COLBY COLLEGE
Computer Science Department

CS357 **Allen B. Downey**
Spring 2000

Assignment 1: UNIX intro

Due: Tuesday, February 15

The purpose of this assignment is to introduce you to the UNIX environment we will be using, to get you to practice using some of the common UNIX commands, and to do some housekeeping on your UNIX accounts.

Log in

There are three computers in the Mudd Lab running Linux that we will be using for this class. If you are running Linux on your own computer, you will be able to use it for this class, although there might be some software that you have to install.

I am writing these instructions with the assumption that you are sitting at one of the machines in the Mudd Lab. You can also log in remotely from a Macintosh, Wintel or other Linux machine, but if you are doing that, you are on your own.

The three machines are named earl, otto, and arthur (there is a label on each to identify it). The other machines you should know about is alma, which is the departmental server. Alma lives in my office.

1. Get a piece of paper from me that has your account name and password on it. The account names should be the same as your Colby logins. The passwords were invented by our system administrator, and they are generally not very secure (we'll talk about why not). One of the things you will do on this homework is change the password.

2. Log in to the machine. It will ask you for your login and password and then give you a UNIX prompt. You can use the computer in this mode (called "console mode"), but most of the time you will want to use the windowing environment, which is called X. To start the window manager, type `startx`. The default window manager is called Gnome.

3. The default desktop includes a Gnome help browser and a file browser. The help browser includes information about Gnome, which you should survey, and information about the system and all its commands, including both man pages and info pages.

   In general, info pages are easier to read than man pages, but you will often want to read or print both. Both sets of pages are organized as an alphabetical list of commands, which is less than useful when you are trying to figure out how to do something.

   In general this semester I will tell you the names of the commands you want to use and leave it up to you to find out about them.

The file browser should start you out in your home directory. The name of your home directory has two parts: the name of the machine where your home directory resides and your login. In general, you will get the best performance and reliability if you log in to the machine where your home directory resides, but of course that will not always be possible.

There are also a column of icons along the left side of the screen and a row of control widgets across the bottom. I will leave it up to you to explore them at your whim.

4. If you press the right button with the mouse over the background, a menu will appear with a number of options, including "New...". Use this menu to select "New...Terminal". A new window should appear with a UNIX prompt in it. Most of the time you will use windows like this to interact with UNIX in "command line mode."

5. Read the UNIX tutorial I handed out in class and perform as many of the activities it describes as you care to.

Change your password

There are two reasons to change your password. First, the system administrator and I currently knows your, and we shouldn't. Second, the existing passwords are too easy to guess, because the contain entirely (or almost entirely) lower case letters and not enough wacky things like `!@#$%^&*()`. You should choose a password that is at least 8 characters long and that does not contain all letters or all numbers. It should contain at least one wacky character. On the other hand, it should also be something you can remember.

You can use the same password you use on ITS machines if you want, although you should be aware that that means the security of the two systems are then linked. If one gets broken, so does the other.

1. Type `passwd`. It will ask you to type your current password and then the new password twice.

   Unfortunately, this will have the effect of changing your password only on the machine you are currently logged into.

   Also, you should be aware that the password file on alma is considered the master file. Every day at midnight, we take the password file from alma and copy it onto the other machines. That means that any changes you make on other machines will get clobbered overnight.

2. Type `rlogin alma` to log into alma remotely. You will have to type your (old) password yet again. Type `passwd` again to make the change on alma. Tomorrow, this change should have propagated to all four machines.

Run netscape

1. In a terminal window, type `netscape &` to start a web browser in the background. After a few seconds, the browser window will appear. Load the following URL:

   `http://rocky.colby.edu/cs357/unix/`

   This directory will contain various information about UNIX that I provide. At the moment all it has is some information about a text editor named vi. Click on vi.html and read all about it.

Learn a text editor

1. Follow the instructions in the vi manual and play around with it enough to get a sense of what the user interface is like.

2. In a terminal window, type `emacs &` to create a window for the emacs editor. In the new window, type type Control-h followed by a `t`. A document will appear that will teach you how to use emacs.

3. There is an emacs quick-reference sheet, in Postscript, on the cs357 web page.

   `http://rocky.colby.edu/cs357/handouts/emacs.ps`

   If you click on it, netscape will ask where you put the file. Put it in your home directory, then print it using `lpr`.

Something to hand in

1. Use either emacs or vi to compose answers to question 2.9 from the textbook. Your answer should be within a factor of two of 250 words.

   This is not just an exercise in using emacs, it is also a chance to think about some of the issues in the chapter and practice technical writing. Grammar and spelling count, but clarity and conciseness are critical. Think carefully about what you want to say before you write.

   Please print your answer, make sure your name is on it, staple the pages together, and hand them in.