

# Cloud Computing Assignment 01

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Name - Prathmesh Gulmire

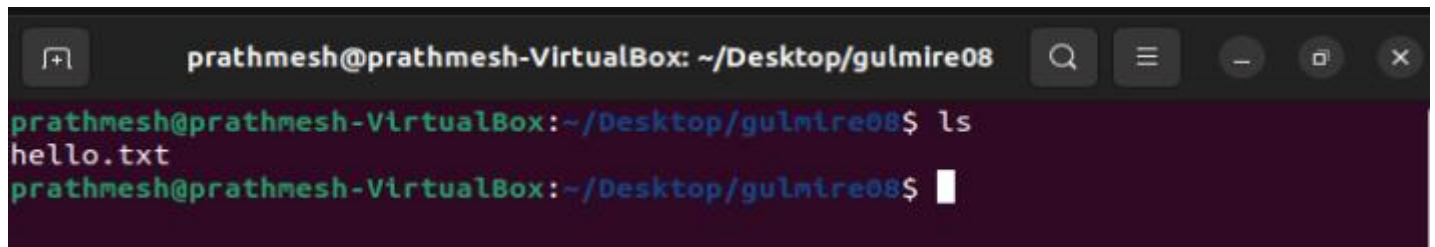
Prn - 22010307

Roll - 333023

Div, Batch - C(C1)

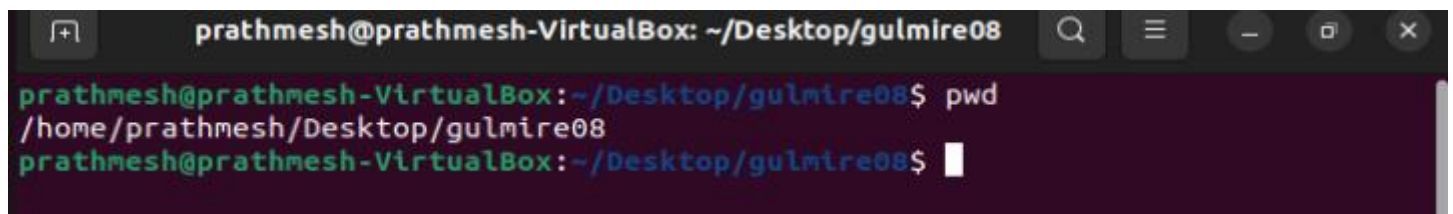
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01. ls — The most frequently used command in Linux to list directories



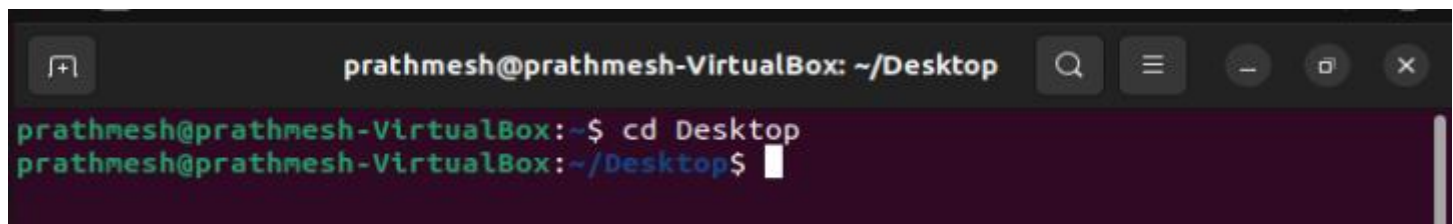
```
prathmesh@prathmesh-VirtualBox: ~/Desktop/gulmire08
prathmesh@prathmesh-VirtualBox:~/Desktop/gulmire08$ ls
hello.txt
prathmesh@prathmesh-VirtualBox:~/Desktop/gulmire08$
```

