

LAB – 2

AIM – Basic commands of linux

Name – SHIVRAJ NAKUM , 21BCP125

1) cd

```
[shivraj@fedora ~]$ cd Desktop
[shivraj@fedora Desktop]$ pwd
/home/shivraj/Desktop
[shivraj@fedora Desktop]$ cd ..
[shivraj@fedora ~]$ pwd
/home/shivraj
[shivraj@fedora ~]$
```

2) cmp

```
[shivraj@fedora Desktop]$ cmp list1.txt list2.txt
list1.txt list2.txt differ: byte 1, line 1
[shivraj@fedora Desktop]$
```

3) cat

```
[shivraj@fedora Desktop]$ cat list1.txt
messi
ronaldo
ramos
modric
neymar
[shivraj@fedora Desktop]$ cat list2.txt

ronaldo
neymar
buffon
kavani
bale

[shivraj@fedora Desktop]$
```

4) cal

```
[shivraj@fedora Desktop]$ cal
      January 2023
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 31

[shivraj@fedora Desktop]$
```

5) cal -y

```
[shivraj@192 ~]$ cal -y
      2023

      January                February                March
Su Mo Tu We Th Fr Sa      Su Mo Tu We Th Fr Sa      Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7        1  2  3  4              1  2  3  4
 8  9 10 11 12 13 14        5  6  7  8  9 10 11        5  6  7  8  9 10 11
15 16 17 18 19 20 21        12 13 14 15 16 17 18        12 13 14 15 16 17 18
22 23 24 25 26 27 28        19 20 21 22 23 24 25        19 20 21 22 23 24 25
29 30 31                    26 27 28                    26 27 28 29 30 31

      April                  May                    June
Su Mo Tu We Th Fr Sa      Su Mo Tu We Th Fr Sa      Su Mo Tu We Th Fr Sa
                      1          1  2  3  4  5  6          1  2  3
 2  3  4  5  6  7  8        7  8  9 10 11 12 13        4  5  6  7  8  9 10
 9 10 11 12 13 14 15        14 15 16 17 18 19 20        11 12 13 14 15 16 17
16 17 18 19 20 21 22        21 22 23 24 25 26 27        18 19 20 21 22 23 24
23 24 25 26 27 28 29        28 29 30 31                25 26 27 28 29 30
30

      July                  August                September
Su Mo Tu We Th Fr Sa      Su Mo Tu We Th Fr Sa      Su Mo Tu We Th Fr Sa
                      1          1  2  3  4  5          1  2
 2  3  4  5  6  7  8        6  7  8  9 10 11 12        3  4  5  6  7  8  9
 9 10 11 12 13 14 15        13 14 15 16 17 18 19        10 11 12 13 14 15 16
16 17 18 19 20 21 22        20 21 22 23 24 25 26        17 18 19 20 21 22 23
23 24 25 26 27 28 29        27 28 29 30 31        24 25 26 27 28 29 30
30 31

      October                November                December
Su Mo Tu We Th Fr Sa      Su Mo Tu We Th Fr Sa      Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7        1  2  3  4          1  2
 8  9 10 11 12 13 14        5  6  7  8  9 10 11        3  4  5  6  7  8  9
15 16 17 18 19 20 21        12 13 14 15 16 17 18        10 11 12 13 14 15 16
22 23 24 25 26 27 28        19 20 21 22 23 24 25        17 18 19 20 21 22 23
29 30 31                    26 27 28 29 30        24 25 26 27 28 29 30
31

[shivraj@192 ~]$
```

6) passwd

```
[shivraj@192 ~]$ passwd
Changing password for user shivraj.
Current password:
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[shivraj@192 ~]$
```

7) grep - used to search a string of characters in a file

```
[shivraj@fedora Desktop]$ cat list1.txt
messi
ronaldo
ramos
modric
neymar
```

```
[shivraj@fedora Desktop]$ grep messi list1.txt
messi
[shivraj@fedora Desktop]$
```

8) groups

```
[shivraj@fedora Desktop]$ groups
shivraj wheel
[shivraj@fedora Desktop]$
```

9) uname

```
[shivraj@192 ~]$ uname
Linux
[shivraj@192 ~]$
```

10) uname -a

```
[shivraj@192 ~]$ uname -a
Linux 192.168.75.128 6.1.7-200.fc37.x86_64 #1 SMP PREEMPT_DYNAMIC Wed
Jan 18 17:11:49 UTC 2023 x86_64 x86_64 x86_64 GNU/Linux
[shivraj@192 ~]$
```

