CST8177 - Lab 2 Review #1

Student Name	Student number	Section

Objectives

- To review command line features, file system access, and permissions

Lab Outcome

- A review of working with the command line
- A review of basic Linux utilities

Additional Notes

- If you are uncertain as to how to proceed or have any problems, refer to class notes from previous for more information, your textbook, and the **man** pages.

In-Lab Demo: Display the home directories for **root** and any other user using both absolute and relative path from yet another user's home directory.

Exercise #1: Working with relative and absolute path

Answer the questions below based on the following directory structure:

```
/
/etc
/root
/home
/home/andrew
/home/andrew/department
/home/andrew/department/chair
```

Your current location in the directory structure is the root (**/**) directory, and you are logged in as regular user **andrew**.

Record the absolute path for **chair**:

[andrew @college /] $ _____

Record the relative path for the file **chair**:

[andrew @college /] $ _____

Given the prompt below, identify the result of the command

```
[andrew @college home] $ cd ~
```

_____

What command do you need to use to see **andrew**'s present working directory?

[andrew @college /] $ _____

Record the result of that command:

_____

Log in again as **root** with the current directory as **/home/andrew**

Record the relative path to the **root** account's home directory:

[root @college andrew] # _____

Record the relative path to **andrew**'s home directory:

[**root @college home] #** _____

Record the absolute path to **andrew**'s home directory:

[**root @college home] #** _____

Note: Linux is designed for multi-user, multi-tasking, network-based operation, so a user's home directory is typically more important to a user than the system's root or other system directories.

Exercise #2: Working with standard commands

Log in as **root**. Create two a user accounts, **user1** and **user2**.

Log in as **user1**. Record the command prompt below by filling in the three blank fields:

[_____(1)_____@localhost_____(2)_____]__(3)__

What does each entry refer to?

1. _____
2. _____
3. _____

Create a directory named **temp**.

[user1 @localhost ~] $ _____

List the directory entry, including all file attributes and the inode number, to confirm the creation of **temp**

[user1 @localhost ~] $ _____(command)

_____

_____

List all attributes shown above(there are eight fields of which one is the date/time; count the first letter of the permissions as a separate attribute) and briefly define each:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

Change ownership of the directory **temp** to **user2**

[user1 @localhost ~] $ _____

What is the result? _____

Change the permissions of **temp** to allow others no access, the group members no write access and full access for the owner:

Change the permissions using absolute (octal) mode

[user1 @localhost ~] $ _____

Show the change the permissions again, using symbolic mode

[user1 @localhost ~] $ _____

Create an empty file **file** in the **temp** directory

[user1 @localhost ~] $ _____

Rename **file** to **empty-file**

[user1 @localhost ~] $ _____

Delete the directory **temp** and the file **empty-file** in a single command (no semicolon)

[user1 @localhost ~] $ _____

Switch to **user2**

[user1 @localhost ~] $ _____

Record the command prompt:

[_____ @ hostname _____] _____

Switch to **root**., changing to **root**'s environment:

[user1 @localhost ~] $ _____

Record the command prompt again:

[_____ @ hostname _____] _____

Exercise #3: Switching logon id – the **su** command

Switch to **user1**., then run these command, displaying both the command and its output.

The **whoami** command tells you the userid you are logged in as; try it.

[user1 @localhost ~] $ _____

_____

The **id** command also gives you uid and gid numbers, and group memberships

[user1 @localhost ~] $ _____

_____

The environment variable for your path is **PATH**. Display it (write down only the beginning and end if it's too long for this space):

[user1 @localhost ~] $ _____

_____

Switch to **root**, changing to **root**'s environment. Repeat the three commands above:

whoami: _____

id: _____

$PATH: _____

Use the **exit** command or a Control-D (**^D**; end-of-file for **stdin**) and **whoami** again:

whoami: _____

Exercise #4: Executing commands

Log in as **user1**.

To view the directories that Linux searches when looking for a command

[user1 @localhost ~] $ echo $PATH

Record the path: _____

_____

[user1 @localhost ~] $ whereis ls

_____

[user1 @localhost ~] $ ls

_____

Does this command execute? Why?

Record your answer: _____

[user1 @localhost ~] $ grcat

_____

Does this command execute? Why?

Record your answer: _____

[user1 @localhost ~] $ /usr/libexec/awk/grcat

_____

Does this command execute? Why?

Record your answer: __ _____

Record the result of the last command in this sequence:

```
[user1 @localhost ~] $ echo $PATH
[user1 @localhost ~] $ PATH=
[user1 @localhost ~] $ echo $PATH
```

_____

[user1 @localhost ~] $ ls

_____

Does this command execute? Why?

Record your answer: _____

[user1 @localhost ~] $ /bin/ls

_____

Does this command execute? Why?

Record your answer: _____

Terminate this shell, since its **PATH** is damaged; use **^D** or:

[user1 @localhost ~] $ exit

Login with your **user1** id. This will reset your **PATH** to the default settings, but check:

[user1 @localhost ~] $ echo $PATH

Copy the (binary) file **/bin/pwd** to your home directory and name it **mypwd**.

[user1 @localhost ~] $ _____

Now run the **pwd** copy from your home directory:

[user1 @localhost ~] $ mypwd

_____

Does this command execute? Why?

Record your answer: _____

Run the **pwd** copy from your home directory again, but this time specify the path **./**:

[user1 @localhost ~] $ ./mypwd

_____

Does this command execute? Why?

Record your answer: _____

Delete the **pwd** copy from your directory:

[user1 @localhost ~] $ _____