**Emacs Documentation**

Emacs greatly increases programming efficiency in almost any language including Java, R, Perl, Python, LaTeX, and Bash. The general URL for Emacs is:

<https://www.gnu.org/software/emacs/>

Make sure that you install aquamacs (for macs) or gnu-emacs (windows, linux). Below are the links to the easiest means to install Emacs with the most important packages for the respective platforms:

For the Mac: <http://aquamacs.org/>

For Windows: <https://vigou3.github.io/emacs-modified-windows/>

For Linux: You can run the following commands to easily get all these packages installed:

sudo apt-get install emacs

sudo apt-get install auctex

sudo apt-get install ess

sudo apt-get install jdee

In the emacs folder in the Lab Dropbox you will see this "Emacs Documentation" doc that has all the installation links and info that you need.

In the emacs folder, you will also see my .emacs configuration file that you want to copy into your root user folder (e.g. /Users/triley on the Mac). You will also need to copy the lisp folder that contains all the \*.el files into your ~/.emacs.d folder so that the my .emacs file will run for you. Emacs commands are written in “emacs lisp” and a “\*.el” file is an emacs lisp file and a “\*.elc” file is a compiled emacs lisp file. The first line in my .emacs file tells Emacs to look in your ~/.emacs.d/lisp/ directory to find the \*.el packages:

(add-to-list 'load-path "~/.emacs.d/lisp/")

You will also then need to change some of the paths in the .emacs file to point to your local installations on your machine if you want to get all the JDEE, ESS, and other commands working. Here are some example lines where you will need to change the paths:

(add-to-list 'load-path "~/.emacs.d/jdee-20160304.536")

(setq inferior-R-program-name "/Library/Frameworks/R.framework/Versions/3.0/Resources/bin/R")

(let ((my-path (expand-file-name

"/usr/local/bin:/usr/local/texlive/2015/bin/x86\_64-darwin")))

(setenv "PATH" (concat my-path ":" (getenv "PATH")))

(add-to-list 'exec-path my-path))

**Example Emacs Lisp packages**

pager.el defines alternative commands to the Emacs builtins: scroll-down and scroll-up. It also contains commands to scroll the screen one row at the time.

[csv-mode](https://www.emacswiki.org/emacs?search=%22csv-mode%22" \o "Click to search for references to this permanent anchor).el is a package for editing comma separated value files. Commands include sorting numerically or alphabetically on a particular field, cutting and pasting columns of fields, padding to align fields, or removing padding.

ansi-color.el provides a function that takes a string or a region containing Select Graphic Rendition (SGR) control sequences (formerly known as ANSI escape sequences) and tries to translate these into faces.

There are literally thousands of emacs packages, but there are just a few that you need to become a very proficient programmer in Emacs.

**Emacs Cheat Sheets**

Emacs: <https://www.gnu.org/software/emacs/refcards/pdf/refcard.pdf>

Emacs: <http://www.rgrjr.com/emacs/emacs_cheat.html>

Emacs: <https://ccrma.stanford.edu/guides/package/emacs/emacs.html>

ESS: <http://ess.r-project.org/refcard.pdf>

**Packages you want to install for different Programming Environments**

R: ESS – Emacs Speaks Statistics - <https://ess.r-project.org/>

Linux: sudo apt-get install ess

Mac: sudo port install ess

Java: JDEE - <https://github.com/jdee-emacs/jdee>

Latex: AUCTeX - <https://www.gnu.org/software/auctex/>

Linux: sudo apt-get install auctex

Mac: brew cask install mactex

Perl: <https://www.emacswiki.org/emacs/PerlLanguage>

Python: <https://www.emacswiki.org/emacs/PythonProgrammingInEmacs>

**Multiple Plotting Windows**

In order create a new plotting windows in ESS, you need to use the **quartz()** or **X11()** command in either the Mac or Linux/Windows, respectively. Once a new plotting window has been created, the new window becomes the “current” active window that receives all subsequent plotting commands. Example:

plot(x,y) # plots into the currently active window

X11() # creates a new plotting window

plot(y,z) # plots into the newly created window

**Emacs Speaks Statistics (ESS)**

It is easy to evaluate single lines, regions, or entire text buffers of R code in the R engine. Note that using KnitR to create HTML or PDF files from R markdown files (\*.Rmd, \*.Rmw) requires the installation of pandoc (<https://pandoc.org)>. Here are the most useful commands:

Ctrl-c + Ctrl-n Evaluate current line

Ctrl-c + Ctrl-r Evaluate region

Ctrl-c + Ctrl-b Evaluate entire buffer

Esc-n + w Create the markdown file. This command is useful when you just want

to quickly see the R results in text form without rendering PDF or HTML.

Here is the correct weaver option when prompted:

Choose weaver: knitr-ESS

Esc-n + e Knit the buffer. The following options are good for producing a PDF file:

Choose exporter: Rmarkdown-ESS

Export To: pdf document (pdf)