

Astronomy 350: Unix Lab

- Go to the Moxie Lab. Logon using your Oswego email username and password. Find the command to logout and execute it.
- Login again and then type the following: `ssh -X -l guest 129.3.17.53`.
- The system will ask you for a password. Type `abc123` and hit enter. Now you are logged into one of my Linux machines. Type `Logout` and describe what happens. Type `logout` and describe what happens. What do you conclude?
- Log back in to my machine - with the IP number `129.3.17.53` as given above.
- Type `ls`. What do you see? These are the files in your home directory. The home directory is located at `/home/guest`.
- Type `cd ..` and then type `ls`. What do you see? You have gone one level up into the home directory.
- Type `cd guest`. What happens.
- Type `pwd` and describe what happens. Type `cd ..` and then type `pwd`. What does the `pwd` command do?
- Go back to your home directory. A quick way to do this is to type `cd`
- Verify you are in your home directory by using `pwd`.
- Use `ls` again to examine the files in your home directory.
- Type `ls -al` and describe what happens. The extra information displayed occurs because of the options `-al` used on the `ls` command. Type `man ls` and describe what you see.
- `man` is a Unix/Linux command to help you learn about other unix/linux commands. Type `man man` and describe what happens.
- Find out about the commands `cp`, `df`, `more`, `mkdir`.
- Type `touch a` and then do an `ls`. What do you see and hence describe what the command `touch` does.
- Now type `rm a` and then do an `ls`. What happens? Thus you need to use this command very carefully.
- Now `cd` back to your home directory.
- Now we are going to tackle editing files.

- I like to edit files using the editor vi. There are other more powerful editors but this is the one I know. It has the advantage that it can be used in most situations.
- Type vi a and press return.
- You should see a black cursor at the top left hand of your screen and lots of twiddles.
- Hit o and the cursor moves down one line. Now type This is the first line. Hit enter. Then press the escape key. The hit the shift key and the colon button simultaneously followed by wq and then enter.
- You should leave the editor vi and get back to the original Unix prompt.
- Type ls and you will see your file a is still there.
- Type more a and you will see that the file a contains the line you typed in.
- Start up the editor vi again. Use the cursor arrow keys to move around this line. You wont be able to move down a line because there is only one line in the file.
- Position the black cursor using the arrow keys at the first character in the file.
- Hit o again and type in the line This is the second line press enter and then type This is the third line.
- The hit escape and do the shift control wq command to exit vi.
- Look at the file using more and you will see that it has more lines now.
- Open the file again with vi and mover around the file using the cursor arrow keys.
- When the cursor is over one character, you can type x to delete that character.
- When the cursor is over one character, you can use r to replace that character.
- When the cursor is at the start of a word or a string of characters type cw to change that word. After you have typed in the replacement word, hit escape to end the cw.
- Using a you can append from where the cursor is positioned currently. Use escape to end the append.
- You can delete a line by positioning the cursor on a line and typing in dd.

- Practice these edits on your file. You can abandon the edits you have made and revert to the original version of the file by hitting shift colon followed by q!
- This will throw away the edits you have made in this session.
- In your home directory there is a file called test.f. ls it and more it. What do you think it does?
- Type `g77 test.f`. Then type `./a.out` and describe the result.
- Use vi or whichever editor you like to change the program so that it prints out the result of $2+2+2$.
- This is real computing: editing a program yourself, running it and looking at the results.