The RStudio Source Window

Many analysts choose to run R from within another free application called RStudio (RStudio-Team, 2017), available at rstudio.com. RStudio provides an environment for running R along that includes some conveniences. RStudio presents the same R console as does the standard R app, but as a window pane, part of the division of the larger RStudio window into three or four distinct panes.

Another useful RStudio pane is the Source pane, which can contain lines of stored R code to save for later reuse. As a general practice, save your R instructions for future re-analysis so that your R code is *reproducible*. Anytime in the future, you or anyone else with access, can reopen your file of saved instructions and then rerun the analysis. Better to only rarely enter code directly into the R console.

The R code entered and saved in the Source pane is formatted as a type of file called a *text file*, which contains only text characters without any extra formatting such as bold characters or pagination. As shown in Figure 1.3, to create a text file from within RStudio, go to the File menu, choose the New File option, then select R Script to open a new Source pane.

Figure 1.3: Create a new R script file to save R code to generate future analyses.

Figure 1.4 displays the resulting RStudio window with the new Source pane named Untitled, located by default immediately above the Console pane. Enter R instructions into the Source pane and then save the contents as usual, such as from the File menu.
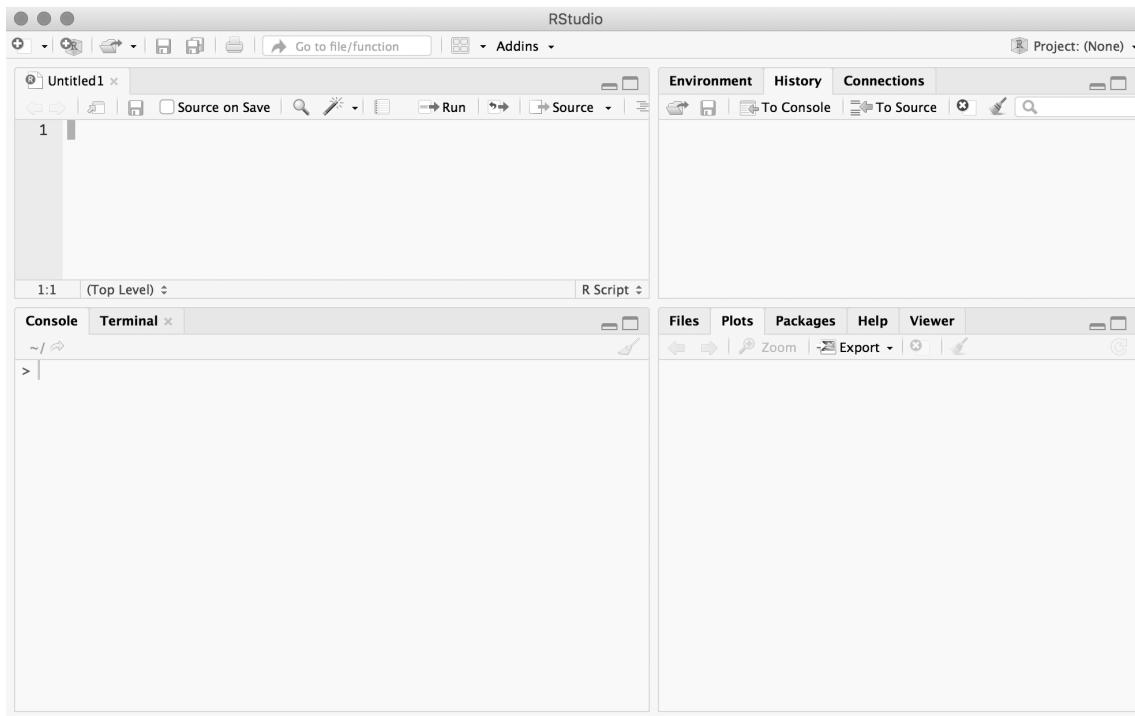
Figure 1.4: RStudio window with four window panes, including, on the left, the Source pane and the Console pane.

RStudio can also open an existing text file saved from another application into the Source pane. RStudio remembers any file open in the Source pane when the app is closed. The next time RStudio is run it automatically re-opens all the files previously open in the Source pane.

To run the R instructions in the Source pane select any line(s) of R code. Click the Run button at the top of the pane as shown in Figure 1.5. Here the file that contains a single instruction to generate the histogram has been saved with the name of Histogram.R.
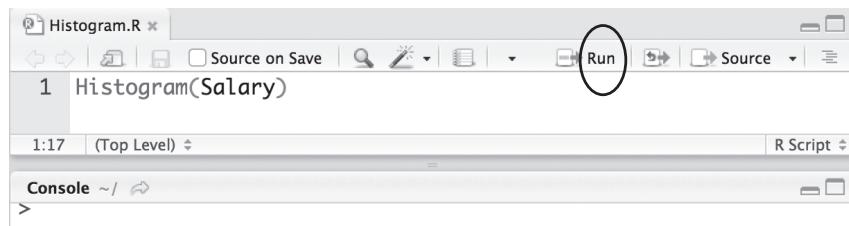
Figure 1.5: Run R code from a Source window.

RStudio then copies these selected lines into the R console and runs them, just as if you had entered them manually into the console. In this example, the

resulting console appears in Figure 1.2. When running R by itself apart from RStudio, accomplish the same result by entering lines of R code into a text file created with any relevant application, select and copy the lines of code, and then paste into the R console to run. Access R by itself, or within RStudio. Either way, the R console for entering commands remains the same.

Functions that generate text output, such as the Histogram function, list the output directly in the R console. Functions that generate graphic output, visualizations, provide a separate venue for that output. Standard R opens a new window for graphic output. RStudio directs the visualization to another one of its four panes.