Week 1: Getting Started with R (and RStudio)

Welcome to the STORK R Summer School!

Within these weekly lessons I will be going over the basics of R and getting everyone familiar with the basics of using R and RStudio which is the "integrated development environment" (IDE) that makes R easier to use. We will be following the R-ladies Sydney's intro course for this summer school. Each week you will have "homework" to go through to prepare you for class. The homework will allow you to see how R works and then the class time will be utilized to answer questions and do debugging if people are having problems with R.

This week the goal is only to get used to the IDE and understand the basics of operating the features within RStudio.

Installing R and Rstudio

Before we do anything we need to have the programs. If you do not have R and RStudio on your computer please follow these directions to get the programs

https://rstudio-education.github.io/hopr/starting.html

Can't download and install RStudio/R? Then please use the cloud site → rstudio.cloud

This site can be useful for learning R but I would strongly suggest having a local copy of R and RStudio for your work because you won't have to rely on an internet connection to have access to R.

Activity 1: Tour of RStudio

Have Rstudio open and follow along with this video (15 minutes):

1. Video: https://www.youtube.com/watch?v=kfcX5DEMAp4
2. Text: https://rladiessydney.org/courses/ryouwithme/01-basicbasics-1/

Activity 2: Loading Packages

R is only a programming language and users typically rely on packages to do the brunt of the calculations and data processing to produce the statistical analyses they desire. This section will show you how to install and access them.

1. Video: https://www.youtube.com/watch?v=v6VygIgvoZU
2. Text: https://rladiessydney.org/courses/ryouwithme/01-basicbasics-2/

Activity 3: Data time!

For the 3rd and final lesson of these week we will import some data into R. For the most part, we will be working with data frames and "tibbles" which are particular formats of data in R. This lesson will show you how to import a data set and "peak" at your data.

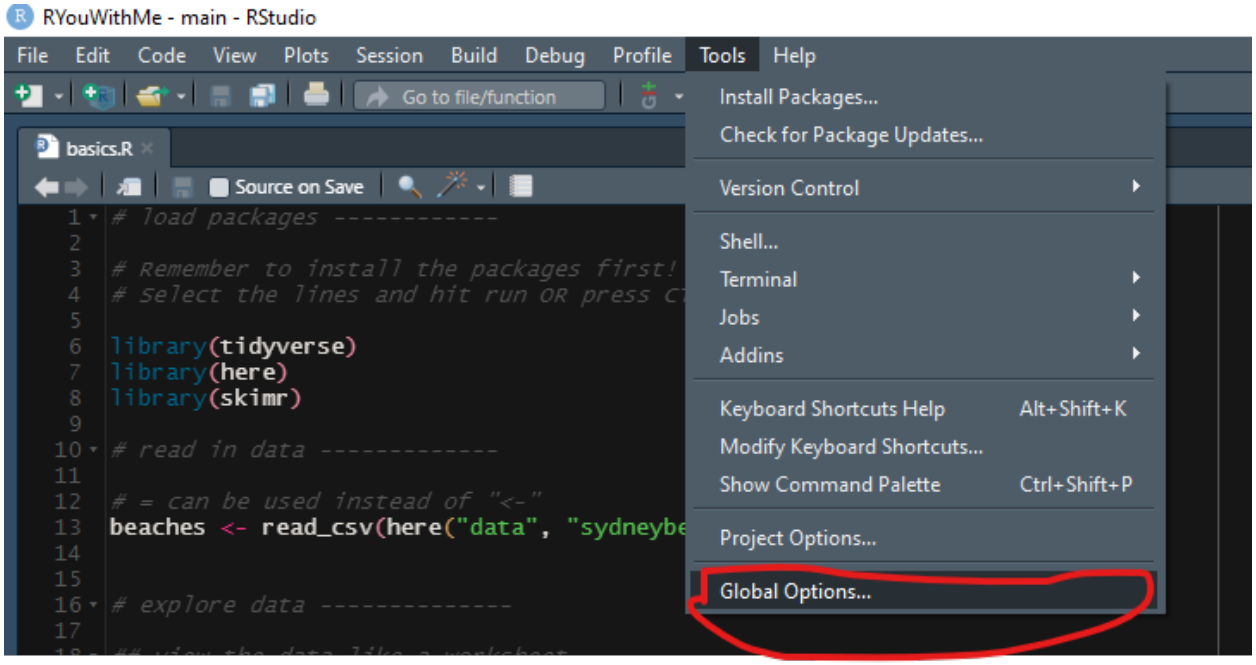
1. Text: https://rladiessydney.org/courses/ryouwithme/01-basicbasics-3/
2. Video: https://www.youtube.com/watch?v=2MVolYETR5Q

