R and Rcmdr Installation: The Basics

We will use an incredibly powerful statistical software package (R and a user-written package Rcmdr) to aid in the analysis of real numerical data. We probably won't exhaust the power of R in this course, but we capitalize on another of it's compelling features, the cost. It's totally **free**! The only cost is the transaction cost of installing it and configuring it to work for our course. But this cost is minimized by the document you are reading, which should help you install R on your home computer with relative ease. Alternately I am distributing a CD to all of you with a copy of the program that will run live from the CD on any PC (not sure about in a Mac), so you can carry it around and use any campus computer to run analyses.
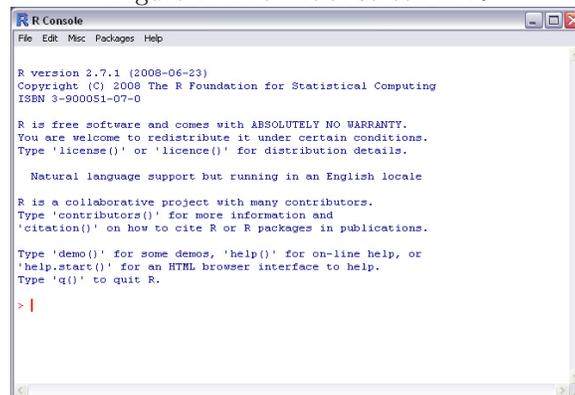
Installation of R on a PC or Mac is relatively straightforward. Linux-users if you are out there <insert sound of crickets chirping>, I presume install would be equally easy for you (if you actually are techie enough to be on a Linux system, you're probably ok with doing your own install here.)

PC users

It's nice to do all of this while you have a fast internet connection. If you don't have one at home, I have the main R installer file on the CD provided (same name as in the step below), but you might need to access the internet to download some of the packages Rcmdr depends on.

- Start by going to the CRAN (Comprehensive R Archive Network) website at: http://cran.r-project.org/

- Under the **Download and Install R** heading, select 'Windows'. In the next window, select 'base'.

- Select the 'R-2.7.1-win32.exe' file and save it someplace like 'My Documents/downloads' (just remember where it is). Alternately, this file is on the CD I gave you, if you have a slow internet connection (in which case go to the next step).

- Double-click the above mentioned .exe file to start the install. You can choose all the defaults in the process, and click 'Finish' when done. R is now installed. If you elected to have a desktop shortcut, click on it to open the program, and you'll see the below:

Figure 1: The initial screen in R

- Since we don't want to worry about learning R's syntax (the math is plenty of work), we need some kind of interface that let's us use the power of R without learning the syntax.

- Enter the Rcmdr package, which is a GUI interface (i.e. point and click) that will run all the statistical commands we need and so much more! Dr. John Fox, (who also teaches stats to Sociology students in Canada) created this package to make R accessible to novice users. You can go directly to Fox's installation guidelines here: http://socserv.mcmaster.ca/jfox/Misc/Rcmdr/installation-notes.html, or proceed to the next step.

- Here's where that internet connection comes in handy (if you installed from the .exe file on the CD, not the internet). At that > prompt type:
  `install.packages("Rcmdr", dependencies=TRUE)`.
  You'll need to select a mirror from which to download the package. I always select the good old folks at USA(MO) but if you hate Mizzou that much, USA(IA) is a friendly Midwestern locale. You'll see things scrolling along on the screen—this is GOOD as it means you are downloading Rcmdr and all the packages it calls in doing its work!

- (Mac and PC users unite here!) When all the packages are downloaded, you can type at the > prompt:
  `library(Rcmdr)`
  and the below window should pop up. You'll have to type this everytime you open R, or move to the next step, and you can alter the startup profile to automatically call the Rcmdr library when R starts up.

Figure 2: The Rcmdr window

- That's it—now you're set up with some of the most powerful statistical software available. And it's totally free, and relatively painless to install!

- You might want to set up R to start Rcmdr everytime you open R. To do this, close down R without saving any of the files it asks about. Now, browse to where you installed R (if you chose the default it's `C:\Program Files\R\R-2.7.1\etc`) and find the Rprofile.site file. Replace this file with the one of the same name in the same relative location from the CD (`\R\R-2.7.1\etc\Rprofile.site`). Now re-open R and it should start with the Rcmdr window open.

Mac users
Warning: I'm not a Mac person, but one of our class members (Ty, w00t!) who is a Mac user graciously put together the details of installing on a Mac. I can burn CDs for Mac folks with the R installer.

- Start by going to the CRAN (Comprehensive R Archive Network) website at: http://cran.r-project.org/

- Under the **Download and Install R** heading, select 'MacOS X'.

- The file R-2.7.1.dmg is the installation file for R for your Mac. Save this file then double-click this file and then double-click the "R.mpkg" file. You can use all of the default options during the install – just follow the on-screen instructions (basically, click "Next" a lot) and you should be great.

- Alternately, this file is on the Mac version of the CD. Just double-click on the R-2.7.1.dmg file and follow the instructions.

- Once the installation is finished, you will find the program "R" in your applications folder. Double-click the R icon and the R system will start. When the system displays a caret, >, ensure you have a working internet connection and then type the following text into the box and then hit enter.
  `install.packages("Rcmdr", dependencies=TRUE)`

- Now you can follow from the 'Mac and PC users unite' bullet in the PC directions above.

The next document will orient you to using R and Rcmdr.