Experiment 1: Linux Overview and Basic Commands

1. Aim:

a. Understand Linux OS architecture & Linux terminal
b. Practice basic Linux commands using Linux terminal

2. Requirements: LINUX OS (CENTOS or Ubuntu)

3. Related Theory:

Linux is a Unix-like computer operating system assembled under the model of free and open-source software development and distribution. These operating systems share the Linux kernel.

Fig 1: Popular Linux Distributions

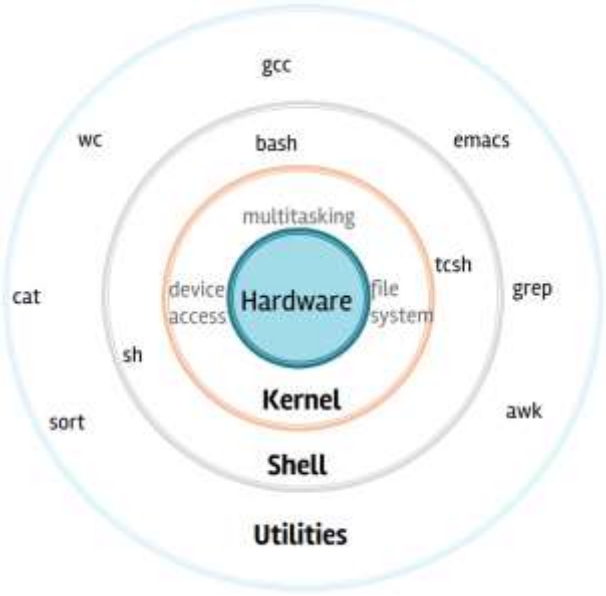

Fig 2: Linux Architecture

A **shell** is a program that acts as an interface between a user and the kernel. It allows a user to give commands to the kernel and receive responses from it.

4. Laboratory Exercise:

Execute and interpret following basic commands of Linux.

whoami	**hostname**	**pwd**	**ls**	**date**
mkdir TEST	**cd** TEST	**rmdir** TEST	**echo** "Hello!"	**man** 'command'

Create and manipulate files using text editors (nano,gedit,vi and vim) using following commands.

- mkdir TEST
- cd TEST
- nano demo.txt
  (check using **ls** command)
- echo "This is sample text" > demo.txt
- cat demo.txt
- cp demo.txt sample.txt # copy file content to another file
- cat sample.txt
- mkdir SFIT
- mv demo.txt /TEST/SFIT # Move file to SFIT directory
- cd SFIT
- rmdir TEST # It may fail
- rmdir –rf TEST

5. Post-Experiment Exercise:

A. Conclusion:

#Summarize your experience about the skills acquired from this experiment.

B. Tasks:

For each question, Students need to submit the question and screenshot of the response (answer and output).

1. What is “Distributions” in Linux? Why does Linux have so many distributions?
2. What are the benefits of Linux OS over other OSs?
3. What is Shell in Linux OS? Explain it by taking suitable example.
4. Make a new directory (folder name to be division followed by roll number, e.g., A21).
5. Navigate to above directory
6. Create a new text file in above directory (file name e.g., A21file.txt).
7. Create a copy of the above file (e.g. A21file2.txt).
8. Rename the file created in step 3 (e.g. A21demo.txt)
9. Delete the file of step 4.
10. Change working directory.
11. List contents of a folder.
12. List contents of a folder including permissions and timestamps.
13. Remove the directory created in step 1.