11) uname -s

```
[shivraj@192 ~]$ uname -s
Linux
```

12) uname -n

```
[shivraj@192 ~]$ uname -n
192.168.75.128
[shivraj@192 ~]$
```

13) comm – compare command

```
[shivraj@fedora Desktop]$ cat list1.txt
messi
ronaldo
ramos
modric
neymar
[shivraj@fedora Desktop]$ cat list2.txt

ronaldo
neymar
buffon
kavani
bale

[shivraj@fedora Desktop]$ comm list1.txt list2.txt

messi
                ronaldo
comm: file 1 is not in sorted order
comm: file 2 is not in sorted order
                neymar
                buffon
                kavani
                bale

ramos
modric
neymar
comm: input is not in sorted order
[shivraj@fedora Desktop]$
```

14) chmod

```
[shivraj@192 Desktop]$ ls
hello.txt  list1.txt  list2.txt  'Old Firefox Data'
[shivraj@192 Desktop]$ ls -al
total 8
drwxr-xr-x. 1 shivraj shivraj 86 Jan 29 12:20 .
drwx----- 1 shivraj shivraj 366 Feb  2 17:05 ..
-rw-r--r--. 1 shivraj shivraj  0 Jan 24 15:37 hello.txt
-rw-r--r--. 1 shivraj shivraj 34 Jan 24 15:43 list1.txt
-rw-r--r--. 1 shivraj shivraj 36 Jan 24 15:44 list2.txt
drwx----- 1 shivraj shivraj 48 Jan 29 12:20 'Old Firefox Data'
[shivraj@192 Desktop]$ sudo chmod 755 list1.txt
[sudo] password for shivraj:
[shivraj@192 Desktop]$ ls -al
total 8
drwxr-xr-x. 1 shivraj shivraj 86 Jan 29 12:20 .
drwx----- 1 shivraj shivraj 366 Feb  2 17:05 ..
-rw-r--r--. 1 shivraj shivraj  0 Jan 24 15:37 hello.txt
-rwxr-xr-x. 1 shivraj shivraj 34 Jan 24 15:43 list1.txt
-rw-r--r--. 1 shivraj shivraj 36 Jan 24 15:44 list2.txt
drwx----- 1 shivraj shivraj 48 Jan 29 12:20 'Old Firefox Data'
[shivraj@192 Desktop]$
```

15) wc [-l, -c, -w]

```
[shivraj@192 Desktop]$ wc list1.txt
 5  5 34 list1.txt
[shivraj@192 Desktop]$ wc -l list1.txt
5 list1.txt
[shivraj@192 Desktop]$ wc -c list1.txt
34 list1.txt
[shivraj@192 Desktop]$ wc -w list1.txt
5 list1.txt
[shivraj@192 Desktop]$
```

16) ps

```
[shivraj@192 Desktop]$ ps
  PID TTY          TIME CMD
  4351 pts/0        00:00:00 bash
  5346 pts/0        00:00:00 ps
[shivraj@192 Desktop]$
```

17) top

```
[shivraj@192 ~]$ top
top - 19:03:56 up 39 min,  1 user,  load average: 1.11, 0.73, 0.61
Tasks: 277 total,  2 running, 275 sleeping,  0 stopped,  0 zombie
%Cpu(s):  5.4 us,  4.6 sy,  0.0 ni, 89.1 id,  0.0 wa,  0.7 hi,  0.2 si,  0.0 st
MiB Mem :  3787.0 total,  453.6 free,  1906.1 used,  1427.3 buff/cache
MiB Swap:  3787.0 total,  3787.0 free,  0.0 used.  1630.2 avail Mem

   PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM    TIME+  COMMAND
  3617 shivraj   20   0 4022704 303304 128100 R  34.0   7.8  12:01.26 gnome-s+
   435 root      -51   0     0         0       0 S   0.3   0.0   0:06.89 irq/16-+
   595 root       20   0  115428  20324  18588 S   0.3   0.5   0:01.34 systemd+
   679 systemd+  20   0  16372    8000   7060 S   0.3   0.2   0:05.81 systemd+
   737 root       20   0  382388   8520   7200 S   0.3   0.2   0:03.31 vmtoolsd
   760 dbus       20   0   11144   7100   2592 S   0.3   0.2   0:01.09 dbus-br+
  3029 root       20   0     0         0       0 I   0.3   0.0   0:01.25 kworker+
  3833 shivraj   20   0  741428  30244  23996 S   0.3   0.8   0:00.25 gsd-pow+
  4058 shivraj   20   0  195184  75484  52772 S   0.3   1.9   0:00.65 Xwayland
  5192 root       20   0     0         0       0 I   0.3   0.0   0:00.62 kworker+
  5583 shivraj   20   0 224896   3908   3060 R   0.3   0.1   0:00.11 top
     1 root       20   0  106724  17860  11216 S   0.0   0.5   0:04.00 systemd
     2 root       20   0     0         0       0 S   0.0   0.0   0:00.06 kthreadd
     3 root        0 -20     0         0       0 I   0.0   0.0   0:00.00 rcu_gp
     4 root        0 -20     0         0       0 I   0.0   0.0   0:00.00 rcu_par+
     5 root        0 -20     0         0       0 I   0.0   0.0   0:00.00 slub_fl+
     6 root        0 -20     0         0       0 I   0.0   0.0   0:00.00 netns
```

