Learning Goals:

- learn to work in the linux lab environment
    - learn to access your account
    - learn to navigate the file system on the command line
    - learn to create, edit and save a file on the command line
- learn to use the lab submission system

What to hand in:

- Hand all of the following in using VIU Learn. Next week, we'll learn to use *git* to submit our labs, which we'll use for the remainder of the term.
    - Lab0Prelab.pdf
        - Due night before your lab (by 23:59)
        - Bring a copy to your lab
    - Lab0Checklist.pdf
        - Due: 23:59, three days following your assigned lab section (i.e. Tuesday Lab is due Friday, Thursday Lab is due Sunday, and Friday Lab is due Monday)
    - Lab0.cpp
        - Due: 23:59, three days following your assigned lab section (i.e. Tuesday Lab is due Friday, Thursday Lab is due Sunday, and Friday Lab is due Monday)
- Note:
    - late submissions will be penalized 20% per day, and will not be marked after 3 days so that solutions can be posted in a timely manner
    - all work must be individual. Plagiarized work will result in a mark of 0. Further penalties may apply.

Marking Scheme:

- Prelab is completed on time – 1 mark
- All files meet given specifications and requirements – 6 marks
- Code readability and comments – 2 marks
- Self-assessment is consistent with quality of work – 1 mark

Part 1: Get familiar with your CSCI account

1. log in to a terminal in the lab using the account ID you get from the instructor
2. Activate card keys (follow along)
3. open a web browser
    a. they should be found at: Applications->Internet
4. go to VIULearn and log in to access the 160 course materials
5. open a terminal
    a. there are a number found at Applications->System Tools
6. Create the directories for your 160 lab work
    a. Terminal programs start by default in your *home* directory (indicated by ~)

b. On the command line type the following command:
   i. `mkdir csci160`

This creates a folder/directory called csci160 in your current directory (home)

c. Make sure it worked by listing the contents of your home directory:
   i. `ls`

You should see csci160 in the list if it worked

d. move into the csci160 directory by entering the following command:
   i. `cd csci160`
e. use the `mkdir` command to create directories for all your labs: lab0, lab1, lab2, …
f. use `ls` to make sure it worked

7. Move back to your home directory. There are 2 ways to do this:
   a. `cd ~`
   b. `cd`
8. from your home you can view the files in csci160 by typing:
   a. `ls csci160`

Part 2: create, edit, save, compile, and run a file:

1. Create a file
   a. Use the editor *emacs* to edit a file, by typing the following on the command line:
      i. `emacs lab0a.cpp &`

   This command will create the file `lab0.cpp` because it doesn't exist yet and will open it in another window in emacs.

   The `&` symbol lets you still use the command line (starts another process or thread) while the file is being edited.

2. Edit the source code:
   a. Follow along and type in a basic "Hello World" program in C++
3. Save the file
   a. Click on "save" in the editor toolbar
4. Compile the code
   a. In the terminal type in the following:
      i. `g++ -Wall lab0a.cpp -o lab0ax`

   This will build an executable file, unless there are errors!

5. Run your code
   a. In the terminal type in the following:

i. `./lab0ax`

Part 3: Modify your program and submit!

1. Modify your program and save it as `lab0.cpp`. You will modify it to change the text that is output to the following:
    a. *I <your name here> understand that all work I submit for CSCi160 is to be done individually. I also understand the penalties for cheating and plagiarism.*
2. Don't forget to test your program before you submit it. You'll need to save and compile it again after you made any changes.
3. Submit your `lab0.cpp` to VIU Learn
4. Complete your self-assessment (see Lab0Checklist.doc on VIULearn), and submit it to VIULearn.

Specifications:

Your lab0.cpp program will:

- output the text described above
- terminate gracefully

Requirements:

- Code runs with no warnings
- Code runs with no errors

Code Readability and Comments:

- header comment includes:
    - name of author
    - name of program
    - brief description of purpose of program

Note:

You'll need to change your password. If you weren't prompted to do so when you logged on, do it now! Type the command *passwd* on the command line. You will be prompted to enter your old password, then your new one twice. You may not see the letters you're typing in (for security reasons), so don't panic.

<u>Accessing CSCI machines from home:</u>

Mac/Linux – use ssh on the command line

- ssh -l userName csci.viu.ca
- enter your password

Windows – use Putty (find it and download it)

- use port 22
- host name csci.viu.ca

Using email on CSCI servers

Log in to otter:

- ssh -Y otter
- type in password

Open mail

- alpine
- to quit alpine hit Q
- log out of otter (logout)

Basic linux tutorials

RyansTutorials.net

TuxArena.com

Card Key Activation Process

1. Purchase a card-key from the bookstore if you don't already have one.
2. From your account on otter, send email to cscicard@csci.viu.ca (no attachments). The email message must contain 3 lines. The first line must contain your student number (no spaces), the second line must contain the card-key registration number (number on the card; note that the letters are UPPER CASE) and the third line must contain the desired level of access (*just* the digit):

<student number>
<card-key number> // Eg. XSF(01)49:43210
<level>
where <level> is 1

Example: student with ID 123 456 789 wants to enable card XSF(01):49:76543 for level 1 access (**bold text** indicates input data):

student@otter:~$ **mail cscicard**
Subject: **card key request**
123456789
XSF(01)49:76543
1
.
CC:
student@otter:~$

The fourth line of the message body is a period on its own - this signals the end of the message body. At the CC: prompt simply hit the <Enter> key without any other text.

*Note*s

The email ***must*** be sent from your account on otter.csci.viu.ca for the request to be accepted.