BSc (Hons) in Information Technology

ISE – Year 2 Semester 1

IT2061 - Operating Systems and System Administration

2025

Lab Exercise 01

Learning Objectives: *Students will be able to learn basic UNIX Commands.*

When you first log in on a UNIX system, you are always associated with a directory, which is called the home directory or the working directory or the current directory. Your home directory has the same name as your user-name (student) and it is where your personal files and sub-directories are saved.

Step 1. Run the command **pwd** on the command prompt. Write down the output appeared on the screen.

Absolute path name: … ……

Then, briefly describe the function of **pwd** utility.

……

Step 2. Run **who** utility to get the information about logged in users. Take one user-name and run **finger user-name** to get the information about the user, including full names. Run **whoami** utility. Write down the output appeared on the screen.

……

In Unix systems, ***ls*** *utility lists the contents of your current directory. The behavior of a command can be changed by the options.*

Step 3. Type command **ls –al** at the command prompt. Write down the first two lines of the output.

i)……

ii) ……..

Guess the meaning of "**.**" in the last column of your answer at Step 3 i).

……

Guess the meaning of "**..**" in the last column of your answer at Step 3 ii).

……

Step 4. Type **cd.** at the command prompt. And run the **pwd** utility again. Dose it change your working directory? Yes/No

Step 5. Run **cd..** at the command prompt. And run the **pwd** utility again. Has **cd..** changed the previous working directory? Yes/No

According to your observations, what is the function of command **cd, cd. and cd..**?

……

Step 6. Now use **cd /** command to change your directory to root directory '/'. Them Type **ls** and observe the content that can be seen in the output. Consider the following directories.

/bin, /home, /dev, /etc, /lib

Use cd command to access the directories then type **ls –l** under each directory. Can you interpret the output of **ls –l (list content in long format)** command?

Check the very first letter of each line when you type **ls –l** under these directories. According to the observations try to analyses the meaning of the first letter.

…….
…….

*Now run **ls** utility and check whether **test.txt** file exists in the home directory called "student". If not, create a new file using **cat** utility, **cat > file-name** and add your IT no and name. Use **Ctrl+D** to save and exit from it.*

*Then open same file using **vi editor** and add some more lines of data.*
*Practice **mkdir** and **rmdir** commands to create and remove directories from the file hierarchy.*

*The command syntax **mv source-file** destination is used to move the **source-file** to the destination called **destination.** This utility can be used to rename a file without making duplicate copy of it. In that case, command syntax is, **mv existing-filename new-filename.***

Step 7. Run **mv test.txt ./student** command at the command prompt. Then run **cd ~** command. Run **pwd** command.

i) What is the output for **pwd** utility?

……
ii) What is the directory referred by '~' mark?

……

Step 8. Try **ls ~** and **ls ~/..**

*The command syntax **cp source-file destination-file** is used to copy the contents of **sourcefile** to the destination file called **destination-file.***

Step 9. Run **cp test.txt First.txt** command. Again, run **cp test.txt FiRsT.txt** command. List the files in your home directory. Is UNIX system **case sensitive**? Yes/No

Step 10. The **cat** (name derived from concatenate) utility displays the contents of a text file. Run **cat First**. Then, run **rm First**. Again, run **cat First.** i) Write down the output

……

ii) What is the function of **rm ?**

……

*The **head** utility displays the first ten lines of a file. It is useful for reminding yourself what a particular file contains. The **tail** utility is similar to head, except it displays the last ten lines of a file.*

Step 11. Write down the output of;

i) head -3 test.txt

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ii) tail -2 test.txt

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Try out the lab sheet and submit the answers to the given link in Courseweb.