Introduction to R Studio

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1. Installation

1.1 Install R

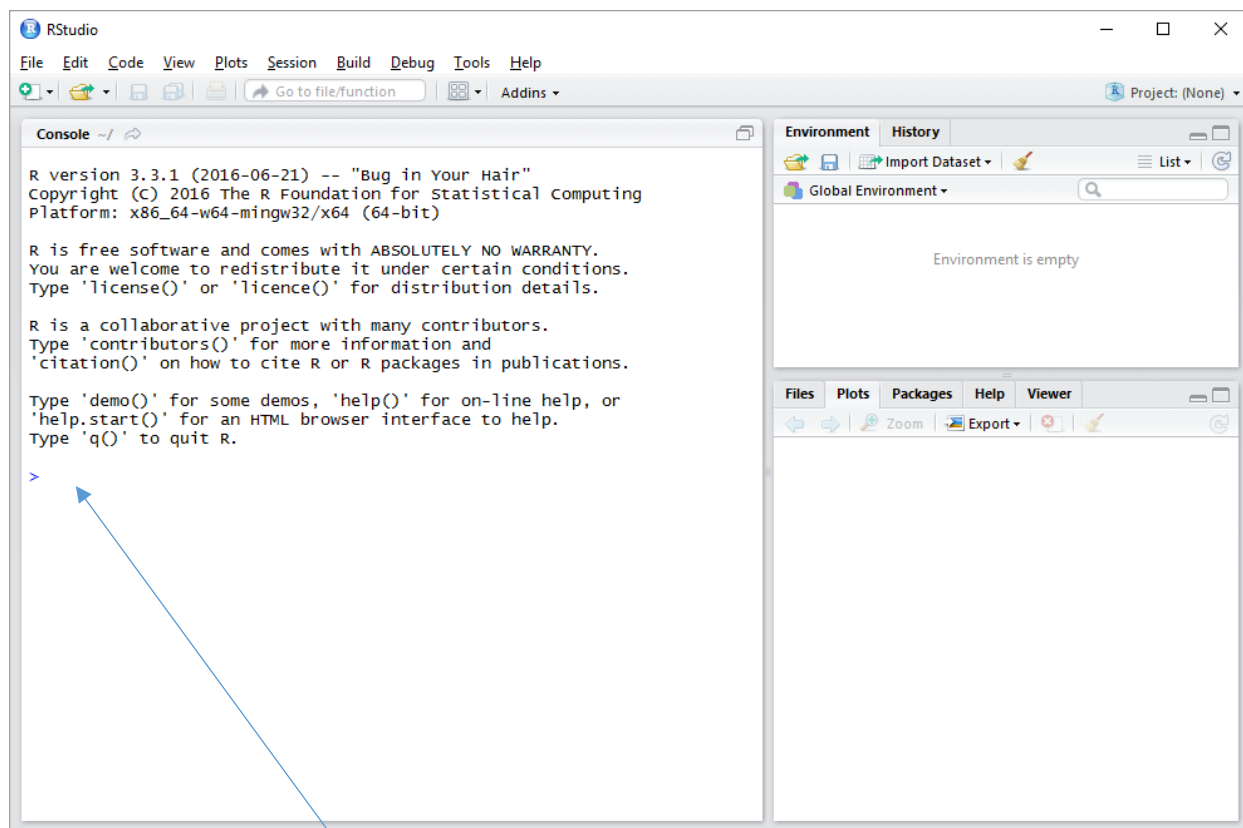For