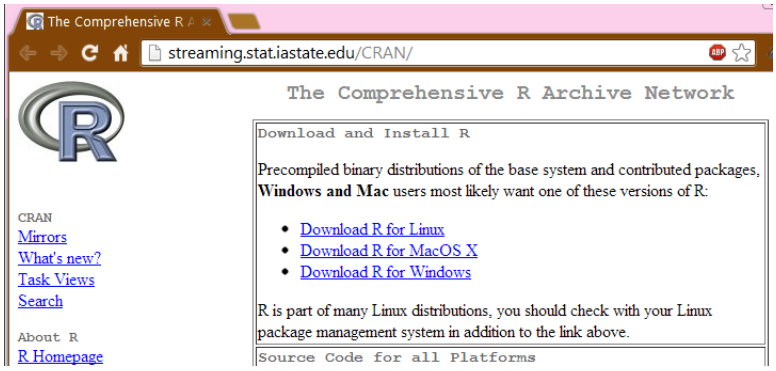
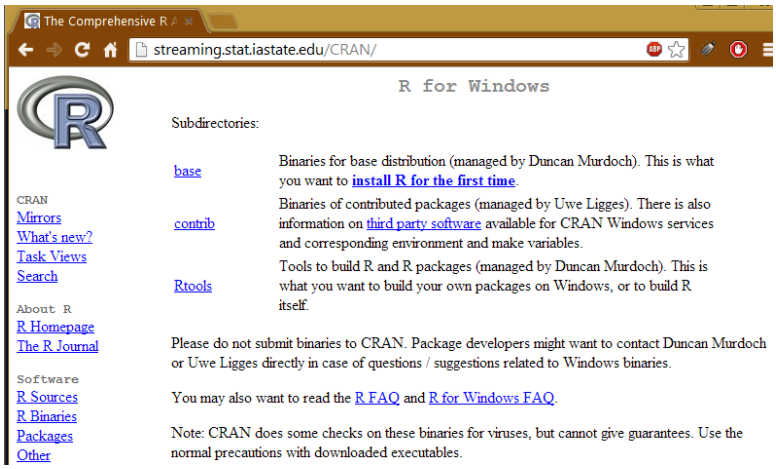
Install R

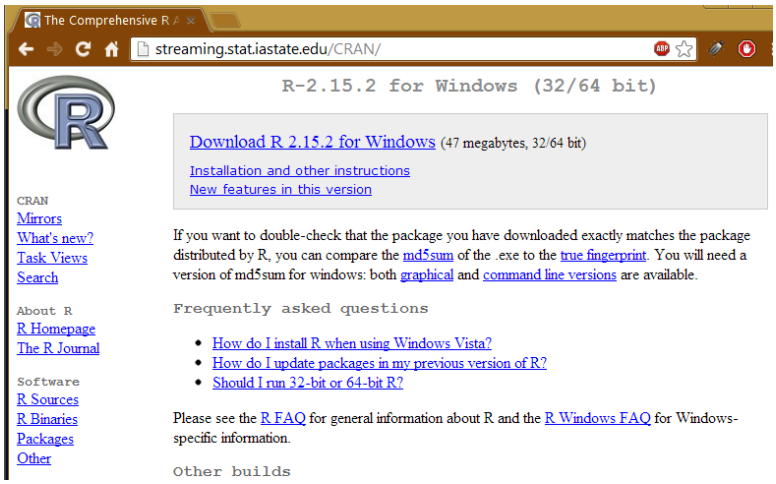
1. Goto the Iowa State CRAN[1] mirror (at streaming.stat.iastate.edu/CRAN/) in order to select the appropriate operating system for your computer[2]. The remainder of these steps will illustrate the installation of R for the WINDOWS environment.



2. Select the "base" option.



3. Select the "Download R 2.15.2 for Windows" option. Make sure to note where you saved this executable program on your computer.