02. pwd — Print working directory command in Linux



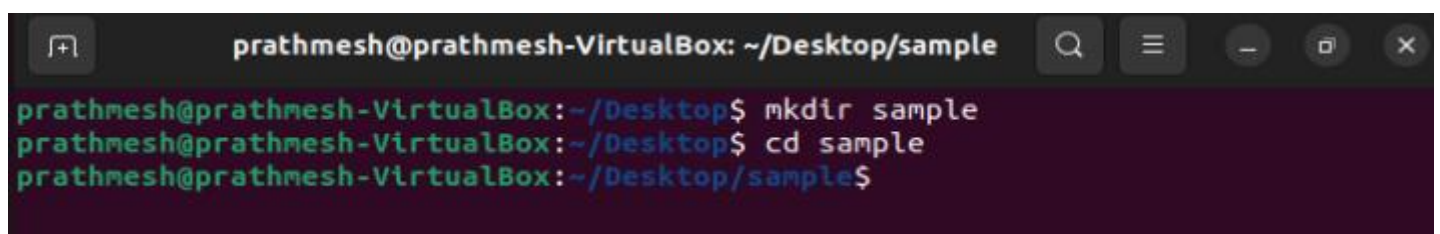
```
prathmesh@prathmesh-VirtualBox: ~/Desktop/gulmire08
prathmesh@prathmesh-VirtualBox:~/Desktop/gulmire08$ pwd
/home/prathmesh/Desktop/gulmire08
prathmesh@prathmesh-VirtualBox:~/Desktop/gulmire08$
```

03. cd — Linux command to navigate through directories



```
prathmesh@prathmesh-VirtualBox: ~/Desktop
prathmesh@prathmesh-VirtualBox:~$ cd Desktop
prathmesh@prathmesh-VirtualBox:~/Desktop$
```

04. mkdir — Command used to create directories in Linux



```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop$ mkdir sample
prathmesh@prathmesh-VirtualBox:~/Desktop$ cd sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

## 05. mv — Move or rename files in Linux

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls
a.txt
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ mv "a.txt" "b.txt"
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls
b.txt
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

## 06. cp — Similar usage as mv but for copying files in Linux

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ cat "b.txt"
helloo
myself prathmesh gulmire
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ cp "b.txt" "a.txt"
