**Setting up R, RStudio, and Quarto**

Note: If you already have R and RStudio installed, please ensure you have the latest versions.

***Base R***

Go to the CRAN website (<https://www.r-project.org/>) to download and install the **latest version** of R for your operating system. All versions of R are named after “Peanuts” comics.

***RStudio***

You will use RStudio (from Posit) as your main scripting environment (i.e., this is the application you will work from when writing and running R code). Download the free version of RStudio Desktop from Posit here: <https://posit.co/download/rstudio-desktop/>.

Select the correct version based on your operating system.

Mac users: Open the .dmg file and drag the RStudio icon into your Applications folder.

Now, open RStudio. This will allow you to check if R was installed correctly. In the console (see below), you should be able to see which version of R you’re running.

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***Packages***

You will use many functions from open-source R packages for data wrangling and analysis. Install them now so you can use it later.

If RStudio prompts you to select a “mirror” for use, choose the IN, IA, or MI mirror.

Next, run the following command in the console (you can just copy-paste the text **into the console**, then run the command by pressing ‘Enter’):

install.packages(c("tidyverse", "here", "skim"))

If prompted, Windows users should install their packages in a personal library. Othewise, you will not be able to update packages when new releases come out.

**Remember, do NOT install packages to the Cloud or OneDrive**.R often fails to load packages from anything saved on MyCloud, OneDrive, or any variant of these. Instead, make sure all files are downloaded and installed onto your local device.

***Quarto***

You will use the Quarto notebook format to produce readable and easily sharable code. Go to <https://quarto.org/docs/get-started/>. Follow Step 1 to download and install Quarto for your operating system.

To learn more about Quarto notebooks, go to Step 2 and click on the RStudio icon. You should now see a brief explanation of how Quarto works. There is also a video introduction and an example .qmd file you can download.

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But don’t worry! There will be a standalone tutorial for using Quarto.

**Standard Workflow**

***Naming Conventions***

Stick with **the snake case** for naming convention. Briefly, name files and folders with all lower-case letters and separate words with underscores (e.g., *psych\_610*). Note that spaces in file names may cause issues when reading them into R.

***Directory Structure***

To keep things organized, you will need a directory (i.e. folder) on your computer, where you save all materials related to your work as a part of SBDL.

Create a folder called *sbdl\_research* somewhere on your computer.

***R Project***

Finally, you will create an R project at the root of our *sbdl\_research* directory. Anytime you use R for work related to SBDL, we will boot RStudio by opening this project. R project allows for consistency of file paths across RAs (even if people save their folders in different places).

In RStudio, go to the File menu -> New Project. Select Existing Directory and select your *sbdl\_research* folder as the project working directory. Then, click Create Directory.

Once you are done, a new RStudio session should pop-up. You will also see in your *sbdl\_research* directory a new .Rproj file.

***Accessing Quarto Notebooks***

In the future, start your RStudio session by double-clicking on the sbdl\_research.Rproj file in *sbdl\_research* directory. Go to the Files tab in RStudio, where you should be able to see your *sbdl\_research* directory. You can navigate the directory and open up Quarto notebooks by clicking on the folders and files you see here.

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***Congratulations on finishing the setup!***