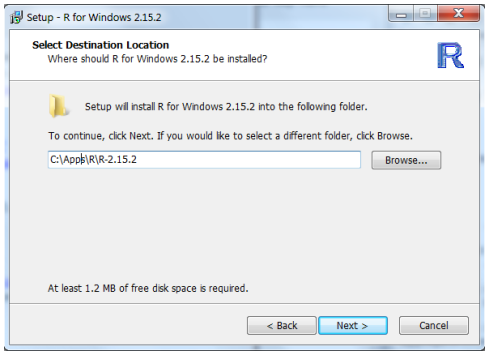
[1] CRAN is an acronym for Comprehensive R Archive Network.

[2] You can select a different mirror by going to the R homepage, selecing the "download R" link in the "Getting Started" box and selecting a mirror location from the ensuing page.

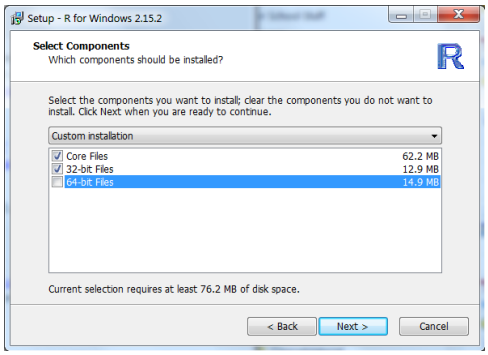
4. Locate on your computer and run the downloaded file (called "R-2.15.2-win.exe" or similar if the version number has changed). Select "English" language in the first dialog box (depending on your version of Windows you may have received security warnings before this dialog box appears).

5. Press "Next" on the next two dialog boxes (the first is a simple discription and the second is a user agreement).

6. Select a location to install R (simply use the default location if the location is not important to you – in the dialog box below I installed in a custom directory). Press "Next."



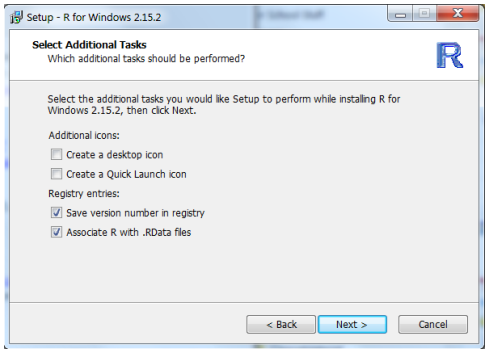
7. At this point you can choose to install 32- or 64-bit or both versions of R. If you don't have a 64-bit computer, then you must install the 32-bit version. If you do have a 64-bit computer, then I suggest, initially and for simplicity, installing only one version or the other. I usually install the 32-bit version as it has some slight advantages when not working with extremely large data sets and with other software I have installed on my machine (see this R FAQ). In this demonstration, I will install only the 32-bit version of R by de-selecting the "64-bit Files" option. Press "Next."



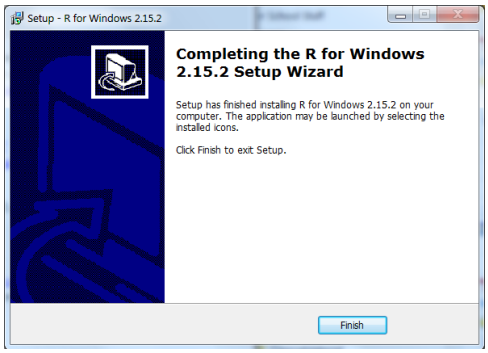
8. Select the "No (accept defaults)" (this is the default) option. Press "Next."

9. Decide whether or not to create a shortcut in your Start Menu folder. Press "Next."

10. Decide whether or not to create desktop or Quick Launch icons (top two choices) and whether to register the version number and associate .RData files with R (bottom two choices). Generally, you will want to register the version number and associate the .RData files with R. Press "Next."

