Getting started with R

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Where to find R:

Head to https://www.r-project.org/ to download R. Click the “Download R” link, and select a CRAN mirror that is in the US, preferably one that is close geographically. CWRU actually has a CRAN mirror, so maybe use that one. Select the correct download for your operating system. Follow the directions to install.

Where to find R Studio:

R Studio, while optional, can make it a lot easier to use R. R Studio is what’s known as an integrated development environment (IDE), which means that it has built-in tools for managing and organizing projects in R. Head to https://www.rstudio.com/ to download it. Follow the directions to install.

How to open R:

If you want to use R, you can just open R Studio, which will open R inside it, automatically. R Studio has several windows inside of it, including the console, the environment, plots, etc. You can type code directly into the console, and output will appear in the console. However, if you want to be able to save your code, you should use an R-script. The environment shows all the variables and functions that you have saved. Any plotting that occurs will show up in the plotting window. If you prefer to use plain R without R Studio, you can always just open R by itself, which will open what looks like a text box. This box is equivalent to the console in R Studio.

R scripts:

Whenever you want to save R code, you should use an R script. In R studio, you can do this with File>New File>R script, or by clicking the button on the top left with a green plus sign and a white square. In plain R, create a new script by doing File>New Document. Try to save your R scripts in a relevant folder so it’s easy to find them. You can then either copy and paste them into the console to run, or send them directly to the console by pressing Command+Enter on a Mac or Control+Enter on a PC.

About R:

R is a free, open source statistical package. Its cost is a huge part of its recent popularity. Most other mathematical and statistical packages (Matlab, Mathematica, SAS, SPSS, Stata, etc) cost a lot of money each year, so many people don’t have access to them. Using R makes it easy to collaborate without those without access to expensive programs. Many packages have been written for R, and are available for download directly from CRAN or sometimes from github. These packages add functions that can do all sorts of things, from specialized statistical tests to adding better color palettes to R. Keep an eye out for these to avoid doing extra work.