EXPERIMENT- 1

Aim:

Study of UNIX general purpose utility command list (man, who, cat, cd, cp, ps, ls, mv, rm, mkdir, rmdir, echo, more, date, time, kill, history, chmod, chown, finger, pwd, cal, logout, shutdown)

1. **man command:** It displays the whole manual of the command.

```
$ man [COMMAND NAME]
```

I/P:

```
[liveuser@localhost-live ~]$ man chmod
```

O/P:

```
CHMOD(1)                          User Commands                          CHMOD(1)

NAME
       chmod - change file mode bits

SYNOPSIS
       chmod [OPTION]... MODE[,MODE]... FILE...
       chmod [OPTION]... OCTAL-MODE FILE...
       chmod [OPTION]... --reference=RFILE FILE...

DESCRIPTION
       This  manual  page  documents  the GNU version of chmod.  chmod changes the file mode
       bits of each given file according to mode, which can be either a symbolic representa-
       tion  of changes to make, or an octal number representing the bit pattern for the new
       mode bits.

       The format of a symbolic mode is [ugoa...][[-+=][perms...]...], where perms is either
       zero  or more letters from the set rwxXst, or a single letter from the set ugo.  Mul-
       tiple symbolic modes can be given, separated by commas.
 Manual page chmod(1) line 1 (press h for help or q to quit)
```

2. **who command:** **who** command is used to find out the following information:
   1. List of logged in users
   2. Time of last system boot
   3. Current run level of the system and more.

```
$who [options] [filename]
```

```
[liveuser@localhost-live ~]$ who
liveuser tty2         2021-09-16 00:57 (tty2)
```

3. **cat command:** It reads data from the file and gives their content as output. It helps us to create, view, concatenate files.

```
$cat filename
```

It will show content of given filename

```
[liveuser@localhost-live ~]$ cat cad
cat: cad: No such file or directory
[liveuser@localhost-live ~]$ vi cad
[liveuser@localhost-live ~]$ cat cad
fedora terminal is used by me for practicing all the commands of Linux
```

4. **cd Command:** It is used to change current working directory.

```
$ cd [directory]
```

To move inside a subdirectory: to move inside a subdirectory in Linux we use **cd ..**

This command is used to move to the parent directory of current directory, or the directory one level up from the current directory. ".." represents parent directory.

```
[liveuser@localhost-live ~]$ cd ..
[liveuser@localhost-live home]$ cd Music
bash: cd: Music: No such file or directory
```

5. **cp command: cp** stands for **copy**. This command is used to copy files or group of files or directory. It creates an exact image of a file on a disk with different file name. *cp* command requires at least two filenames in its arguments.

```
$ cp [OPTION] Source Destination
```

```
[liveuser@localhost-live ~]$ vi cad
[liveuser@localhost-live ~]$ cp cad cad1
[liveuser@localhost-live ~]$ cat cad1
fedora is working
```

6. **ps command: ps** stands for Process status. It is used for viewing the information related with the processes on a system. ps command is used to list the currently running processes and their PIDs along with some other information depends on different options.

```
$ ps [options]
```

```
[liveuser@localhost-live ~]$ ps
    PID TTY          TIME CMD
  33658 pts/0    00:00:00 bash
  35536 pts/0    00:00:00 ps
```

7. **ls command: ls** is a Linux shell command that lists directory contents of files and directories. It will show all the files including the '.' (current directory) and '..' (parent directory).

```
[liveuser@localhost-live ~]$ ls
cad  Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
```

8. **mv command: mv** stands for **move**. mv is used to move one or more files or directories from one place to another in a file system like UNIX. It has two distinct functions:
   (i) It renames a file or folder.
   (ii) It moves a group of files to a different directory.

```
$ mv [Option] source destination
```

```
[liveuser@localhost-live ~]$ mv cad cad1
[liveuser@localhost-live ~]$ cat cad1
fedora terminal is used by me for practicing all the commands of Linux
```

9. **rm command: rm** stands for **remove** here. rm command is used to remove objects such as files, directories, symbolic links and so on from the file system like UNIX.

```
$ rm [OPTION]... FILE...
```

```
[liveuser@localhost-live ~]$ mv cad cad1
[liveuser@localhost-live ~]$ cat cad1
fedora terminal is used by me for practicing all the commands of Linux
[liveuser@localhost-live ~]$ rm cad1
[liveuser@localhost-live ~]$ cat cad1
cat: cad1: No such file or directory
```

10. **mkdir command: mkdir** command in Linux allows the user to create directories. This command can create multiple directories at once as well as set the permissions for the directories.

```
$ mkdir [options...] [directories ...]
```

```
[liveuser@localhost-live ~]$ mkdir unix
[liveuser@localhost-live ~]$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  unix  Videos
```

11. **rmdir command: rmdir** command is used remove empty directories from the filesystem in Linux. The rmdir command removes each and every directory specified in the command line only if these directories are empty.

```
[liveuser@localhost-live ~]$ rmdir unix
[liveuser@localhost-live ~]$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
```

12. **echo command: echo** command in linux is used to display line of text/string that are passed as an argument. This is a built in command that is mostly used in shell scripts and batch files to output status text to the screen or a file.

```
$ echo [option] [string]
```

```
[liveuser@localhost-live ~]$ echo fedora is running
fedora is running
```

13. **more command:** The more command also allows the user do scroll up and down through the page.