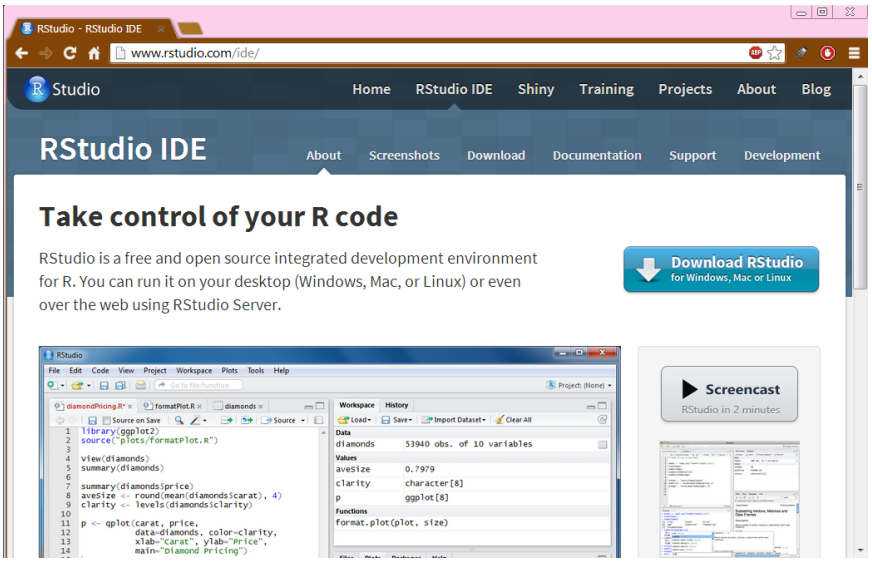


11. R should then begin installing files into the directory you chose previously. If everything goes well, then you should get one last dialog box noting such. Press "Finish."