LAB – 1

AIM – Basic commands of linux

Name – SHIVRAJ NAKUM , 21BCP125

1) whoami

```
[shivraj@192 ~]$ whoami  
shivraj  
[shivraj@192 ~]$
```

2) pwd

```
[shivraj@192 ~]$ pwd  
/home/shivraj  
[shivraj@192 ~]$
```

3) ls

```
[shivraj@192 ~]$ ls  
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos  
[shivraj@192 ~]$
```

4) ls -R

```
[shivraj@192 ~]$ ls -R
.:
Desktop Documents Downloads Music Pictures Public Templates Videos

./Desktop:

./Documents:

./Downloads:

./Music:

./Pictures:
Screenshots

./Pictures/Screenshots:
'Screenshot from 2023-01-23 20-08-30.png'
'Screenshot from 2023-01-23 20-10-43.png'
'Screenshot from 2023-01-23 20-11-21.png'

./Public:

./Templates:

./Videos:
[shivraj@192 ~]$
```

5) ls -a

```
[shivraj@192 ~]$ ls -a
.          .bash_logout  .cache  Documents  .mozilla  Public
..         .bash_profile .config Downloads Music      Templates
.bash_history .bashrc      Desktop .local    Pictures  Videos
[shivraj@192 ~]$
```

6) history

```
[shivraj@fedora ~]$ history
 1  whoami
 2  neofetch
 3  sudo apt install neofetch
 4  sudo dnf install neofetch
 5  clear
 6  neofetch
 7  whoami
 8  pwd
 9  clear
10  pwd
11  clear
12  ls
13  clear
14  ls -R
15  clear
16  ls -R
17  clear
18  ls -a
19  neofetch
20  history
[shivraj@fedora ~]$
```

7) clear

```
[shivraj@fedora ~]$ history
 1  whoami
 2  neofetch
 3  sudo apt install neofetch
 4  sudo dnf install neofetch
 5  clear
 6  neofetch
 7  whoami
 8  pwd
 9  clear
10  pwd
11  clear
12  ls
13  clear
14  ls -R
15  clear
16  ls -R
17  clear
18  ls -a
19  neofetch
20  history
[shivraj@fedora ~]$ clear
```

```
[shivraj@fedora ~]$
```


8) echo

```
[shivraj@fedora ~]$ echo Hello World
Hello World
[shivraj@fedora ~]$
```

9) touch – new file created

```
[shivraj@fedora ~]$ cd Desktop/
[shivraj@fedora Desktop]$ touch abc.txt
[shivraj@fedora Desktop]$
```

10) rm

```
[shivraj@fedora Desktop]$ touch abc.txt
[shivraj@fedora Desktop]$ ls
abc.txt
[shivraj@fedora Desktop]$ rm abc.txt
[shivraj@fedora Desktop]$ ls
[shivraj@fedora Desktop]$
```

11) mkdir

```
[shivraj@fedora ~]$ mkdir linux_tuts
[shivraj@fedora ~]$ ls
Desktop    Downloads  Music      Public     Videos
Documents  linux_tuts Pictures    Templates
[shivraj@fedora ~]$
```

12) rmdir

```
[shivraj@fedora ~]$ mkdir linux_tuts
[shivraj@fedora ~]$ ls
Desktop    Downloads  Music      Public     Videos
Documents  linux_tuts Pictures    Templates
[shivraj@fedora ~]$ rmdir linux_tuts/
[shivraj@fedora ~]$ ls
Desktop    Documents  Downloads  Music      Pictures    Public  Templates  Videos
[shivraj@fedora ~]$
```

13) mv commands

```
[shivraj@fedora ~]$ touch hello.txt
[shivraj@fedora ~]$ ls
Desktop    Downloads  Music      Public     Videos
Documents  hello.txt  Pictures   Templates
[shivraj@fedora ~]$ mv hello.txt D
Desktop/   Documents/ Downloads/
[shivraj@fedora ~]$ mv hello.txt D
Desktop/   Documents/ Downloads/
[shivraj@fedora ~]$ mv hello.txt Desktop/
[shivraj@fedora ~]$ cd Desktop/
[shivraj@fedora Desktop]$ ls
hello.txt
[shivraj@fedora Desktop]$
```