14. **date command: date** command is used to display the system date and time. date command is also used to set date and time of the system.

```
$ date
```

```
[liveuser@localhost-live ~]$ date
Thu Sep 16 02:57:57 PM EDT 2021
```

15. **time command: time** command in Linux is used to execute a command and prints a summary of real-time, user CPU time and system CPU time spent by executing a command when it terminates.

```
$ time [option] [COMMAND]
```

```
[liveuser@localhost-live ~]$ time cal
   September 2021
Su Mo Tu We Th Fr Sa
          1  2  3  4
 5  6  7  8  9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30


real    0m0.010s
user    0m0.005s
sys     0m0.000s
```

16. **kill command: kill** command sends a signal to a process which terminates the process.

17. **history command: history** command is used to view the previously executed command.

```
$ history
```

```
[liveuser@localhost-live ~]$ history
    1  man ls
    2  clear
    3  man logout
    4  clear
    5  man chmod
    6  clear
    7  man chmod
    8  who
    9  cat cad
   10  vi cad
   11  cat cad
   12  cd ..
   13  cd Music
   14  pwd
   15  cd
   16  cd
   17  cd Pratibha
   18  cd pratibha
   19  cd Full_Adder
   20  ps
   21  ls
   22  mv cad cad1
   23  cat cad1
   24  rm cad1
   25  cat cad1
   26  mkdir unix
   27  ls
   28  rmdir unix
   29  ls
   30  echo fedora is running
   31  date
   32  time chmod
   33  time date
   34  cal
   35  time cal
   36  cp cad cad1
   37  vi cad
   38  cp cad cad1
   39  cat cad1
   40  history
```

18. **Chmod command:** In Unix-like operating systems, the **chmod** command is used to change the access mode of a file. The name is an abbreviation of **change mode**.

```
$ chmod [reference][operator][mode] file...
```

Before Changing the user preference:

```
[liveuser@localhost-live ~]$ ls -l
total 40
-rw-rw-r--. 1 liveuser liveuser   19 Sep 16 15:03 cad
-rw-rw-r--. 1 liveuser liveuser   19 Sep 16 15:04 cad1
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Desktop
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Documents
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Downloads
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Music
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 14:29 Pictures
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Public
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Templates
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Videos
```

After Changing the user Preference:

```
[liveuser@localhost-live ~]$ chmod u-w cad
[liveuser@localhost-live ~]$ ls -l
total 40
-r--rw-r--. 1 liveuser liveuser   19 Sep 16 15:03 cad
-rw-rw-r--. 1 liveuser liveuser   19 Sep 16 15:04 cad1
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Desktop
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Documents
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Downloads
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Music
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 14:29 Pictures
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Public
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Templates
drwxr-xr-x. 2 liveuser liveuser 4096 Sep 16 00:58 Videos
```

19. **chown command: chown** command is used to change the file Owner or group. Whenever you want to change ownership you can use chown command.

```
$ chown owner_name file_name
```

20. **finger command: Finger** command is a user information lookup command which gives details of all the users logged in. This tool is generally used by system administrators. It provides details like login name, user name, idle time, login time, and in some cases their email address even.

```
$finger user
```

21. **pwd command: pwd** stands for **P**rint **W**orking **D**irectory. It prints the path of the working directory, starting from the root. pwd is shell built-in command(pwd) or an actual binary(/bin/pwd).

```
[liveuser@localhost-live ~]$ pwd
/home/liveuser
```

22. **cal command: cal** command is a calendar command in Linux which is used to see the calendar of a specific month or a whole year.

```
$ cal [ [ month] year]
```

```
[liveuser@localhost-live ~]$ cal
   September 2021
Su Mo Tu We Th Fr Sa
          1  2  3  4
 5  6  7  8  9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30
```

23. **logout command:**

logout **command** – Logout of a login shell. This command can be used by normal users to end their own session. `$ logouts`

24. Shutdown command:

The **shutdown** command in Linux is used to shutdown the system in a safe way. You can shutdown the machine immediately, or schedule a shutdown using 24 hour format.

```
$ shutdown [OPTIONS] [TIME] [MESSAGE]
```

```
[liveuser@localhost-live ~]$ shutdown
Shutdown scheduled for Thu 2021-09-16 22:20:44 EDT, use 'shutdown -c' to cancel.
```

25. Print List of File Created

```
[liveuser@localhost-live ~]$ tree
.
├── cad
├── cad1
├── Desktop
├── Documents
├── Downloads
├── Music
├── Pictures
│   ├── Screenshot from 2021-09-16 14-29-32.png
│   ├── Screenshot from 2021-09-16 14-29-34.png
│   └── Screenshot from 2021-09-16 14-29-36.png
├── Public
├── Templates
└── Videos

8 directories, 5 files
[liveuser@localhost-live ~]$
```