Classwork 2: Organizing for the Semester

In-class Date: Wednesday 31 January
Due Date: Wednesday 07 February

Objectives

To setup assignment directories for the semester, become more familiar with the Linux OS, understand how to use basic Unix commands, and reinforce how to submit assignments.

NOTE: I have used my own username and home directory in the examples. While you are entering the commands, be sure the words before the] on your screen match what's shown in the examples, as that'll ensure you are in the right place to execute each command.

NOTE: Unless otherwise noted, be sure to hit Enter (PC) or Return (Mac) after every command. At the end of the lab, you will use `submit` to turn in a transcript of your Linux session. If you do not finish all the steps, just submit as much as you get done.

Assignment: Semester Prep / Exploring Unix Commands

Commands you'll use: `pwd`, `ls`, `mkdir`, `cd`, `cat`, `tree`, `mv`. Follow the steps below in order. Use the PDFs on Blackboard under Course Materials as a reference.

1. Log in to your GL account.
2. Look at the name of your home directory:

```
[arsenaul@linux1 ~]$ pwd
/afs/umbc.edu/users/a/r/arsenaul/home
[arsenaul@linux ~]$
```

3. Look at the contents of your home directory. It might contain the following files and subdirectories:

```
[arsenaul@linux1 ~]$ ls
Mail  mybio.txt
[arsenaul@linux1 ~]$
```

4. Look at the "long" contents of your home directory. You should see the same subdirectories as the previous step, but with more information about each.

```
[arsenaul@linux1 ~]$ ls -l
total 2
drwx------    2 arsenaul rpc  2048 Aug 27 09:04 Mail
-rw-r--r--    1 arsenaul rpc  1024 Aug 27 09:04 mybio.txt
[arsenaul@linux1 ~]$
```

5. Look at all files in the directory, including files whose file names start with ., which indicates a "hidden file." This listing is similar to step 4 but also includes . for the current directory, .. for the parent/previous directory, and the previously mentioned "hidden files."

```
[arsenaul@linux1 ~]$ ls -a
NOTE: There are too many files to show here, and their names when I run the
command won't match what you see when you run it, so just know what this
option does.
[arsenaul@linux1 ~]$
```

6. Create a subdirectory called "cs104". Verify that it has been created by again looking at the contents of your home directory.

```
[arsenaul@linux1 ~]$ mkdir cs104
[arsenaul@linux1 ~]$ ls
cs104  Mail mybio.txt
[arsenaul@linux1 ~]$
```

7. Move (or, "change directory") to the cs104 directory. Verify that your current directory is now indeed cs104.
   NOTE: Remember that Linux is case sensitive; cs104 is different from CS104.

```
[arsenaul@linux1 ~]$ cd cs104
[arsenaul@linux1 ~/cs104]$ pwd
/afs/umbc.edu/users/a/r/arsenaul/home/cs104
[arsenaul@linux1 ~/cs104]$
```

8. Create new subdirectories for all classwork (cw1-cw10) and homework (hw1-hw10) assignments. Verify that each of the new subdirectories has been created.
   NOTE: Will not give all commands because it's basically copy-pasting with a different directory name each time. Remember, the up arrow brings back the last command you ran.

```
[arsenaul@linux1 ~/cs104]$ mkdir cw1
[arsenaul@linux1 ~/cs104]$ mkdir hw1
[arsenaul@linux1 ~/cs104]$ mkdir cw2
[arsenaul@linux1 ~/cs104]$ mkdir hw2
....
[arsenaul@linux1 ~/cs104]$ ls
cw1 cw3 cw5 cw7 cw9  hw1 hw3 hw5 hw7 hw9
cw2 cw4 cw6 cw8 cw10 hw2 hw4 hw6 hw8 hw10
[arsenaul@linux1 ~/cs104]$
```

9. Change directory to cw2 and make sure you are there.

```
[arsenaul@linux1 ~/cs104]$ cd cw2
[arsenaul@linux1 cw2]$ pwd
/afs/umbc.edu/users/a/r/arsenaul/home/cs104/cw2
[arsenaul@linux1 cw2]$
```

10. Use the `nano` editor to create a file called "things2do.txt."

```
[arsenaul@linux1 cw2]$ nano things2do.txt
```

11. Once you have opened the file, you should type the following:

```
1. Finish Classwork 1
2. Read the first 3 chapters from the book.
3. Bring my pet tarantula to CMSC104 for Show'n'Tell
```

    Save the file and exit `nano` (CTRL-X, Y)

12. Start a transcript of your Unix session. It's very important that you don't skip this step!

```
[arsenaul@linux1 cw2]$ script
Script started, file is typescript
[arsenaul@linux1 cw2]$
```

13. Move back to the cs104 directory and make sure you are there.

```
[arsenaul@linux1 cw2]$ cd ..
[arsenaul@linux1 ~/cs104] pwd
/afs/umbc.edu/users/a/r/arsenaul/home/cs104
```

14. Move the "mybio.txt" file in your home directory to the "cw1" directory. Check to see that it is no longer in your home directory. Then, check to see that it is in the cw1 directory.
    NOTE: The trailing / after cw1 in the second command is important because it tells the computer that cw1 is a directory and not a file, so put the first file inside it. If you forget the trailing /, the computer will think you are trying to copy mybio.txt into a new file in the cs104 directory called cw1, which is not allowed because cw1 already exists as a directory, not a file.

```
[arsenaul@linux1 ~/cs104]$ mv ../mybio.txt cw1/
[arsenaul@linux1 ~/cs104]$ ls ..
cs104  Mail
[arsenaul@linux1 ~/cs104]$ ls cw1
mybio.txt
[arsenaul@linux1 ~/cs104]$
```

15. Now show all files and directories that you have created.

```
[arsenaul@linux1 ~/cs104]$ tree
NOTE: You should see all your classwork and homework directories, with
all appropriate Classwork 1 files in the cw1 directory, in a tree-like
structure.
[arsenaul@linux1 ~/cs104]$
```

16. Now you have to stop recording the transcript of your Unix session.

```
[arsenaul@linux1 ~/cs104]$ exit
exit
Script done, file is typescript
[arsenaul@linux1 cw2]$
```

17. Check that you have a file named "typescript".

```
[arsenaul@linux1 cw2]$ ls
things2do.txt typescript
[arsenaul@linux1 cw2]$
```

18. Check that the file is not empty.

```
[arsenaul@linux1 cw2]$ cat typescript
NOTE: The contents of your file (the commands you've
just executed and their results) should display here.
[arsenaul@linux1 cw2]$
```

19. Submit your "things2do.txt" and "typescript" files.

```
[arsenaul@linux1 cw2]$ submit cmsc104_arsenaul cw2 things2do.txt typescript
[arsenaul@linux1 cw2]$
```

20. Double-check that the files were, in fact, submitted.

```
[arsenaul@linux1 cw2]$ submitls cmsc104_arsenaul cw2
```

21. Don't forget to logout.

```
[arsenaul@linux1 cw2]$ logout
```

Grading Rubric

- "things2do.txt" is complete: 50 points
- typescript is complete and not garbled: 20 points
- `tree` in typescript shows proper directory structure: 30 points

What to Submit

You should have already submitted the two files, "things2do.txt" & "typescript" by following the instructions above.