Welcome!

The software used in our course is the famous and much loved implementation of S playfully called R (see http://www.r-project.org/ and http://www.revolutionanalytics.com/). In this introductory pre-lecture, we will see how to download and install so that we can be productive.

Installing R

As stated on the official website, http://www.r-project.org/ , *"R is a language and environment for statistical computing and graphics"*. We will find this environment very useful in our course because it allows us to simulate data, perform analyses "by hand" through, for example, matrix computations, and run very well developed routines for common methods in data analysis. It is a GNU project modeled after the S language and environment, but without the hefty price tag http://spotfire.tibco.com/products/s-plus/statistical-analysis-software.aspx .

Rather than speak abstractly, we will dive right in!

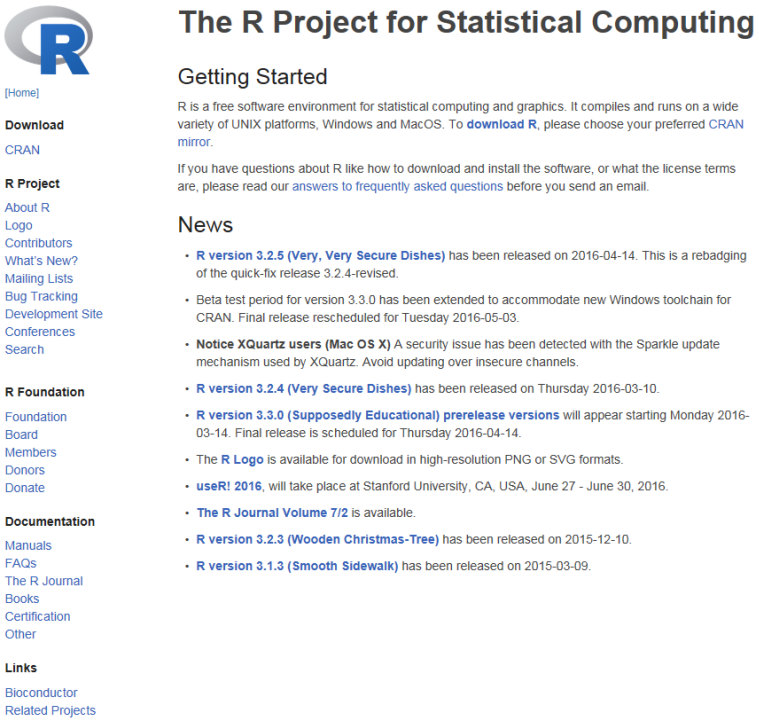
I'll assume in this activity that you are on a machine (PC, for example) on which you have administrative rights and can download and install software.

Following the link to

http://www.r-project.org/

we see many other links, among them a way to download the software and then copious amounts of documentation. R is a small universe, so don't be overwhelmed; just rest assured that you will be able to perform almost any calculation you would like in a well-respected environment. (Once, when I indicated to a highly regarded actuary working at a local company that I was considering using a different environment, a look of horror came across his face. He shared his and his company's regard for R and hoped I'd stay with it. Obviously, I did.) We can access documentation from the website, as well as from the installed environment itself once you are up and running.

Here is what the home page looked like for me this morning.



[Home]

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CRAN

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The R Project for Statistical Computing

Getting Started

R is a free software environment for statistical computing and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. To **download R**, please choose your preferred CRAN mirror.

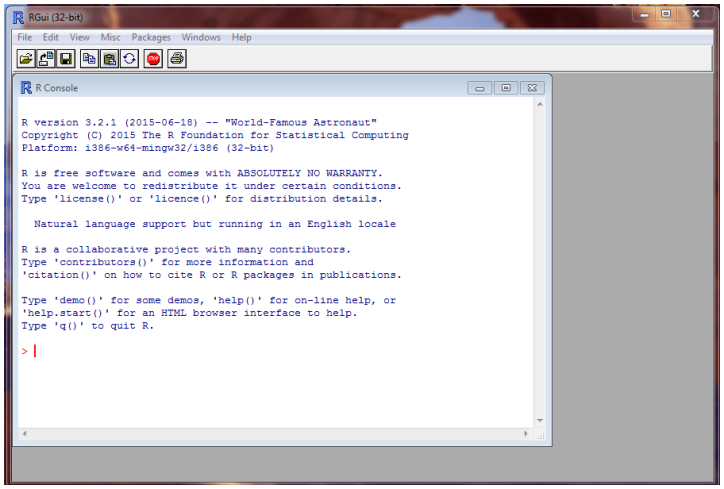
If you have questions about R like how to download and install the software, or what the license terms are, please read our answers to frequently asked questions before you send an email.

