Pre-Workshop

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Purpose

Through out the workshop we will be using R and R Studio. This document walks the participants through the steps necessary to download and install required software.

R is a free, open source statistical computing environment. It is very popular these days to conduct all sorts of data manipulation and analysis tasks.

R studio is an integrated development environment that eases using R. We will be using it to (1) ease learning, (2) provide high quality reports.

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Installing R.

A new version of R is released twice a year, thus the exact version available at the time may change. At the time of the writing, the latest version of R was 3.2.2 (October 2015). For our purposes the exact version does not matter. Just download the latest version available in Comprehensive R Archive Network[1] (CRAN).

If you are using Windows or Mac you will want to download and install R binaries from CRAN. If you are using Linux, R should be available in the Software Repositories (and you most probably don't need my guidance).

Download the R installer suitable for your operating system below.

Installers:


R Windows Installers


R Mac OS Installers

Install the downloaded files just like you would any other program. Basically this involves you double clicking the downloaded file and following the on screen instructions. I recommend you accept default settings.

[1] CRAN is the official repository for R and R packages. This is where you typically obtain R.

Installing R Studio

R studio is the integrated development environment we will use for our workshop. Think of R Studio as an interface with additional functionality for R. It eases the scripting and documenting of your analysis.

You can get R Studio installer from the links below:

 R Studio Windows Installers

 R Studio Mac OS Installers

 R Studio Linux Package

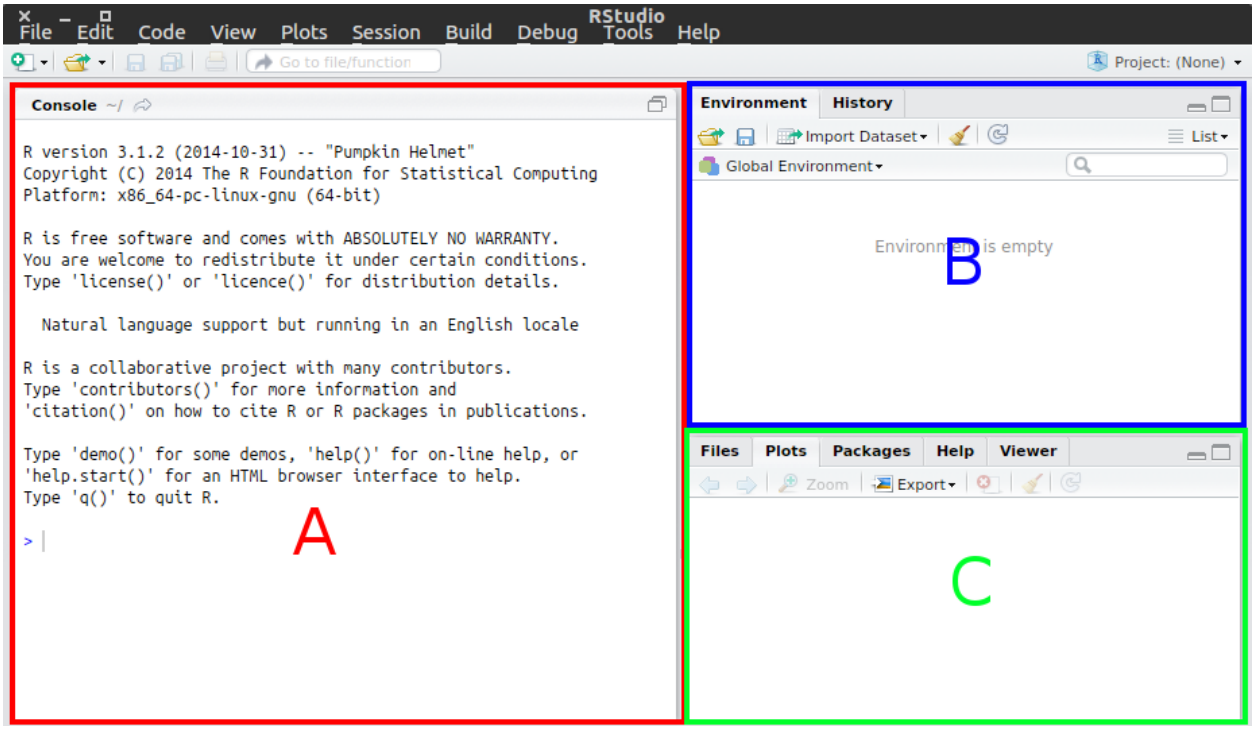
Install the downloaded files just like you would any other program. Basically this involves you double clicking the downloaded file and following the on screen instructions. I recommend you accept default settings.

Testing and Beyond

I hope you are getting excited to embark upon your analytics journey with R. Let's have a taste of R by verifying what we did so far works.

Click the icon for R studio  .

You should see something like the figure below:



Area A is the interactive R console. You can write R commands here and they will be executed. Area B is the environment pane. Here you can see the data and models in the R environment. Area C is the display pane. Here is where the Plots, Help files and such are displayed.

There is one more pane not visible at the moment, the scripting pane. You can write R scripts and R markdown files for later execution in that area.

In R console (Area A) type in the command below and press enter. Make sure you type exactly what you see. R is case sensitive (Print is not the same as print) and is very picky about correct syntax (Quotation marks and braces).

First let us do some basic arithmetic operations

```
2+2
```

You should see [1] 4 in Area A.

Now let us print out a string (piece of text).

```
print("Hello World")
```

If you see [1] "Hello World" in Area A, all is as it should be.

Type the following command to read R documentation.

```
help()
```

If you see documentation open up in Area C, all is well.

If you want to explore R on your own and prepare for the workshop I can recommend John Fox's web site. Especially the first two R scripts are good to look through.