1   Overview

If you already have a way to use MATLAB, you can go directly to Lab 1. If you do not, then you generally have the following options: 1) access MATLAB remotely using the university's GoVirtual software; 2) download and install Octave (an open-source equivalent) on a personal computer; 3) purchase a student license for MATLAB at the bookstore for $99; or 4) use MATLAB on one of the machines in the Eckart Computer Lab. As the lab sections for this class will take place in the Eckart Computer Lab, this last option might be best. But if you would like to work on your own computer, read on to find out both how to use MATLAB remotely and how to install Octave.

2   Running MATLAB Remotely

One alternative is to run MATLAB using the university?s GoVirtual system provided through ACMS. This allows students to connect to a remote desktop with MATLAB pre-installed. It is fairly easy to set up; simply go to `http://acms.ucsd.edu/students/govirtual/` and follow the instructions to set up the remote client. This will require you to download a separate software called VMware Horizon Client, but the proper links are provided on the ACMS website. It should only take 5 or 10 minutes to get everything working. This works for Windows, Mac, and Linux but has the following handicaps. Since you are connecting to a remote desktop, the speed at which you may run processes is limited by your internet connection. ACMS recommends a connection speed of at least 1.5 Mbps. However, although this MATLAB setup may run slower than normal, few of the labs are processing intensive, so the issue of speed may not be critical. The most inconvenient thing about this setup is transferring files from the remote desktop to your computer and vice versa. Perhaps the easiest way to do so is to email files to yourself.

3   Octave on Windows

Somewhat surprisingly, installing Octave on Windows is pretty straightforward. Generally, the steps are: (1) install Cygwin (a *stable* Linux emulator for Windows) and (2) check the box to install Octave. Follow the instructions here: `http://wiki.octave.org/Octave_for_Windows#Octave_on_Cygwin`.

4   Octave on OS X

The general process for installing Octave on an Apple computer are: (1) install MacPorts; (2) install Octave; (3) install fails, and update MacPorts; (4) install Octave; (5) install fails, and adjust MacPorts; (6) repeat steps 4 and 5; (7) install fails, but Octave runs—success! The best instructions for installing MacPorts are found at the MacPorts website: `http://guide.macports.org/#installing`. The instructions for installing Octave are here: `http://wiki.octave.org/Octave_for_MacOS_X#MacPorts`.

4.1   Xcode

MacPorts requires Xcode (Step 2.2 in the MacPorts guide), which requires information on what version of OS X you are running. (To find this out, click on the apple in the menu bar at the top of the screen, and select "About This Mac.") If you have your OS X install CD handy, the installation of Xcode is easy. If you do not, you have to download an installation package, which can be up to 4 GB depending on the version you grab. In other words, plug in an ethernet cable and find a book to read. The actual installation of Xcode also takes a bit of time.

4.2   Updating MacPorts

For some reason, the installation of MacPorts does not include a check to see if it is linked to the latest libraries. Before you try to install Octave, run `sudo port selfupdate` to make sure MacPorts is updated.

4.3   Problems with MacPorts

You're going to run into problems while installing Octave via MacPorts. It always happens. The first step to solving the problem is actually reading the error message that comes up. MacPorts is smart enough to offer a solution but not smart enough to execute it. Usually, its solution works, but if it does not, `google` is your friend!

5   Final Thoughts

Installing Octave will be a time-consuming process. It took a previous TA most of an evening to download and install everything he needed to make Octave work on his first-generation MacBook Air running OS X v10.6.8. Those with newer operating systems will likely spend a bit less time but still over an hour. But you will learn a bit more about your computer and how it works in the process.