Accessing R and RStudio

The steps for installing R and RStudio are listed below, but detailed instructions follow for both Windows and Mac OS systems. Additionally, I'll show you how to install and access a few sets of notes to introduce you to R if you'd like a quick introduction.

1. **Install R:** R is a computing language which has been optimized for use in statistics, data analytics, and data science.
2. **Install RStudio:** RStudio is a convenient way to interface with the R language. Think of R as "Spanish" and RStudio as Microsoft Word – you can write R in RStudio, just like you can write Spanish text in Microsoft Word.
3. **Optional:** Install the packages necessary to access the notes.

1. Installing R

Installing R is quite simple. Navigate to CRAN (the Comprehensive R Archive Network) and choose the link corresponding to your operating system. Follow the instructions below corresponding to your operating system below.

Windows:

- Click the link titled **Install R for the first time**.
- Click the link to Download R 4.0.5 for Windows.
- Once the download completes, run the installer – keep all of the default options.
- Once R has finished installing you'll need to download `Rtools40`. Click this link, choose `Windows` again, click on the Rtools link, and choose the 64-bit installer.
- Once the installer has downloaded, run the installer – again keep all of the default options.
- Once you've done this, restart your computer.

MACOS:

- After clicking the link for the Mac OS X operating system, look for the link titled R-4.0.5.pkg. Click this link and follow the installation instructions. Keep all of the defaults set.

2. Installing RStudio

- To install RStudio, click this link.
- Under the *Choose Your Version* heading, you'll click the Download button underneath the *Free Desktop Version*.
- RStudio.com will automatically detect your operating system. Click the download link presented to you. It is a blue button underneath step "2." – you've already done step "1.".
- Once the download has finished, run the installer – keep all of the default options.

3. Getting the Notes Packages (Optional)

Search your computer for the RStudio application you just installed, and open it. When you first open RStudio you should be presented with a window that has three panes – the long pane on the left should be titled `Console`. This is a place for you to run R code.

- Click into the console next to the prompt (`>`) and type the following command: `install.packages("devtools")`

- You can hit the `Enter` or `Return` key on your keyboard to run the command.

- If you are asked to *install in a personal library*, you can do so – this will make the package available only to you and no other user profiles on your computer.
- Red and black text will splash onto the `Console` while the required utilities are being installed. What for the install to finish – you'll be presented with a message in the console that the install has finished and your prompt (`>`) will return.

- After `devtools` has been installed, run the following command `remotes::install_github("agmath/AppliedStatsInte`

- After you hit `Enter` or `Return` and the command is run, you may be asked several times (three or four times) about updating existing packages. You can type 3 and hit `Enter` or `Return`, which is the option to update none of the existing packages.
- In between refusing the package updates, more black and red text will splash to the console. You'll know that the install has completed when you get a message in the console stating so and your prompt (`>`) has returned. This should take between 3 and 8 minutes or so.

Accessing the Optional Notebooks

Now that you have `R`, `RStudio`, and the `AppliedStatsInteractive` package installed you won't need to work through those steps again.

- Open `RStudio` – make sure you open RStudio and not just plain R – if you've only got a small window with a blinking cursor, that's R – close it and reopen RStudio instead. The icon in your task bar should be a light blue orb with a white R in the center of it.

- You can now access the notes by clicking on the **Tutorial** tab in the top-right pane of RStudio. Locate the notes you would like to open and the click the `Start Tutorial ?` button.

- To get an introduction to R, you might be interested in Notebooks 2, 3, and 4.
- Notice that the notes are out of order – for example, Topic 11 comes before Topic 2.
- If you choose to work through these, let me know if you have any questions or run into trouble. Not all of what is in these will be directly relevant to what we do this summer.