

R Handout: installing R and RStudio

1 Installing R

One of the wonderful things about R is that it is free. This way, you may work on your homework in the comfort of your home.

To download and install R, complete the following steps:

1. Go to <https://cloud.r-project.org/>.
2. If you have Windows, click “Download R for Windows”
3. If you have a Mac, click “Download R for (Mac) OS X”, and select the appropriate package based on your operating system.
4. If you have Linux, click “Download R for Linux” and select the appropriate platform.
5. Follow the installers instructions.

Congratulations, you have now (hopefully) installed R. If not, feel free to email me.

2 Installing RStudio

While it is technically true that you may stop at the above step and only use R, I highly recommend installing the user interface Rstudio.

To install RStudio, complete the following steps:

1. Go to <http://rstudio.org/>
2. Click on the “Download RStudio” button.
3. Select the “Desktop” option.
4. Select the appropriate link (usually the recommended for your system works just fine).

3 Configuring RStudio

You should now have an icon on your desktop for RStudio. If you run the program, it will automatically open R as well, and you should have 4 panels. To configure the panels in the same setup that I will have in class, go to

Tools → Global Options → Pane Layout

and select the “Environment, History, Build, VCS” for the upper left corner, “Files, Plots, Packages, Help” for the upper right, “Console” for the lower left, and “Source” for the lower right.

A brief description of the four windows follows:

- Environment, History, Build, VCS: This window lists the following:
 - Data: All datasets entered, with their name, type, and dimensions (these are typically data frames). For example, a data frame consisting of 3 columns, or a matrix consisting of 3 columns would be listed here.
 - Values: All vectors, or single value objects, along with their name and type. For example, a vector

of numerics, a single numeric value, or lists(to be discussed later) of values would be listed here.

Functions: All **user entered** functions, with their name and the parameters they expect to use as input would be listed here.

- Files, Plots, Packages, Help: Should you use the help command (the ?) in R, the relevant help document will be opened here.
Should you plot a figure, the relevant figure will be displayed.
You may look at what packages you have loaded (this may be beyond the scope of this class).
- Console: Where you type in your commands and retrieve your output.
- Source: A convenient place to store your commands, which can then be sent to the console via keyboard shortcuts or with a button. I **highly** recommend putting all of your code in the source window, and transferring it to the console.