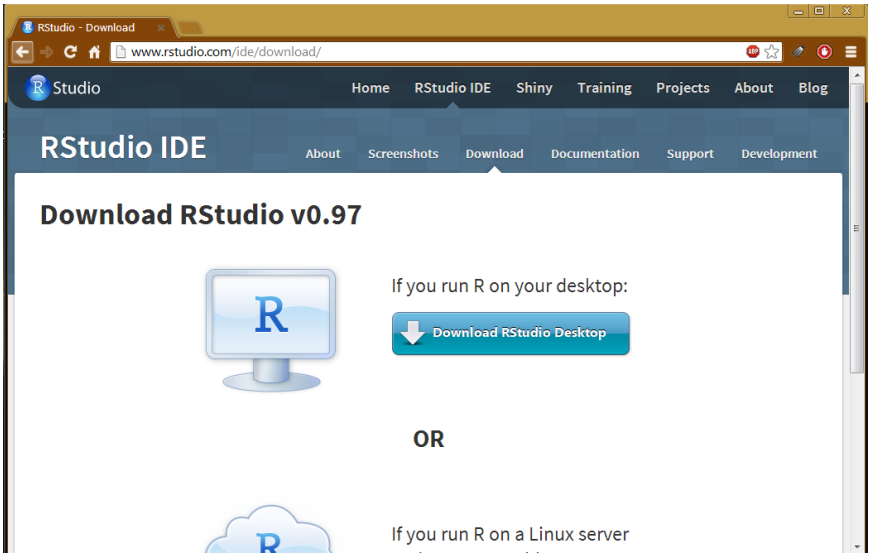


Install RStudio

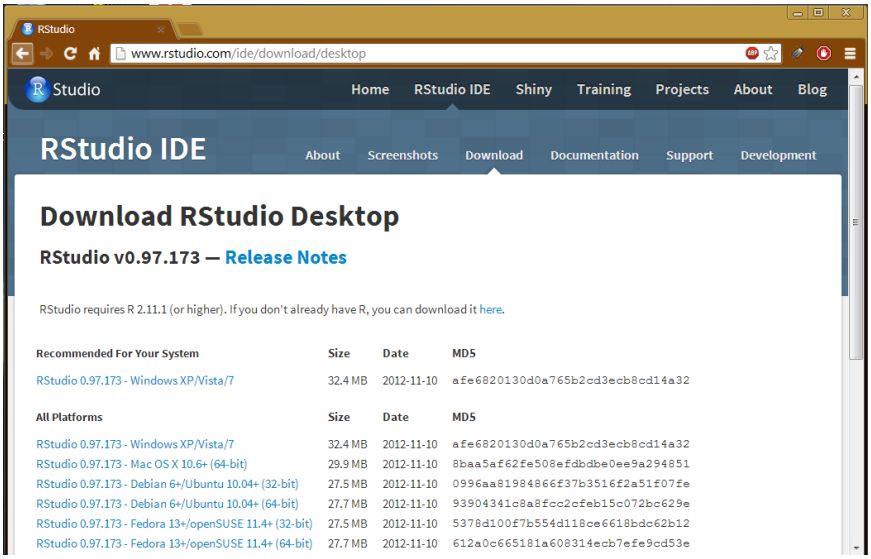
1. Goto the R Studio homepage at www.rstudio.com/ide/. Press the "Download RStudio" button/graphic.



2. Press the "Download RStudio Desktop" button/graphic.

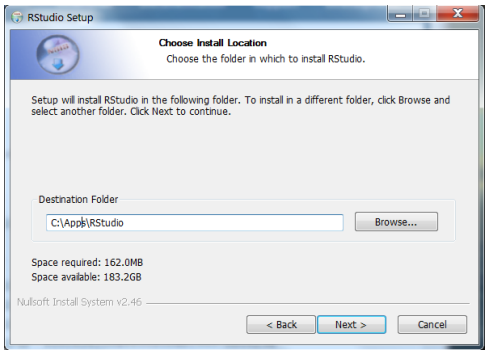


3. Select the link that corresponds to the operating system appropriate for your computer. This link is most likely listed below the "Recommended for Your System" heading. In the remainder of these directions I will demonstrate the installation for a WINDOWS operating system. Make sure to note where this executable program is saved on your computer.



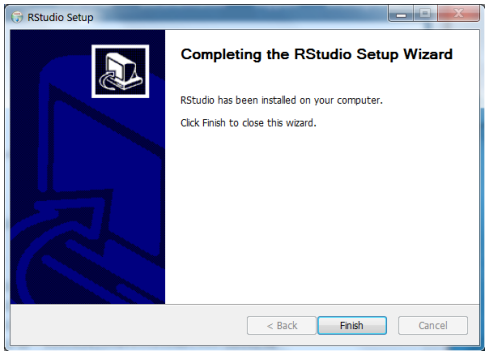
4. Locate and run the downloaded file (called "RStudio-0.97.173.exe" or similar if the version number has changed). Press "Next" on the first "Welcome" dialog box (depending on your version of Windows you may have received security warnings before this dialog box appears).

5. Select a location to install RStudio (simply use the default location if the location is not important to you – in the dialog box below I installed in a custom directory). Press "Next."



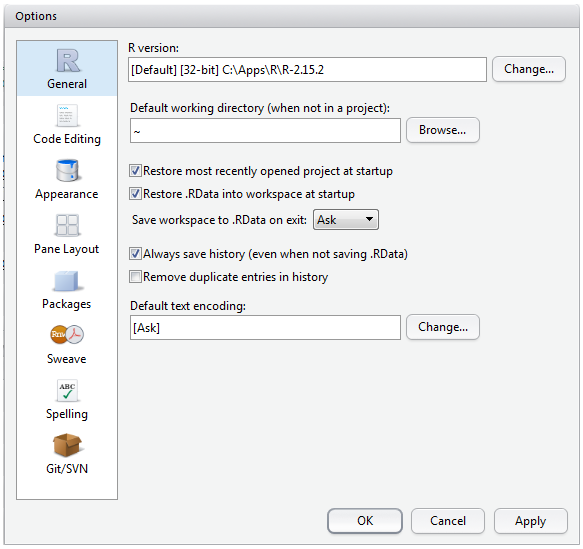
6. Decide whether or not to create a shortcut in the Start Menu folder. Press "Install."

