

Introduction to the Mathematics Computer Lab

Purpose

The purpose of this document is to introduce you to the Mathematics Computer Lab, the software we use in the lab, and we'll show you how to complete basic computer tasks using the Linux operating system (Ubuntu 12.04, August 2012).

Task 1: Log in and out

Log in using your usual Whitman login name, and your assigned password.

Be sure to log out before you leave the computer lab! Use the white button on the top right corner of the screen, and choose `Log out...`

Task 2: Change Your Password, Modify the Toolbar

Press the icon for “Dash Home”, or simply “dash” (this is the upper left icon). Start typing the word `Terminal`, and the Terminal icon should appear. Drag it to the left “launcher” (or left bar) for easy access.

Click the icon we put on the launcher, and a window should open on your desktop (the name of your computer will appear at the top of the window). We will be using command lines to change your password:

Type: `kpasswd`

The first password asked for is your current password, then follow the instructions.

Be sure that you can log in using your new password- At this step, log out, then log back in.

Task 3: Modify the Launchpad with Firefox or Chrome and Maple

Find the desired icon using dash (as we did with `Terminal`), and drag it to the launcher for easy access.

- Use Firefox (or Chrome) to get to our class website, and bookmark it - you can find it from the department website or Google if needed:

`http://www.whitman.edu/~hundleedr/courses/M244.html`

- Find the Maple icon, and put it onto the toolbar.

Task 4: Navigation, files and folders

There are several ways of creating folders and navigating the directory structure in Ubuntu. You may use the *File Browser* which is very similar to Windows or Apple, or you may use a command line window using a *Shell*- Using the command line is very fast, but you need to know some Unix commands.

If the Launchpad does not contain a file folder, you can go to the dash and type either `File` or `Home`, and you'll find a file folder icon to drag to the launchpad (or to your Desktop).

- Use the *File Browser* to create a file folder *MathLab*, and then create a subfolder called *Lab01*.

HINT: Do not use whitespace in folder or file names!

These are BAD:

Math Lab File 1.tex my document.tex

These are GOOD:

MathLab File01.tex my_document.tex

Task 5: Set up Maple

- Open Maple, and choose **Worksheet** (instead of *Document*) in the initial dialog box.
Go to **Tools**->**Options**, then find the **Interface** tab.
Set the **Default format for new worksheets** to *Worksheet*.
Find the **Display** tab, and set **Input display** to *Maple Notation*.
Select the **Apply Globally** button at the bottom, and exit from Maple.
Open Maple, and you should be taken directly to a “Worksheet”, and you should see a red symbol >.
If you see that, you’re done with this part for today.

Software Available in the Lab

- R Commander (if you’re taking a statistics course). This is a (free) front end to the R statistics software package (also free at <http://www.r-project.org/>)
- Matlab: Software of choice for engineering, we use it in Operations Research and sometimes in Modeling. Use this for your numerical computing. There is a student version available from Mathworks for about \$100.00 (about the price of a graphing calculator)- It’s worth it if you’re thinking of going into some kind of engineering or applied math program.
- Maple: Performs symbolic operations in mathematics, very useful if you want to do non-numerical computing. You may install Maple on your home computer if you’ll be using it for a class (See me or Prof. Schueller).
- Texmaker: A nice front end to the \LaTeX word processing software package, which is free software used in mathematics (most textbooks have been typeset using \LaTeX). This software is available free to put on your home computer, and we teach you how to use it in Math 235 (Calculus Lab). For the full software package, go to <http://www.latex-project.org/ftp.html>
- If you’re interested in the Linux (Ubuntu) operating system that we’re using in the lab, the website to check out is <http://www.ubuntu.com/>. You can download and burn a CD, then try it out on your own computer without making any changes to your operating system - Ubuntu is free (and for me, a lot faster than Windows!).