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ cat "a.txt"
helloo
myself prathmesh gulmire
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

## 07. rm — Delete files or directories

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ rm "b.txt"
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls
a.txt
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

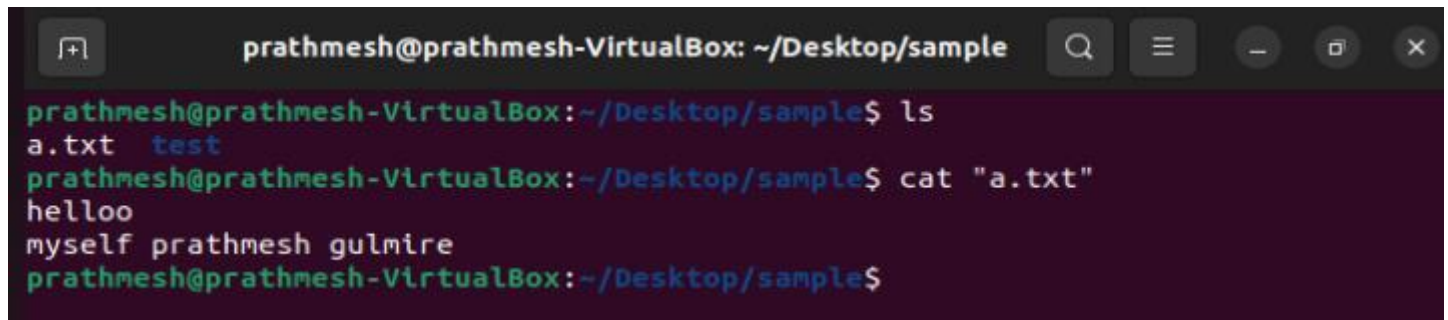
## 08. touch — Create blank/empty files

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ touch "a.txt"
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls
a.txt b.txt
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

## 09. ln — Create symbolic links (shortcuts) to other files

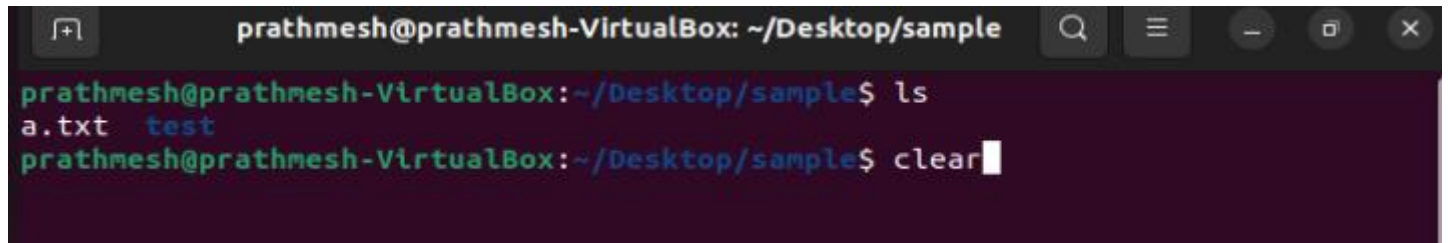
```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample/test
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls
a.txt test
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ln "a.txt" test
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ cd test
prathmesh@prathmesh-VirtualBox:~/Desktop/sample/test$ ls
a.txt
prathmesh@prathmesh-VirtualBox:~/Desktop/sample/test$
```

10. cat — Display file contents on the terminal

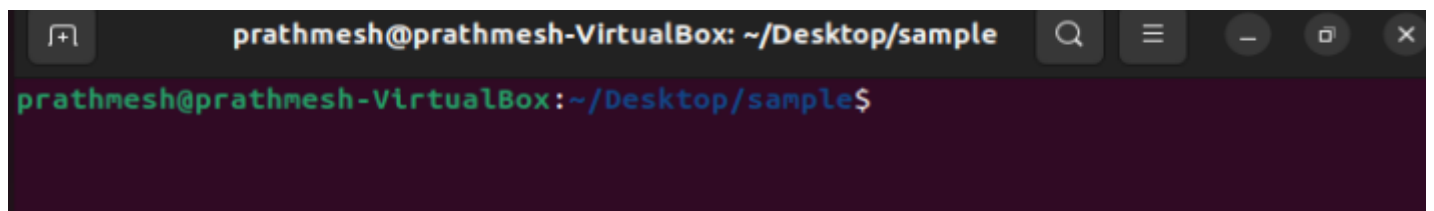


