Introduction to R Workshop: Software Prerequisites

Please make sure you have installed the required software, as described in this document, **at least three days before class**.

If you have any problem installing or running the software, please send mail to paulteetor@yahoo.com, explaining exactly what problem you are encountering. Be sure to include your contact information: name, e-mail address, and phone number.

Download and install R

Mac OS X, Windows

R is distributed through a global system of mirror sites called *CRAN*. For consistency, please download and install R from the following mirrors:
- Mac OS X: http://cran.rstudio.com/bin/macosx/
- Windows: http://cran.rstudio.com/bin/windows/base/

Linux

Popular Linux distributions typically include R as an optional package install, so you should use your OS-supplied packages instead of the CRAN builds. Some common package names are:

- Debian and Ubuntu: r-base
- Fedora: R R-devel

For Debian and Ubuntu, you can download and install the packages using *apt-get install*:

```
sudo apt-get install package-name
```

For Fedora, use the *yum* command:

```
sudo yum install R R-devel
```

Note: You will need sudo (super-user, root) privileges to install packages in Linux. If you don't have such privileges (or you don't understand what they are), please see your System Administrator.

Download and install RStudio

R includes a command line interface, and there also exist a number of graphical (GUI) R tools. For this class, we will use RStudio.

To install RStudio:
- For **Mac OS X** and **Windows**:
  - Please download the *desktop* version of RStudio from http://www.rstudio.com/ide/download/desktop. Be sure to pick the file for your operating system (Mac OS X, Windows) and architecture (32- or 64-bit)
  - RStudio ships as an executable installer. Simply double-click the file and follow the instructions.

- For **Debian and Ubuntu Linux**, RStudio is available through the OS package management system:

  ```
  sudo apt-get install rstudio
  ```

- For **Fedora Linux**, please download the RPM package provided by the RStudio team (http://www.rstudio.com/ide/download/desktop) and use *yum*'s "local" mode to install it:

  ```
  sudo yum localinstall --nogpgcheck {path to RStudio RPM file}
  ```

  For all Linux cases, you will need super-user (sudo) privileges to perform the install.
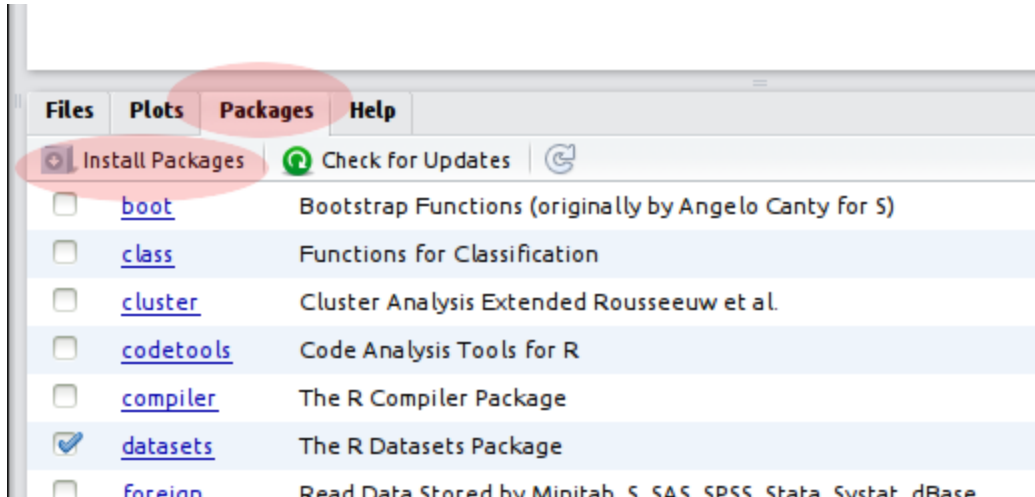
To launch RStudio:
  - **Mac OS X:** open Launchpad and double-click the RStudio application. (If you have a lot of apps in Launchpad, the RStudio icon may be on another page.)
  - **Windows:** find RStudio on your Start menu; or, if you created a desktop icon during the installation, double-click on it.
  - **Linux:** locate the RStudio icon in your desktop menu. (Under Gnome, for example, it exists under Applications -> Programming -> RStudio.)

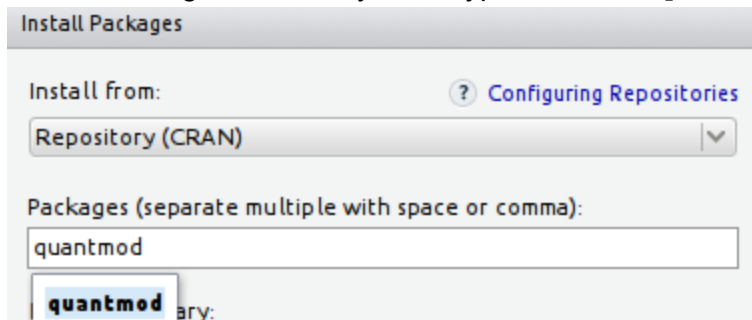# Install R packages we will use in class

People sometimes distribute bundles of useful R code as *packages.* We will use several such packages in class. Please install them as follows:

(**Linux users, please note:** some R packages require that you have a working software development setup. This includes a compiler suite and development-flavored versions of certain packages. Please see your systems administrator for assistance with this prerequisite.)

1. Make sure your computer has Internet access. (R downloads packages from Internet-based mirror sites.)
2. Launch RStudio.
3. Inside the main RStudio window, locate the tab named "Packages." (It may be in the lower right-hand pane.) Click the "Install Packages" icon.

4. In the "Packages" text entry area, type the name `quantmod` and click "Install."

5. RStudio will download and install the *quantmod* package (and several other packages required by *quantmod*).
6. Confirm the *quantmod* package installed properly. Locate and click on the "Console" pane, and type the following:

```
library(quantmod)
```

Please be sure to type this command *exactly* as it is written above.