CS170 **Lab 1**

Getting Started

The primary goal of this lab is to get you comfortable using the Linux operating system and a command line environment from a terminal. Successful completion of the labs and homeworks depends on you mastering this new environment. There will be many skill demonstrations by the TA during this lab. AFTER the demo, the TA will instruct you to complete different exercises.

Prelab preparation:

- Watch the following videos:
  - Directory Hierarchies (7 minutes)
  - Command Line Interfaces (7 minutes)
  - Basic Linux Commands (9 minutes)
  - Paths and Special Directories (10 minutes)
  - Relative and Absolute Paths (10 minutes)

Four Exercises:

1. **Necessary skills**.
   Your TA will demonstrate how to start crucial programs in Linux. Make sure you can launch the following applications. If you have problems, ask your TA.
   a) Web browser (Firefox)
   b) Terminal
   c) File browser

2. **Changing your shell.**
   a) Log in to myNetID at https://mynetid.emory.edu using your Emory ID and password
   b) Click on the "Work Dashboard" tab at the top of the window
   c) Click on the "Make a Process Request" button on the left hand side under your name/email
   d) Select "Self-service" as the category in the window that appears and then click "Continue"
   e) Click on the "Select UNIX or Linux Login Shell"
   f) Select "2. bash shell /bin/bash" and then click "Submit"
   g) You can now close this website
   h) This change will take effect by the next lab time. (You can logout/login now if you want to see if it takes effect immediately, but it usually takes longer). It enables a more user-friendly command line interface for you.
      - For this lab session (while we wait for the change to take effect), you can type
        `bash`
        at the prompt and change your shell temporarily for this lab. You should see a prompt that looks like :
        `-bash-4.1$`
      - Ask a TA for help if you do not see a bash prompt next week during lab 2.

3. **Command line practice**
   When instructed by your TA, open a terminal window and enter the following commands. After each command (in blue), the red text specifies things to look for or notice. Observing these things will help you cement your understanding of the directory hierarchy and command line environment. Some of these commands are a prelude to new commands we will learn in Lab 2.

```
pwd         print working (current) directory.  Notice the output: /home/yourid
ls          list contents of directory.  Notice the output
ls -l       list, long format.  Notice the output and how it differs from the
            previous command
ls /        list the root directory.  Notice the output.
```

```
cd cs170    change into your 170 directory (or, make cs170 the current directory)
ls          directory should be empty....
pwd         Notice the output: /home/yourid/cs170
```

```
mkdir lab1  create a subdirectory for this lab
ls          you should now see the lab1 subdirectory
```

```
cd lab1     move into the lab1 subdirectory
pwd         Note the directory hierarchy
ls          Should be empty

touch myfile      this command creates an empty data file named myfile
ls                Can you see the file name?
```

```
cd          Can you guess the current directory after this command executes?
pwd         Check your guess.  Did you guess correctly ?
```

```
cd /home/cs170000/share
ls
touch myfile      This should fail for you. What error did you get?
                  You will not have the proper permissions to write to this
                  directory.
ls /home          /home contents depend on machine but you should see a lot of
                  directories
```

4. **Check yourself**
   Your TA will hand out a short assessment. You should be able to easily answer these questions if you've watched the pre-lab videos and done the exercises above. If you have problems with any of these questions, you need to ask for help from your UTAs during lab and make sure you understand these concepts. This sheet is due by the end of the lab period.