```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls
a.txt  test
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ cat "a.txt"
helloo
myself prathmesh gulmire
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

11. clear — Clear the terminal display

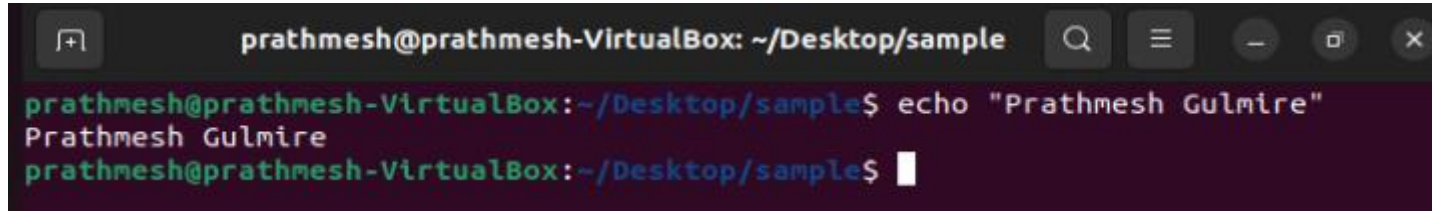


```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls
a.txt  test
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ clear
```



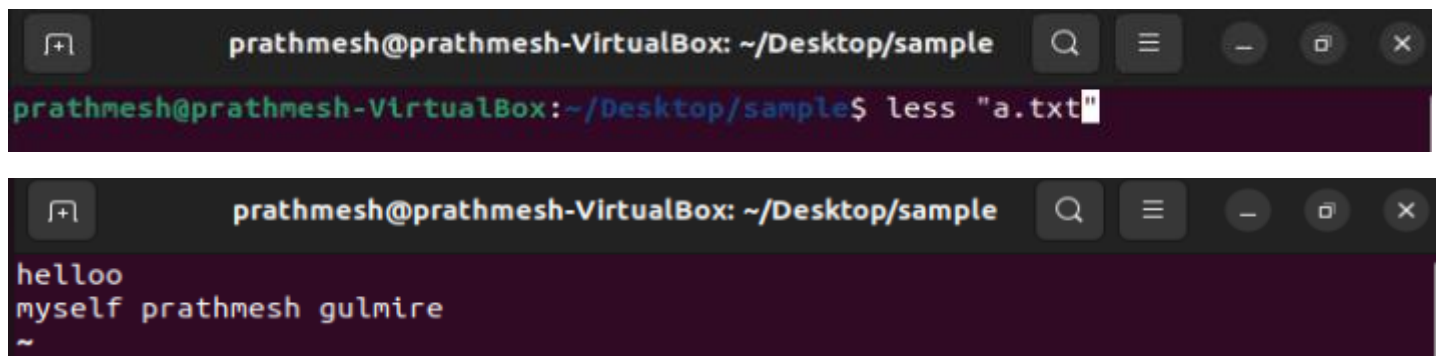
```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

12. echo — Print any text that follows the command



```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ echo "Prathmesh Gulmire"
Prathmesh Gulmire
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

13. less — Linux command to display paged outputs in the terminal



```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ less "a.txt"
helloo
myself prathmesh gulmire
~
```



#### 14. man — Access manual pages for all Linux commands

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
MAN(1) Manual pager utils MAN(1)
NAME
  man - an interface to the system reference manuals
SYNOPSIS
  man [man options] [[section] page ...] ...
  man -k [apropos options] regexp ...
  man -K [man options] [section] term ...
  man -f [whatis options] page ...
  man -l [man options] file ...
  man -w|-W [man options] page ...
DESCRIPTION
  man is the system's manual pager. Each page argument given to man is normally the name of a program, utility or function. The manual page associated with each of these arguments is then found and displayed. A section, if provided, will direct man to look only in that section of the manual. The default action is to search in all of the available sections following a pre-defined order (see DEFAULTS), and to show only the first page found, even if page exists in several sections.
  The table below shows the section numbers of the manual followed by the types of pages they contain.
  1 Executable programs or shell commands
  2 System calls (functions provided by the kernel)
Manual page man(1) line 1 (press h for help or q to quit)
```

#### 15. uname — Linux command to get basic information about the OS

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ uname
Linux
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

#### 16. whoami — Get the active username

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ whoami
prathmesh
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

#### 17. tar — Command to extract and compress files in Linux

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ tar cvf file.tar *.txt
a.txt
b.txt
c.txt
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

18. grep — Search for a string within an output

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ cat "a.txt"
helloo
myself prathmesh gulmire
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ grep -i "helloo" a.txt
helloo
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

19. head — Return the specified number of lines from the top

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ cat "a.txt"
helloo
myself prathmesh gulmire
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ head "a.txt"
helloo
myself prathmesh gulmire
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

20. tail — Return the specified number of lines from the bottom

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ cat "a.txt"
helloo
myself prathmesh gulmire
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ tail "a.txt"
helloo
myself prathmesh gulmire
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

21. diff — Find the difference between two files

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ cat a.txt
helloo
myself prathmesh gulmire
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ cat b.txt
good morning
hope, you are fine!!
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ diff a.txt b.txt
1,2c1,2
< helloo
< myself prathmesh gulmire
---
> good morning
> hope, you are fine!!
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

22. cmp — Allows you to check if two files are identical

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ cmp a.txt b.txt
a.txt b.txt differ: byte 1, line 1
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

23. comm — Combines the functionality of diff and cmp

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ comm a.txt b.txt
good morning
helloo
hope, you are fine!!
myself prathmesh gulmire
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

24. sort — Linux command to sort the content of a file while outputting

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ sort a.txt
helloo
myself prathmesh gulmire
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

25. export — Export environment variables in Linux

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ export -p
declare -x COLORTERM="truecolor"
declare -x DBUS_SESSION_BUS_ADDRESS="unix:path=/run/user/1000/bus,guid=19c0bce90d5c793c59669fe463cacdfa"
declare -x DBUS_STARTER_ADDRESS="unix:path=/run/user/1000/bus,guid=19c0bce90d5c793c59669fe463cacdfa"
declare -x DBUS_STARTER_BUS_TYPE="session"
declare -x DESKTOP_SESSION="ubuntu"
declare -x DISPLAY=":0"
declare -x GDMSESSION="ubuntu"
declare -x GNOME_DESKTOP_SESSION_ID="this-is-deprecated"
declare -x GNOME_SETUP_DISPLAY=":1"
declare -x GNOME_SHELL_SESSION_MODE="ubuntu"
declare -x GNOME_TERMINAL_SCREEN="/org/gnome/Terminal/screen/0e868b90_80fb_462b"
```

