CS 2204 Lab 1

your name here (please print):

your student ID number here:

In this assignment you will explore the Linux file system on the undergraduate computer network. First login to your account and open up a terminal window (which exposes a shell that can interpret the commands you type in). Look at the board for instructions on how to open up a terminal window.

QUESTIONS TO ANSWER:

1. (1 point) What is your home directory?

2. (1 point) It might surprise you to know that some of the Linux commands such as `ls` and `cat` are themselves files (a special kind, but files nonetheless). Change your directory to the root directory and browse through the directory tree to see where the files named `ls` and `cat` are located. Which directory do you find them in?

3. (1 point) Look inside this directory and see what other files correspond to Linux commands that you know. Name at least three of them.

4. Change your directory to your home directory. Here, create a directory structure as follows. All names shown below are directory names. Thus, `cs2204` is a directory under your home directory, under which there is a directory called `lab1`, and so on.

```
- cs2204
  - lab1
    - blacksburg
      - town
      - university
    - christiansburg
      - mall
      - walmart
```

   Inside the `town` subdirectory, create an empty file called "bollos". Similarly, inside the `university` subdirectory, create a file called "starbucks". Inside the `mall` subdirectory, create a file called "jcpenney". Inside the `walmart` subdirectory, create a file called "cosmetics".

5. (3 points) Change your directory to the `town` subdirectory. Do an `ls` here to confirm that you have a file called "bollos". Now, give THREE different ways to change your directory to the `walmart` subdirectory. For each way, confirm that it works by doing an `ls` and ensuring the presence of file "cosmetics".

6. (2 points) The `/etc` directory in the file system contains important configuration files. One such file is called "resolv.conf". Display the contents of this file by first `cd`-ing to this directory and then doing `cat resolv.conf` from there. What happens when you type `cat resolv.conf resolv.conf`? What does this tell you about how the `cat` command works?

7. (2 points) There are two useful Linux commands called `head` and `tail`. Type the following commands (again, from the same `/etc` directory as in Question 6), manually inspect the output, and guess what `head` and `tail` do.

```
head -1 resolv.conf
head -2 resolv.conf
head -100 resolv.conf
head resolv.conf
tail -1 resolv.conf
tail -2 resolv.conf
tail -100 resolv.conf
```