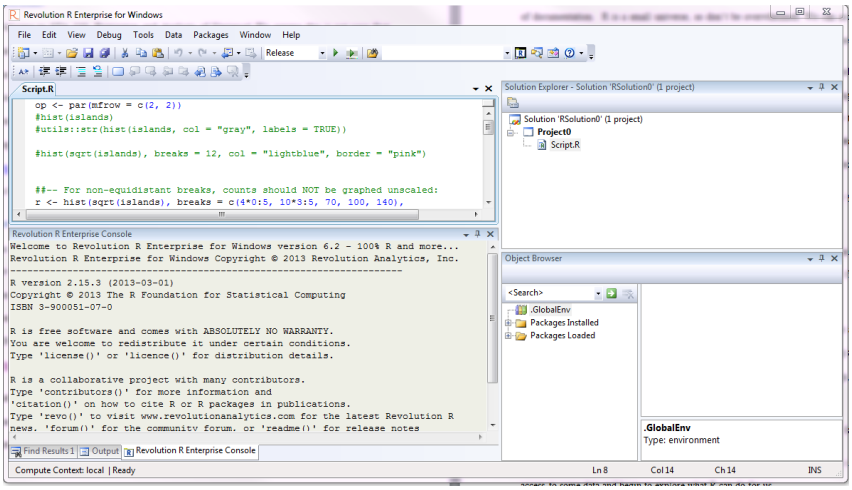
News

- **R version 3.2.5 (Very, Very Secure Dishes)** has been released on 2016-04-14. This is a rebadging of the quick-fix release 3.2.4-revised.
- Beta test period for version 3.3.0 has been extended to accommodate new Windows toolchain for CRAN. Final release rescheduled for Tuesday 2016-05-03.
- **Notice XQuartz users (Mac OS X)** A security issue has been detected with the Sparkle update mechanism used by XQuartz. Avoid updating over insecure channels.
- **R version 3.2.4 (Very Secure Dishes)** has been released on Thursday 2016-03-10.
- **R version 3.3.0 (Supposedly Educational) prerelease versions** will appear starting Monday 2016-03-14. Final release is scheduled for Thursday 2016-04-14.
- The **R Logo** is available for download in high-resolution PNG or SVG formats.
- **useR! 2016**, will take place at Stanford University, CA, USA, June 27 - June 30, 2016.
- **The R Journal Volume 7/2** is available.
- **R version 3.2.3 (Wooden Christmas-Tree)** has been released on 2015-12-10.
- **R version 3.1.3 (Smooth Sidewalk)** has been released on 2015-03-09.

Now download and install the R package from the link labeled "CRAN" under the heading *Download, Packages* by picking an appropriate mirror site. You should soon be looking at the rather minimalist window captured in the screen shot below.

Or, download R from Revolution Analytics. This will give you a more robust (though less simple) interface. Either will work beautifully for our course; it's just a question of which program you feel more comfortable with. Both interfaces are shown below.




Revolution R Enterprise for Windows
File Edit View Debug Tools Data Packages Window Help
Release
Script.R
op <- par(mfrow = c(2, 2))
#hist(islands)
#utils::str(hist(islands, col = "gray", labels = TRUE))
#hist(sqrt(islands), breaks = 12, col = "lightblue", border = "pink")
##-- For non-equidistant breaks, counts should NOT be graphed unscaled:
r <- hist(sqrt(islands), breaks = c(4*0:5, 10*3:5, 70, 100, 140),
Solution Explorer - Solution 'RSolution0' (1 project)
Solution 'RSolution0' (1 project)
Project0
Script.R
Revolution R Enterprise Console
Welcome to Revolution R Enterprise for Windows version 6.2 - 100% R and more...
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