26. zip — Zip files in Linux

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ zip file2.zip a.txt b.txt
adding: a.txt (stored 0%)
adding: b.txt (stored 0%)
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ zip -d file2.zip b.txt
deleting: b.txt
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

27. unzip — Unzip files in Linux



```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ unzip file2.zip
Archive:  file2.zip
replace a.txt? [y]es, [n]o, [A]ll, [N]one, [r]ename: y
extracting: a.txt
```

28. ssh — Secure Shell command in Linux

```
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ssh prathmesh@192.168.56.1

ssh: connect to host 192.168.56.1 port 22: Connection refused
```

29. service — Linux command to start and stop services

30. ps — Display active processes

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ps
  PID TTY          TIME CMD
 11849 pts/0        00:00:00 bash
 13376 pts/0        00:00:00 unzip
 13520 pts/0        00:00:00 ps
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

31. kill and killall — Kill active processes by process ID or name

```
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ kill 13376
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

32. df — Display disk filesystem information

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
tmpfs            151304      1624    149680   2% /run
/dev/sda3       25702400 10321148  14050308  43% /
tmpfs            756512        0    756512   0% /dev/shm
tmpfs            5120         4     5116   1% /run/lock
/dev/sda2       524252     5364    518888   2% /boot/efi
tmpfs           151300     4796    146504   4% /run/user/1000
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

### 33. mount — Mount file systems in Linux

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ mount -l
sysfs on /sys type sysfs (rw,nosuid,nodev,noexec,relatime)
proc on /proc type proc (rw,nosuid,nodev,noexec,relatime)
udev on /dev type devtmpfs (rw,nosuid,relatime,size=721372k,nr_inodes=180343,mode=755,inode64)
devpts on /dev/pts type devpts (rw,nosuid,noexec,relatime,gid=5,mode=620,ptmxmode=000)
tmpfs on /run type tmpfs (rw,nosuid,nodev,noexec,relatime,size=151304k,mode=755,inode64)
/dev/sda3 on / type ext4 (rw,relatime,errors=remount-ro)
securityfs on /sys/kernel/security type securityfs (rw,nosuid,nodev,noexec,relatime)
tmpfs on /dev/shm type tmpfs (rw,nosuid,nodev,inode64)
tmpfs on /run/lock type tmpfs (rw,nosuid,nodev,noexec,relatime,size=5120k,inode64)
cgroup2 on /sys/fs/cgroup type cgroup2 (rw,nosuid,nodev,noexec,relatime,nsdelegate,memory_recursiveprot)
nstore on /sys/fs/nstore type nstore (rw,nosuid,nodev,noexec,relatime)
```

### 34. chmod — Command to change file permissions

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ chmod +x c.txt
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ./c.txt
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

