

Step 1: Download R and install R:

<https://cran.rstudio.com/>

Step 2: Download and install Rstudio **after you install R**:

<http://www.rstudio.com/products/rstudio/download/>

For some potentially useful tips, see:

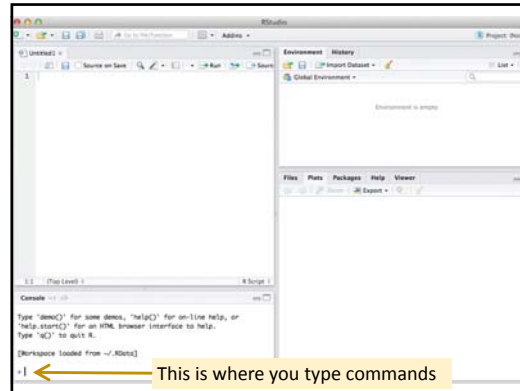
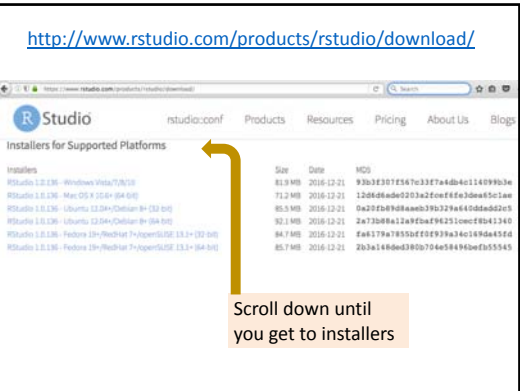
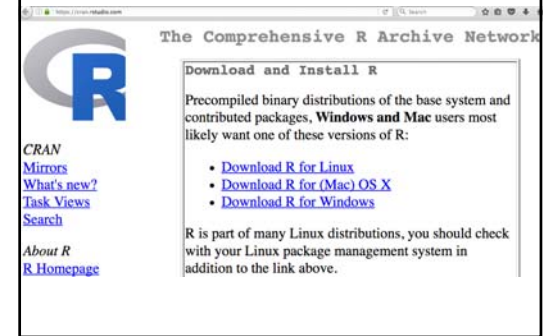
<http://socserv.mcmaster.ca/jfox/Courses/R/ICPSR/R-install-instructions.html>

From: <http://socserv.mcmaster.ca/jfox/Courses/R/ICPSR/R-install-instructions.html>

Installing R on Windows

Instead of installing R in the standard location, C:\Program Files\R\R-3.1.1, I suggest that you use C:\R\R-3.1.1. This will allow you to install packages without running R with administrator privileges and will avoid problems that sometimes occur when there are spaces in paths.

<https://cran.rstudio.com/>



If you would like to learn R or statistics or data analysis via Swirl:

<http://swirlstats.com/students.html>

Install swirl

Open RStudio (or just plain R if you don't have RStudio) and type the following into the console:

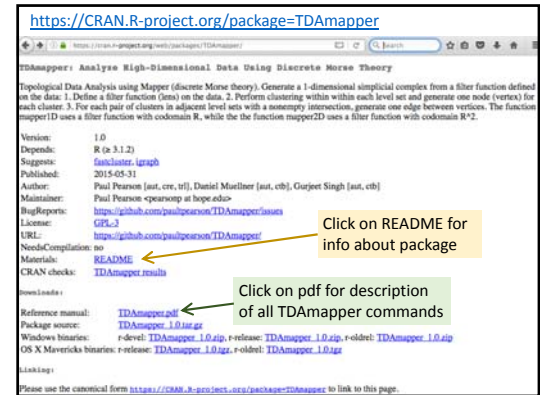
```
> install.packages("swirl")
```

Note that the > symbol at the beginning of the line is R's prompt for you type something into the console. We include it here so you know that this command is to be typed into the console and not elsewhere. The part you type begins after >.

After you have installed a package using
 > install.packages("swirl")
 You can load the package using the library command:
 > library(swirl)
 Use the following to install Swirl courses:
 > install_from_swirl("Course Name Here")
 The following will start swirl:
 > swirl()
 For a list of courses:
https://github.com/swirldev/swirl_courses#swirl-courses
<http://swirlstats.com/scn/title.html>

Some notes:

- 1.) Normally you only need to install a package once.
 e.g > install.packages("TDAmapper")
- 2.) If you want to use a package, you must load it
 e.g > library("TDAmapper")
 You only need to do this once per session.
- 3.) If you want to repeat a command, you can use the up-arrow on your keyboard to obtain previously typed commands in the console.
- 4.) When you start typing commands, R will show you some choices. You can click on the one you want.



If you click on a .r file, it will load in the upper left box of R-studio.
 You should download the following files from:
<http://homepage.divms.uiowa.edu/~idarcy/COURSES/TDA/SPRING17/Rfiles>
 Matrices_and_Data_Frames.R: commands from the Swirl course by this name.
 uploadDatatoRetc.R: How to upload and work with data. Modified from Swirl course.
 clustering.r: contains code for k-means and hierarchical clustering. Also discusses how to reduce the size of a data set.

imageclustering.r: download an image from the web and use clustering to reduce the number of colors.
 TDAmapper.r: code from the TDAmapper website for running TDAmapper on some data.
 The files mappersummary2a.pdf and mappersummary.pdf refer to the python version of mapper which can be found at <http://danifold.net/mapper/>.

