Experiment No : 7

AIM

Familiarization of LINUX Commands.

CO2

Perform system administration task.

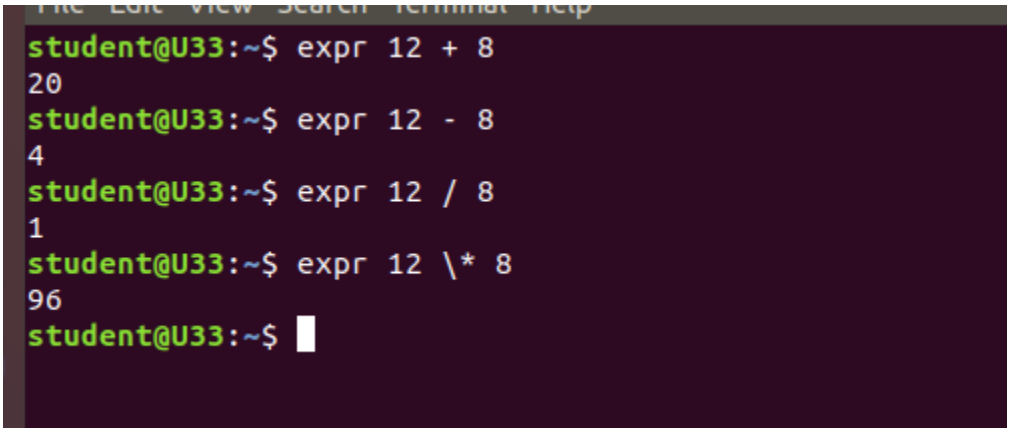
Procedure

1. expr

evaluates the given expression and displays the output.

$ expr 12 + 8

Output



1.1) expr [$ variable1] [$ variable2]

evaluates the expression and returns value.

$ expr $x + $y

Output

```
student@U33:~$ read x
20
student@U33:~$ read y
25
student@U33:~$ expr $x + $y
45
student@U33:~$
```

2) df

Shows the disk utilization of our system in terms of used space, megabits etc.

$ df

Output

```
student@U33:~$ df
Filesystem     1K-blocks     Used Available Use% Mounted on
udev             3971800        0   3971800   0% /dev
tmpfs             800616     2048    798568   1% /run
/dev/sda6      595171040 45015936 524767052   8% /
tmpfs            4003068    31508   3971560   1% /dev/shm
tmpfs               5120        4      5116   1% /run/lock
tmpfs            4003068        0   4003068   0% /sys/fs/cgroup
/dev/loop0          2688     2688         0 100% /snap/gnome-calculator/920
/dev/loop3        400768   400768         0 100% /snap/gimp/383
/dev/loop4        224256   224256         0 100% /snap/gnome-3-34-1804/72
/dev/loop2         83328    83328         0 100% /snap/gtk-common-themes/1534
/dev/loop1        463360   463360         0 100% /snap/gnome-42-2204/56
/dev/loop7           768      768         0 100% /snap/gnome-characters/741
/dev/loop8         64896    64896         0 100% /snap/core20/1822
/dev/loop6        224256   224256         0 100% /snap/gnome-3-34-1804/77
/dev/loop9        142848   142848         0 100% /snap/docker/2343
/dev/loop5        617856   617856         0 100% /snap/pycharm-community/323
```

3) du [filename]

Shows the disk utilization of a specific file

$ du

Output

```
student@U33:~$ du file2
4       file2
```

4) sudo

To add new user to the system

4.1) sudo useradd [username]

Adds a user to the Ubuntu system specified by the user.

$ sudo useradd nithasha

Output

```
mca@U33:~$ sudo useradd sisira
[sudo] password for mca:
```

4.2) sudo passwd [username]

To update the password of new user

$ sudo passwd nithasha

Output

```
mca@U33:~$ sudo passwd sisira
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
```

4.3) sudo groupadd –g [gid] [group name]

To create a group with a unique identifier. User would be notified if it already exists.

$ sudo groupadd –g 765 mcacommunity

Output

```
mca@U33:~$ sudo groupadd -g 1711 mcastd
mca@U33:~$ sudo usermod -G mcastd sisira
```

```
mca@U33:~$ id sisira
uid=1022(sisira) gid=1022(sisira) groups=1022(sisira),1711(mcastd)
```

4.4) sudo usermod –G [group name] [member user]

To add any existing user to the group created.

$ sudo usermod –G mcacommunity Nithasha

Output

```
mca@U33:~$ sudo groupadd -g 1711 mcastd
mca@U33:~$ sudo usermod -G mcastd sisira
```

```
mca@U33:~$ id sisira
uid=1022(sisira) gid=1022(sisira) groups=1022(sisira),1711(mcastd)
```

5) id [username]

Displays the group name and group id to which the user belongs to.

$ id nithasha

Output

```
mca@U33:~$ sudo groupadd -g 1711 mcastd
mca@U33:~$ sudo usermod -G mcastd sisira
```

```
mca@U33:~$ id sisira
uid=1022(sisira) gid=1022(sisira) groups=1022(sisira),1711(mcastd)
```

6) compgen –g

Displays all the groups

Output

```
mca@U33:~$ compgen -g
root
daemon
bin
sys
adm
tty
disk
lp
mail
news
uucp
man
proxy
kmem
dialout
fax
voice
cdrom
floppy
tape
sudo
audio
```

7) chmod

Used to change the access permissions of files and directories. It stands for change mod(read (r), write (w), execute (x)..etc).

7.1) chmod –wx [filename]

This command denies permission to write or append to the file.

$ chmod –wx file

Output

```
mca@t2:~$ cat > file
hello
hi
^Z
[1]+  Stopped                 cat > file
mca@t2:~$ chmod -wx file
mca@t2:~$ cat >> file
bash: file: Permission denied
```

7.2) chmod +wx [filename]

This command allows permission to write or append to the file.

$ chmod +wx file

Output

```
mca@t2:~$ chmod +wx file
mca@t2:~$ cat >> file
yellow
blue
^Z
[2]+  Stopped                 cat >> file
mca@t2:~$ cat file
hello
hi
yellow
blue
```

8) chown

Command used to change a file ownership or directory ownership for a user or a group. chown stands for change owner.

8.1) sudo chown [username] [filename]

Changes the file ownership from the current user to another.

$ sudo chown nithasha file

Output

```
mca@t2:~$ sudo chown nithasha file
[sudo] password for mca:
mca@t2:~$ ls
Desktop  Documents  Downloads  file  Music  Pictures  Public  Templates  Videos
```

Result

The program has been executed and output has been verified.