

Using the R command line

The basic way to interact with R is through the command line interface. In RStudio, this command line interaction occurs in the command console. R is an interpreted programming language. This means that R will interpret each line of code as it is entered and, if it is valid, R will execute it, returning the result in the command console. This is a more direct interaction than a compiled programming language, where you edit the code, compile it, run the executable, and receive the output result. The immediate feedback of an interpreted interface makes R relatively easy to learn and work with. Simply enter your code, press the ENTER key, and get the result.

A short example exercise will help demonstrate the R interpretive command line interface in the RStudio Command console.

Type: **45 + 56** then press **ENTER**

The result **101** is returned to the command console

Type: **x = 34** then press **ENTER**

Type: **y = 16** then press **ENTER**

Type: **x - y** then press **ENTER**

The result **18** is returned to the command console

Type: **y/x** then press **ENTER**

The result **0.4705882** is returned to the command console

Type: **x - z** then press **ENTER**

The result **Error: object 'z' not found** is returned to the command console

One last example:

Start to type **mean()**

As you type each letter, RStudio begins to suggest available objects and functions from your session environment. Any object active in the Environment panel or any function in the active packages in the Packages panel will be recommended by RStudio for your use. This RStudio recommendation system makes command line interaction easier. You do not have to remember all of the active objects or functions. You can pick the one you want to use from the recommendation list.

You can also copy and paste code from earlier in your R session and run it again. Simply highlight the line of code. Copy it to the clipboard [use **CNTL c** in Windows or **⌘ c** in Mac]. Go to the command prompt [you can simply press the Down Arrow on your keyboard and your cursor will jump the command prompt]. Paste the code at the command prompt [use **CNTL p** in windows or **⌘ p** in Mac], then press **ENTER**.

You can now interact with R using the command line interface. As you develop your skills using R, you may want to save your work for a later session or run a block of code to initialize your session environment. This can be easily done with an R script. The next topic will introduce you to R scripts and how they can expand your capabilities.