$variable`. Store it as `WhyRUsoMean2Me`.
- Please calculate the proportion of female participants in 2020 as percent and store it as `rladies` (side note https://rladies.org/). Hint: A positive decimal number between 0 and 1 is expected.
- How many variables in `CourseData2020` are integers? Hint: This can be done by clicking the small blue bottom in front of the dataset in the right upper panel or programmatic by using `str()` to explore the structure of data in the console. Store the answer in `NumInt`.

Personal Impressions

- Please let us know your thoughts and emotions with regard to this exercise by choosing an appropriate meme. Store the image URL in `myURL`. Then use the command `download.file(url = myURL, destfile = "NAME.png", mode = 'wb')` replacing `NAME` with your name.