Windows: Download and run the .exe file from the following link: R for Windows
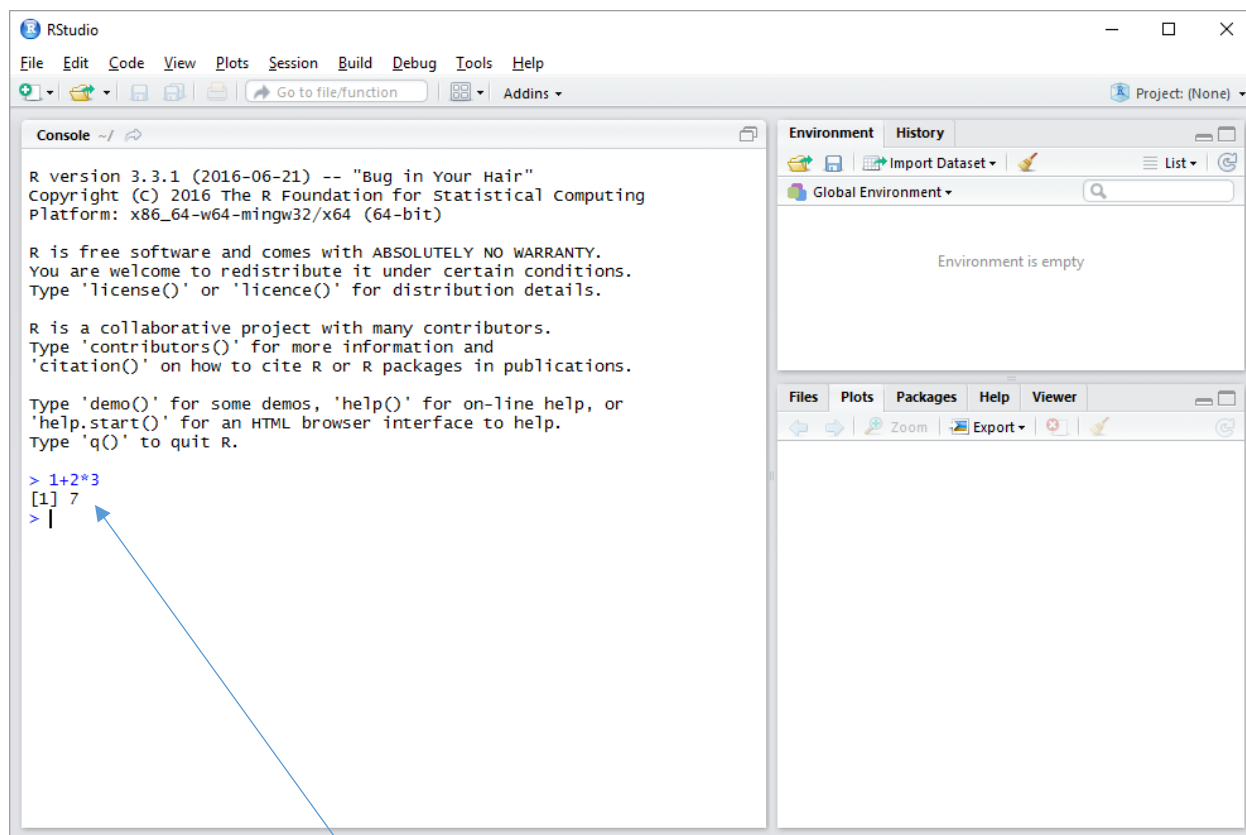
For Mac: R for Mac