7. RStudio should then begin installing files into the directory you chose previously. If everything goes well then you should get one last dialog box noting such. Press "Finish."

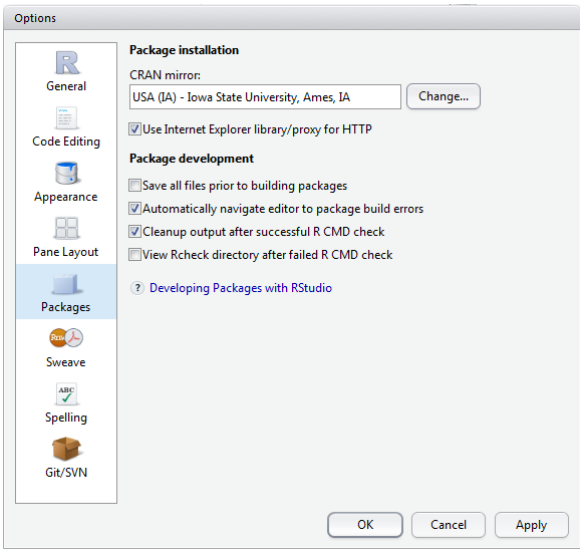


Preparing RStudio

1. Open RStudio.
2. Select the "Tools" menu and then the "Options" submenu. In the ensuing dialog box select the "General" icon on the left (this should already be selected).

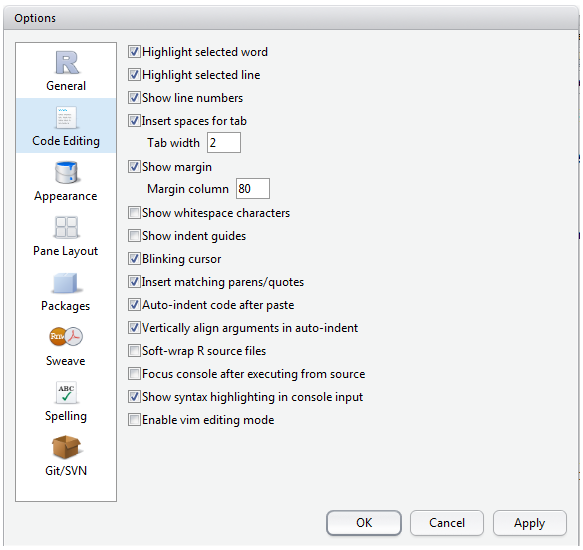


   - With the installation instructions from above, the R version should read "[Default][32-bit]" followed by the path to the R program (as shown in the dialog box above). If this does not appear in your installation then select the "Change..." button and then select "Use your machine's default version of R (32-bit)."[3]
   - Leave the other selections at their defaults (as shown in the "General" dialog box above).
3. Select the "Packages" icon in the "options" dialog box. It is useful to set a CRAN mirror in this dialog box. To do so, select the "Change..." button next to the box below "CRAN mirror" and select a location. I have set my CRAN mirror to Iowa State University (the mirror closest to my current home, and my home state).



[3] Of course, if you installed the 64-bit version of R then you may want to select "use your machine's default version of R64 (64-bit)".

4. Select the "Code Editing" icon in the "Options" dialog box. I suggest, in addition to the default selections, selecting the "Highlight selected line", "Show margin", and "Show syntax highlighting in console input."