Learning Objectives

1. Download, install, and able to browse both R and RStudio
2. Start a project called “RYouWithMe”
    a. Project should have two folders: “data” and “scripts”
    b. Data folder should have the syndneybeaches.csv data file
    c. Scripts folder should contain a script called “scripts.R”
3. Fill in the “scripts.R” file so you can import and glance at the data using the following packages: here, tidyverse, and skimr

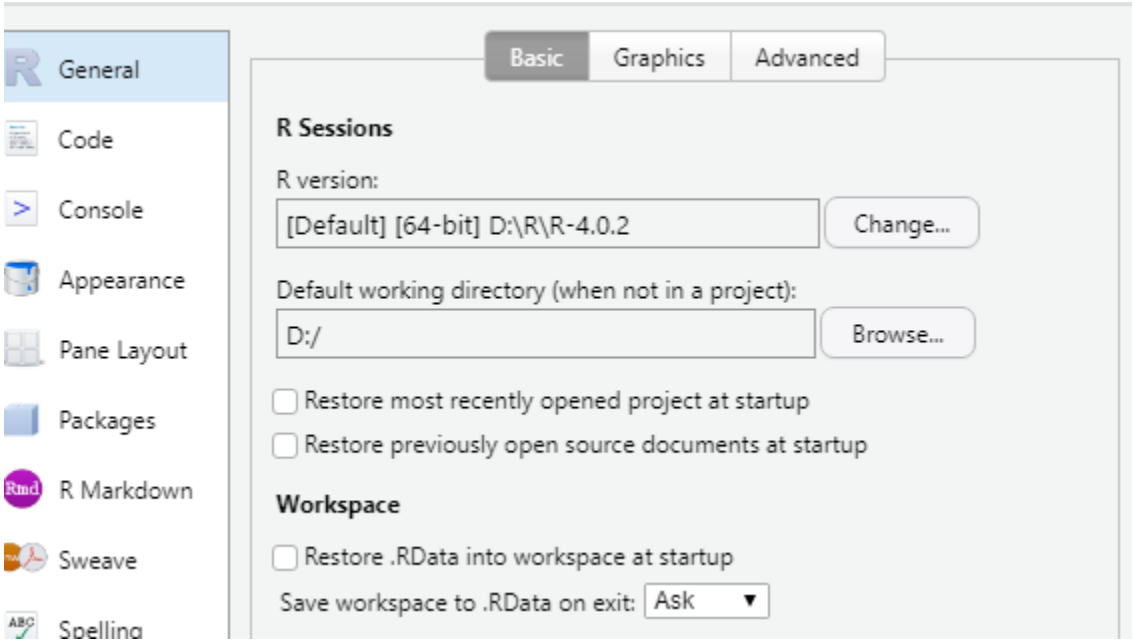
Notes on RStudio Settings

1. ALWAYS USE PROJECTS: this is a great way to keep your data and scripts organized. Don’t just have all your scripts and data in a big documents folder. Use projects liberally!
2. Set your global options
    a. Go to global options



    b. Make sure all “restore” options are NOT selected. These tend to lead to bad work habits and can considerable slow R down to a crawl when you open RStudio. (It once took R 5

minutes to load because I had a massive RData file to load!!!)



c. Set a fun theme! I like to have a "dark" theme so I can go under "appearance" and set things to my liking.