1.2 Install R Studio

On the following link Download R Studio choose the download for RStudio Desktop (Free License)

2. Basic Tutorial
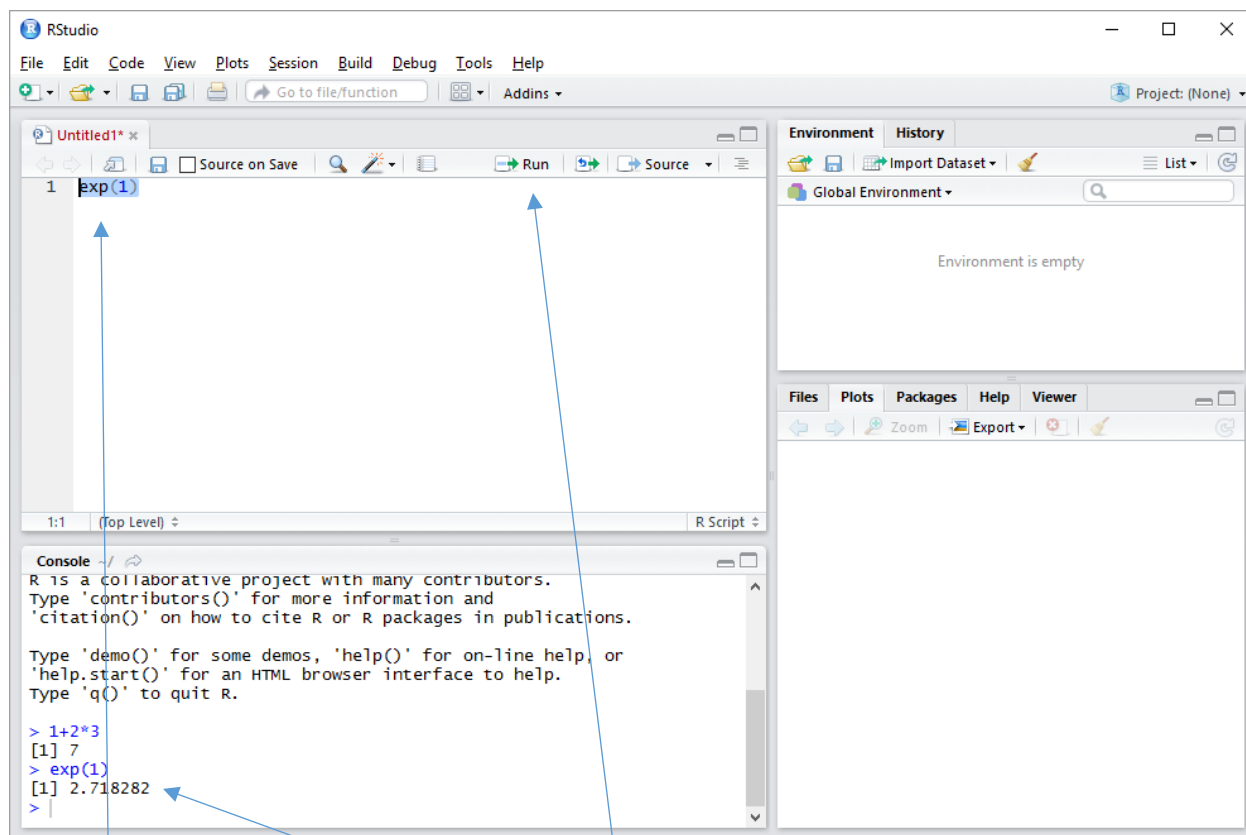
Open up RStudio. It should look like this:

This is the console window. Type commands here. Try entering '1+2*3'

Output is displayed in the console window.

To keep track of your commands, you can use a 'script' file. Go to 'File → New File → R Script'. Type a command in the 'R Script' window. Highlight the command. Click the 'Run' button. Finally, save your script by selecting 'File → Save'.

1. Type your command here. Highlight it.

2. Click the 'Run' button, or press 'CTRL + Enter' on your keyboard.

3. Output displayed here.

Next, download some data from the course website. It is in '.csv' format (comma separated values), one of the simplest and most common form of data file. To get the data into R Studio, enter the following command:

```
mydata <- read.csv("https://home.cc.umanitoba.ca/~godwinrt/3040/data/introdata.csv")
```

You have now created a data frame called 'mydata' (you could have named it anything). To view the data, you can click the object in the environment window.

1. Click here to view the data.

2. Click here to go back to your script.

To extract a variable from the data frame (the *x* variable for example), use:

`mydata$x`

Alternatively, you can load all of the variables into memory using

`attach(mydata)`

and refer to each variable directly.

Try the following commands:

`summary(mydata)`	`mean(x)`	`var(y)`	`cor(x,y)`
`?cor`	`myvar <- c(1,3)`	`myvar`	`plot(x,y)`