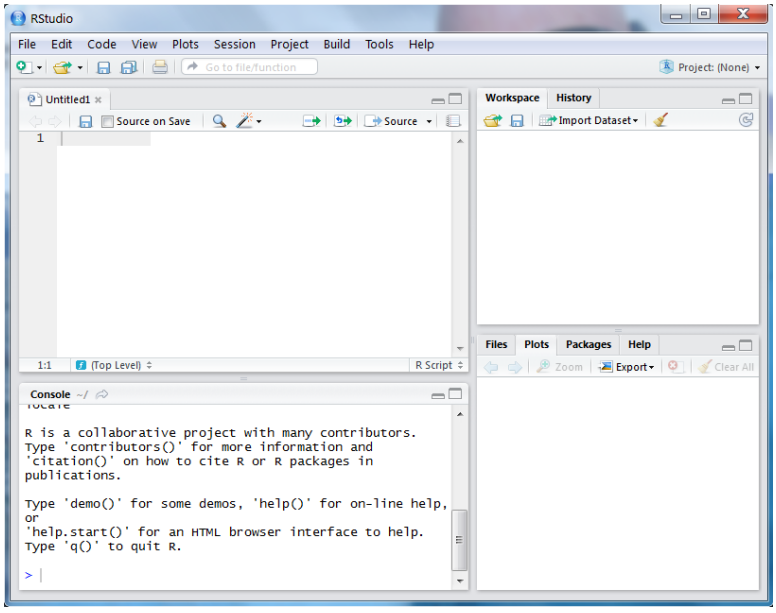


5. No other options need to be set for our purposes. Press "OK."

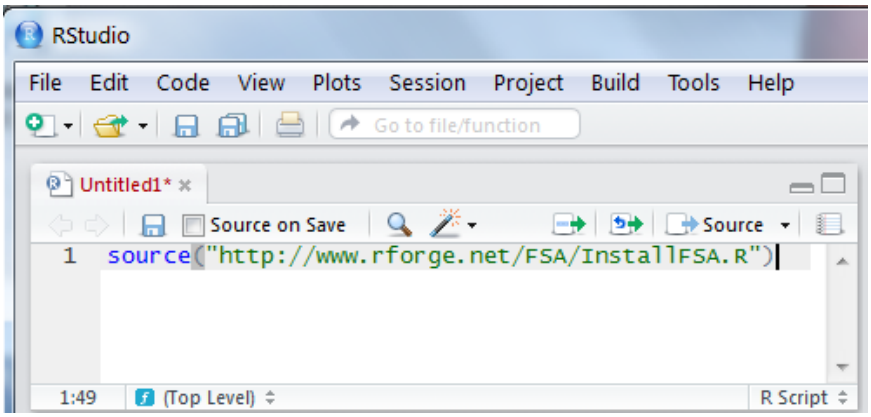
Installing Needed R Packages

1. Open RStudio (if not already open).

2. Open a new R script window by selecting the "New" icon to the far left on the RStudio toolbar ( ) and choosing "R script" in the ensuing list (alternatively, use the `<CTRL>` + `<Shift>` + `N` keystrokes or select the `File.. New.. R Script` menu items). This will open a blank window in the upper-left pane of the RStudio window (below the toolbar, above the "Console" window).



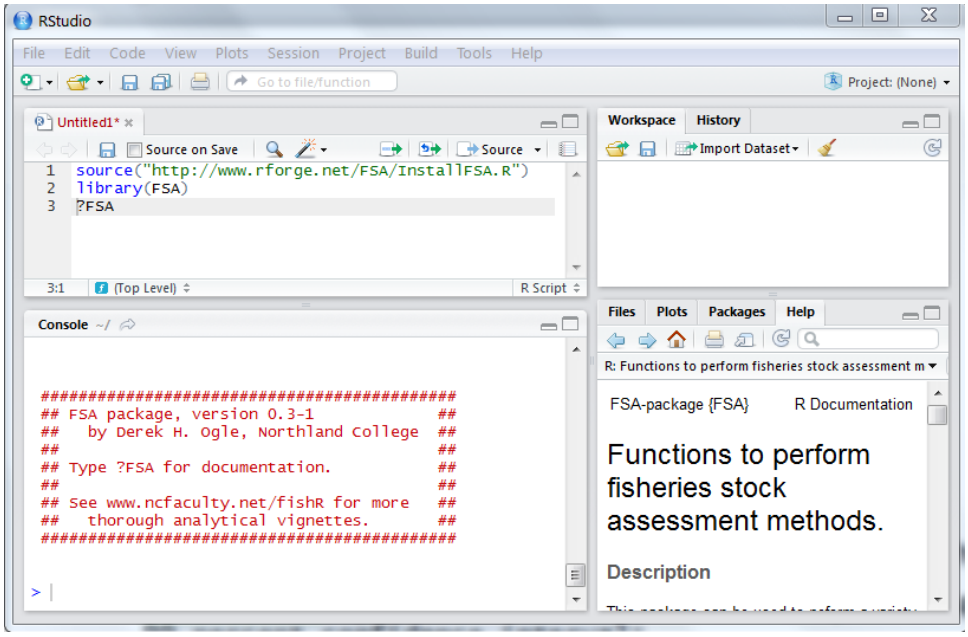
3. In the R script window, type the following code exactly: `source("http://www.rforge.net/FSA/InstallFSA.R")`.



