**Experiment 1**

Introduction:

UNIX is an operating system and was developed by a team of developers in the Bell Labs laboratories in 1960’s, and has been under constant development ever since. It is a stable, multi-user, multi-tasking system for servers, desktops, and laptops. There are many different versions of UNIX, although they share common similarities. The most popular varieties of UNIX are Sun Solaris, GNU/Linux, and MacOS X.

Here in our lab, we’ll use Fedora Linux to be familiar with UNIX.

Objective:

• To learn the basic UNIX commands.

• To be able to work with VI editor.

• To learn UNIX shell programming at an introductory level.

Key Terminologies:

• UNIX command prompt: A command prompt, also referred to simply as a prompt, is a short text message at the start of the command line on a command line interface. The command line is the line on which commands are typed in a console or terminal window. A command is an instruction to tell a computer to do something, e.g., to execute a program. The functions of a command prompt are:

i) to inform the user that the system is ready for the next command, data element or other input.

ii) to help the user plan and execute subsequent operations.

The dollar sign prompt (or a prompt ending with a dollar sign) means that UNIX is now ready to interpret and execute your commands as typed in from your keyboard.

• The VI editor: The default editor that comes with the UNIX operating system is called vi (visual editor). vi is a screen editor where a portion of the file is displayed on the terminal screen, and the cursor can be moved around the screen to indicate where you want to make changes. You can select which part of the file you want to have displayed. Screen editors are also called display editors, or visual editors. vi is one of the more popular screen editors that run on the UNIX system.

• UNIX shell: The shell acts as an interface between the user and the kernel. When a user logs in, the login program checks the username and password and then starts another program called the shell. The shell is a command line interpreter (CLI). It interprets the commands that user types in and arranges for them to be carried out. The commands are themselves programs: when they terminate, the shell gives the user another prompt.

List of Programs

**Program 1: Execute 15 basic commands of UNIX.**

The following table lists some of the basic UNIX commands. To execute the commands, open the command prompt and type those as they are and press ‘Enter’ button.

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Command** | **Example** | **Description** |
| 1 | **ls** | ls  ls -alF | Lists files in the current directory List in long format |
| 2 | **cd** | cd tempdir cd ..  cd  ~system/mydirectory | Change directory to *tempdir*  Move back one directory  Move into system's *mydirectory* directory |
| 3 | **mkdir** | mkdir *graphics* | Make a directory called *graphics* |
| 4 | **rmdir** | rmdir *graphics* | Remove directory (must be empty) |
| 5 | **cp** | cp file1 web-docs cp file1 file1.bak | Copy file into directory Make backup of *file1* |
| 6 | **rm** | rm file1.bak rm \*.tmp | Remove or delete *file1*  Remove all files |
| 7 | **mv** | mv old.html new.html mv file "new file path" mv dir1 dir2 | Move or rename files  Moves the files to the new location Renames *dir1* to *dir2* |
| 8 | **more** | more index.html | Look at file, one page at a time |
| 9 | **lpr** | lpr index.html | Send file to printer |
| 10 | **man** | man ls | Online manual (help) about command |
| 11 | **grep**  **<str><files>** | grep "ABC" \* | Find which files contain a certain word (e.g. “*ABC*”) |
| 12 | **who** | who | Lists who is logged on your machine |
| 13 | **cat** | cat filename cat > filename  cat file1 file2 > file3 | Displays the contents of the given file. Creates new file.  Joins two files (*file1*, *file2*) and stores the output in a new file (*file3*) |

SAMPLE OUTPUT

