Practical Computing for Economists

Intructions for installing prerequisites for R/c++ integration

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May 1, 2014

Windows users only: Install Rtools

1. Check which version of R you have. You can discover this by starting up either Rstudio or an R session and reading the initialization message at the top of the output. For example, on my computer the console for RStudio displays:

    ```
    R version 3.1.0 beta (2014-03-28 r65330) -- "Spring Dance"
    ```

    So I have version 3.1.0.

2. Go to http://cran.r-project.org/bin/windows/Rtools/. Look in the second column of the table on this page ("R compatibility") and find the version of R which corresponds to your system. Then click the link to the left of that line to download. In the example from my system, I would download `Rtools31.exe`, as my system has a version of the form 3.1.x.

3. Run the installer you just downloaded. This should be just a matter of clicking on the file you downloaded.

4. Think hard about using a different operating system.

Everyone:

1. Download the `prereq` folder. There are two ways to do this:

   a) If you have cloned into the class github repo, the folder will be in your file system already.

   b) Download from chalk as a `.zip` or `.tar.gz` compressed folder. Extract to whatever local place you want.

2. Open `test.R`in RStudio.

3. Change the line beginning `stDir <-` to refer to the location of `test.R` on your computer. For linux/mac users, addresses include forward slashes (/), but for Windows users, you will need to use double backslashes (eg `C:\\Users\\philip\\prereq`).

4. Source the file, either by pressing `ctrl+shift+s` or by hitting the button at the top-right of the source box. This will install the packages you need for the class, and check that they work correctly on your machine. This may take a couple of minutes.

5. Check the output. This is in the file `testOutput.txt` . Its contents should identically match those of `output.txt`. Windows users may struggle with the formatting of this last file, so just check that you have no error messages in `testOutput.txt`, and that there is output for four completed tests: a "Hello world" message; a vector from 0 to 100; a 10x10 identity matrix; and a matrix inversion test.

Troubleshooting on a mac[1]

Macs do not come with `gcc` installed. This is the open-source compiler commonly used to turn C++ code into something your machine can execute. The intallation of `RcppArmadillo` requires this tool. To run this on a mac, you need to install `xcode`.

There are very good instructions for installing `xcode`here:

http://www.mkyong.com/mac/how-to-install-gcc-compiler-on-mac-os-x/

And some also notes about specific issues with `RcppArmadillo` here (also a good source for solving some Windows problems):

http://cdrv.wordpress.com/2013/01/12/getting-compilers-to-work-with-rcpp-rcpparmadillo/

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[1]Thanks to Yike Wang for pointing out this issue to me.

If you have trouble, these libraries are installed on Acropolis, so you can use that if you want.

Acropolis

Acropolis has everything you need already installed. To double check, just log into Rstudio on Acropolis and pull the repository from github via: Project-Create Project-Version Control-Git. Then just clone in as you would on your own machine. Open `test.R` and change the working directory as in the instructions above. Then comment out section 1 (lines 17-32) and source the file. As before, check for the output in `testOutput.txt`.