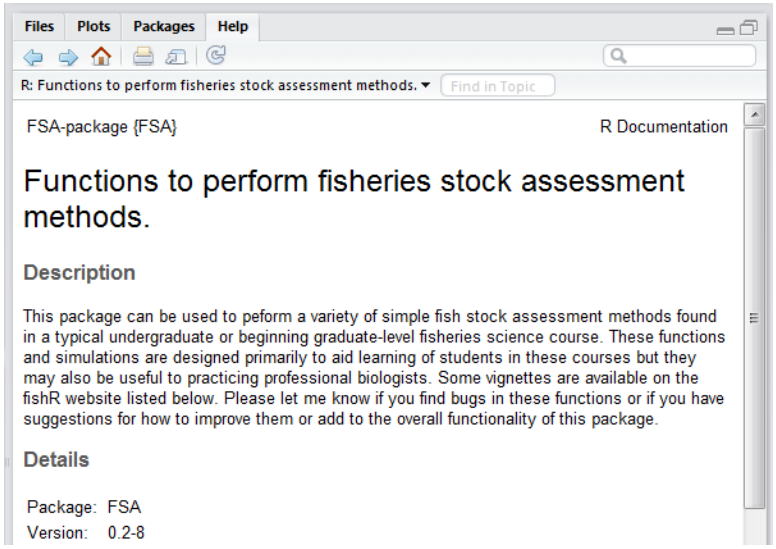
4. While the cursor is still on the line just typed in RStudio, press the "Run" button near the far right of the "R Script" window toolbar. This will "send" the R command you just typed to the Console window. R should now download and install a number of extra packages that we will use throughout the workshop. This will take a few minutes with a finish noted by an R prompt (a "greater than") symbol in the Console pane. If R/RStudio seems to be "sitting there" then take note of the following two possibilities.

   - R may say that a library directory is not writable and a dialog box will appear that will ask "Would you like to use a personal library instead?" You can choose "Yes" for this dialog box. Also note that this dialog box may appear in the background. If R seems to be "waiting" after saying that the directory is not writable, then look in your windows toolbar for an icon that represents the dialog box.
   - If the CRAN mirror did not get set properly as discussed above, then R may ask you to choose a mirror. You may be able to select a mirror with a separate dialog box (again look for this in the Windows toolbar) or with a text menu in the Console pane (in this case, click in the R console window and type the number corresponding to the CRAN mirror you wish to use (Iowa State is number 74)).

5. Type `library(FSA)` into the R Script window and "Run" it by again selecting the "Run" icon. The end of your Console pane should look like that below.



6. Type `?FSA` into the R Script window and "Run" it by again selecting the "Run" icon. A help page that looks like that shown below should now appear in the "Help" window in the lower-right corner of the RStudio window. If this help page appears then the installation is complete and correct.



Questions?

If you have any questions please contact Derek Ogle at dogle@northland.edu. Please make sure to include your operating systems (Windows PC, Mac, Linux/Unix) when contacting me with questions.