Computing Assignment 1

Due Monday, January 30, before class.

You may have already done some of the following, in that case. It is okay to skip. However, I strongly recommend that your capitialization, spelling, and puncuation match mine, so if it doesn't, now would be a good time to fix it. For example, `POLS 209` is different from `pols-209` and `Data` is different from `data`.

1. Create a `pols-209` folder on your computer, this can be wherever you like (e.g., Desktop, Dropbox).
2. In that folder, create a `data` subfolder.
3. Go to the course webpage and save the `submit_times` and `calories` data sets (under Jan 27) to the `data` folder. Choose whatever file type you prefer, but use a **different file type** for each data set.
4. Open up RStudio and set the working directory to the `pols-209` folder.

Write an R script that completes the tasks below. Be sure to write your code neatly and comment your code thoroughly. Use whitespace effectively so that the code looks neat and is easy to read.

1. Loads the tibble package. (If it's not already installed, you should install it first. In general, though, you should not install pacakges as part of a script.)
2. Loads the `submit_times` data set using the appropriate function (depending on the file type). You may have to install the required package first.
    - `readr::read_csv()` or `read.csv()` for `.csv` files (comma-separated).
    - `readxl::read_excel()` for `.xlsx` files (Excel).
    - `haven::read_dta()` for `.dta` files (Stata).
    - `readRDS()` for `.rds` files (R).
3. Quickly summarizes the data using the `glimpse()` function in the tibble package.
4. Loads the `calories` data set using the appropriate function (depending on the file type).
5. Quickly summarizes the data using the `glimpse()` function in the tibble package.
6. Creates the numeric vector `my_vector` that contains the collection 3, 5, 6, 1, 3, 6, 7, and 7.
7. Uses logical operators to find the elements that are less than 3.
8. Uses logical operators to find the elements that are equal to 6.
9. Uses logical operators to find the elements that are less 2 OR greater than 4.

Once the script is written, you should **save it** to a convenient spot on your computer. (I suggest a folder `R` inside your `pols-209` folder.) Remember that you'll be writing several scripts this semester, so keep them organized.

Important update: When RStudio tries to compile your notebook, it (without your permission and without telling you) changes your working directory to whatever folder contains the R script. IMO, this is not a good default behavior. However, we can override this behavior by setting the working directory within the script.

To do this, simply set the working directory to `pols-209` as usual, but copy the command that R runs, something like `setwd("~/Dropbox/classes/pols-209")`, to the top of the script. This forces RStudio to use the working directory you want.

For example, at the top of my script, I now have the following, which works for me.

```
# set working directory
setwd("~/Dropbox/classes/pols-209")
```

To submit your work, do the following:[1]

1. With your R script open, click "File", "Compile Notebook. . . "
2. Under "Notebook Output Format," select MS Word or HTML, whichever works best for you. I suggest trying HTML–we had good success with that one last homework. See footnote 1. It seems like PDF did not work well for many people, but if that works well for you, that is okay too.
3. In a web browser, go to the eCampus page for POLS 209.
4. Click "Submit Computing Assignments" in the left sidebar. Click "Computing Assigment 2."
5. To the right of "Attach File," click "Browse My Computer."
6. Navigate to the file containing your R script and you'll find a file with the same name but the extension ".html" or ".docx" rather than ".R". Select the ".html" or ".docx".
7. Click "Submit."

I expect you to submit the assignment on eCampus *before* class. However, I have given you until noon in case you encounter technical difficulties.

[1] In case of technical difficulties, I don't want you to spend a lot of time figuring out how to submit your work. If you can't figure it out, just bring a hard copy to class. We'll sit down and work through the process so it's smooth and easy next time.