14) cd

```
[shivraj@fedora ~]$ cd Desktop
[shivraj@fedora Desktop]$ pwd
/home/shivraj/Desktop
[shivraj@fedora Desktop]$ cd ..
[shivraj@fedora ~]$ pwd
/home/shivraj
[shivraj@fedora ~]$
```

15) cmp

```
[shivraj@fedora Desktop]$ cmp list1.txt list2.txt
list1.txt list2.txt differ: byte 1, line 1
[shivraj@fedora Desktop]$
```

16) cat

```
[shivraj@fedora Desktop]$ cat list1.txt
messi
ronaldo
ramos
modric
neymar
[shivraj@fedora Desktop]$ cat list2.txt

ronaldo
neymar
buffon
kavani
bale

[shivraj@fedora Desktop]$
```

17) cal

```
[shivraj@fedora Desktop]$ cal
      January 2023
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 31

[shivraj@fedora Desktop]$
```

cal 2023 – shows 2023 year calendar

```
[shivraj@fedora Desktop]$ cal 2023
      2023

      January          February          March
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7          1  2  3  4          1  2  3  4
 8  9 10 11 12 13 14      5  6  7  8  9 10 11      5  6  7  8  9 10 11
15 16 17 18 19 20 21      12 13 14 15 16 17 18      12 13 14 15 16 17 18
22 23 24 25 26 27 28      19 20 21 22 23 24 25      19 20 21 22 23 24 25
29 30 31                26 27 28                26 27 28 29 30 31

      April           May              June
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
          1              1  2  3  4  5  6          1  2  3
 2  3  4  5  6  7  8      7  8  9 10 11 12 13      4  5  6  7  8  9 10
 9 10 11 12 13 14 15      14 15 16 17 18 19 20      11 12 13 14 15 16 17
16 17 18 19 20 21 22      21 22 23 24 25 26 27      18 19 20 21 22 23 24
23 24 25 26 27 28 29      28 29 30 31                25 26 27 28 29 30
30

      July           August           September
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
          1              1  2  3  4  5          1  2
 2  3  4  5  6  7  8      6  7  8  9 10 11 12      3  4  5  6  7  8  9
 9 10 11 12 13 14 15      13 14 15 16 17 18 19      10 11 12 13 14 15 16
16 17 18 19 20 21 22      20 21 22 23 24 25 26      17 18 19 20 21 22 23
23 24 25 26 27 28 29      27 28 29 30 31                24 25 26 27 28 29 30
30 31

      October        November        December
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7          1  2  3  4          1  2
 8  9 10 11 12 13 14      5  6  7  8  9 10 11      3  4  5  6  7  8  9
15 16 17 18 19 20 21      12 13 14 15 16 17 18      10 11 12 13 14 15 16
22 23 24 25 26 27 28      19 20 21 22 23 24 25      17 18 19 20 21 22 23
29 30 31                26 27 28 29 30                24 25 26 27 28 29 30
31
```

18) grep - used to search a string of characters in a file

```
[shivraj@fedora Desktop]$ cat list1.txt
messi
ronaldo
ramos
modric
neymar
```

```
[shivraj@fedora Desktop]$ grep messi list1.txt
messi
[shivraj@fedora Desktop]$
```

19) free

```
[shivraj@fedora Desktop]$ free
              total        used         free       shared    buff/cache   available
Mem:           2974876      1960512       188592        21196        825772       765892
Swap:           2974716       134144      2840572
```

20) uname

```
[shivraj@fedora Desktop]$ uname
Linux
[shivraj@fedora Desktop]$
```

21) groups

```
[shivraj@fedora Desktop]$ groups
shivraj wheel
[shivraj@fedora Desktop]$
```

22) comm – compare command

```
[shivraj@fedora Desktop]$ cat list1.txt
messi
ronaldo
ramos
modric
neymar
[shivraj@fedora Desktop]$ cat list2.txt

ronaldo
neymar
buffon
kavani
bale

[shivraj@fedora Desktop]$ comm list1.txt list2.txt

messi
                ronaldo
comm: file 1 is not in sorted order
comm: file 2 is not in sorted order
                neymar
                buffon
                kavani
                bale

ramos
modric
neymar
comm: input is not in sorted order
[shivraj@fedora Desktop]$
```

23) date

```
[shivraj@fedora Desktop]$ date
Tue Jan 24 03:52:44 PM IST 2023
[shivraj@fedora Desktop]$
```