

## Lab Exercise #1 (100 points)

Please briefly go through “The R Guide.pdf” which is a short version of introduction to R. This guide introduces many of the basic concepts and nuances of the language so that users can avoid a slow learning curve. The best way to use this manual is to use a “learn by doing” approach. Try the examples and aim to understand what works and what doesn’t. (Meanwhile, you can refer to a list of R references on Canvas for help).

Start the RStudio and Go to File>New File>R script. Follow the tutorial 1.3, 1.4, 1.5, 1.6, 1.7, 2.1, 2.2, 2.3, 3.1, 3.3, 4.2.1, 4.4, 5.1, 5.2, 7.1 (Example 1), and 7.3 (Example 1). Please include comments (starting with “#”) when necessary. To run specific codes, select the block of code you want to run, and then press Ctrl+R (in RGui) or Ctrl+Enter (in RStudio).

Save your R script and submit it to Canvas.

If you prefer using your laptop/PC for the lab and project, please install R and RStudio.

### To Install R at home

Point your preferred web browser to <http://cran.r-project.org/>. Under Download and Install R, Click Download R based on your operating system. You will want to install the “base” package, not the one labeled “contrib.” After download the installation package, install it.

Go to <https://www.rstudio.com/products/rstudio/download/>. Download and install RStudio based on your operating system.

The tutorial “The R Guide.pdf” is based on the RGui, but RStudio allows the user to run R in a more user-friendly environment, which is recommended in this course. For more information about the RStudio, please check <https://dss.princeton.edu/training/RStudio101.pdf>.

Please check R resources in Module 1 for more information to help you get started on R.