

DATA TYPES AND BASIC VARIABLE MANIPULATION

In this project, you'll set up a complete project in R Studio for the first time, practice many of the skills you learned in DataCamp this week, and archive your work into a format that can be sent to others.

Two rules, which will apply to all projects (more rules to be added later):

- a) Follow instructions *precisely*. For example, if you are asked to accomplish something on "line 1", you will not receive credit for accomplishing the same thing split across two lines. If you are asked to create a variable called `my_df` and you create a variable called `my_Df`, you will not receive credit.
- b) Do not use any functions or approaches to problems that we have not yet learned in either DataCamp or lecture.

Part 1 – Set up a new R Studio Project

1. In R Studio, create a new Project. Use the directory/folder structure discussed in the reading, with subfolders called *data*, *figures*, *docs*, *R*, and *output*. Note that for this course, we will put *all* R script files into the R subdirectory (this is not exactly what the reading describes).
2. Put the CSV file on Blackboard into the data subdirectory
3. Create a new R file called `week2.R`. All work should be in this file.

Part 2 – Analysis

4. Save `week2.csv` to an appropriate location within your project folders.
5. **Line 1:** Write a comment that says: Import and Labeling
6. **Line 2:** Use the `read.csv()` function to create a data frame called `rt_df`. Do this by passing it two parameters: *file* with an appropriate *relative path* to `week2.csv` and *header* with the Boolean value representing a yes. Use a relative path for the file (appropriately specified from the R directory to the data directory). This will create a data frame containing variables: experimental condition (*condition*), reaction times (*rt*), and gender (*gender*).
7. **Line 3:** Add labels to *condition* within `rt_df`: A should be labelled Control and B should be labelled Experimental.
8. **Line 4:** Also add labels to *gender*: Male, Female and Transgender (for M, F, T).
9. Leave line 5 blank.
10. **Line 6:** Write a comment that says: Analysis
11. **Line 7:** Display mean reaction time across `rt_df` using the `mean()` function.
12. **Line 8:** Create a new data frame called `rt_f_df` containing only female cases.
13. **Line 9:** Using one command, display frequencies and/or quantitative summaries of all variables in `rt_f_df`.
14. **Line 10:** Create a histogram of female reaction times by using the `hist()` function with one parameter: the *rt* column of `rt_f_df`
15. **Line 11:** Create a list called *datasets* containing both `rt_df` and `rt_f_df`
16. **Line 12:** Display the contents of the *rt* variable from the first dataset contained within *datasets*

Part 3 – Submission

17. Exit R Studio and archive your entire R Project folder as a ZIP file.