### 35. chown — Command for granting ownership of files or folders

```
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls -l c.txt
-rwxrwxr-x 1 prathmesh prathmesh 0 Jan 22 14:29 c.txt
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ chown root c.txt
chown: changing ownership of 'c.txt': Operation not permitted
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

### 36. ifconfig — Display network interfaces and IP addresses

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::c693:465b:a8fe:e8bc prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:6e:58:ef txqueuelen 1000 (Ethernet)
    RX packets 503442 bytes 727159910 (727.1 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 47988 bytes 4761316 (4.7 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 48225 bytes 3849194 (3.8 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 48225 bytes 3849194 (3.8 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```



37. traceroute — Trace all the network hops to reach the destination

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ traceroute google.com
traceroute to google.com (142.250.182.206), 64 hops max
 1  10.0.2.2  0.329ms  30.703ms  0.006ms
 2  * * *
 3  * * *
 4  * * *
 5  * * *
 6  * * *
 7  * * *
 8  * * *
 9  * * *
```

38. wget — Direct download files from the internet

```
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ wget google.com
--2023-01-22 15:29:05--  http://google.com/
Resolving google.com (google.com)... 142.250.182.206, 2404:6800:4009:826::200e
Connecting to google.com (google.com)|142.250.182.206|:80... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: http://www.google.com/ [following]
--2023-01-22 15:29:05--  http://www.google.com/
Resolving www.google.com (www.google.com)... 142.250.183.132, 2404:6800:4009:831::2004
Connecting to www.google.com (www.google.com)|142.250.183.132|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'index.html'

index.html          [ <=>          ] 15.95K  --.-KB/s    in 0.001s

2023-01-22 15:29:06 (26.5 MB/s) - 'index.html' saved [16336]
```

39. ufw — Firewall command

```
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ sudo ufw allow ssh
Rules updated
Rules updated (v6)
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

40. iptables — Base firewall for all other firewall utilities to interface with

```
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ sudo iptables -t filter --list
Chain INPUT (policy ACCEPT)
target     prot opt source                destination

Chain FORWARD (policy ACCEPT)
target     prot opt source                destination

Chain OUTPUT (policy ACCEPT)
target     prot opt source                destination
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

41. apt, pacman, yum, rpm — Package managers depending on the distro

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ sudo apt-get update
Hit:1 http://archive.ubuntu.com/ubuntu jammy InRelease
Reading package lists... Done
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

42. sudo — Command to escalate privileges in Linux

```
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ sudo iptables -t filter --list
Chain INPUT (policy ACCEPT)
target     prot opt source                destination

Chain FORWARD (policy ACCEPT)
target     prot opt source                destination

Chain OUTPUT (policy ACCEPT)
target     prot opt source                destination
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

43. cal — View a command-line calendar

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ 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
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

44. alias — Create custom shortcuts for your regularly used commands

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ alias make="touch d.txt"
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ make
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls
a.txt b.txt c.txt d.txt file2.zip file.tar index.html test
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

45. dd — Majorly used for creating bootable USB sticks

```
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ dd if=/dev/sda of=/dev/sdb
dd: failed to open '/dev/sda': Permission denied
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

46. whereis — Locate the binary, source, and manual pages for a command

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ whereis grep
grep: /usr/bin/grep /usr/share/man/man1/grep.1.gz /usr/share/info/grep.info.gz
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```



47. whatis — Find what a command is used for

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ whatis grep
grep (1)          - print lines that match patterns
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

48. top — View active processes live with their system usage

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample

top - 15:45:21 up 5:17, 1 user, load average: 0.18, 0.15, 0.17
Tasks: 209 total, 1 running, 207 sleeping, 1 stopped, 0 zombie
%Cpu(s): 6.6 us, 1.7 sy, 0.0 ni, 83.0 id, 8.1 wa, 0.0 hi, 0.6 si, 0.0 st
MiB Mem : 1477.6 total, 138.7 free, 620.7 used, 718.1 buff/cache
MiB Swap: 1190.0 total, 712.3 free, 477.8 used. 683.9 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM    TIME+  COMMAND
 1653 prathme+  20   0 5083492 200648 64404 S   19.5  13.3   21:05.26 gnome-+
 11831 prathme+  20   0 556304 33908 23812 S    4.3   2.2    0:56.92 gnome-+
 5239 prathme+  20   0 1261040 92652 13404 S    1.3   6.1    3:19.30 snap-s+
 541 systemd+ 20   0 14880 948 712 S    0.3   0.1    0:54.15 system+
 1 root      20   0 167972 7432 4200 S    0.0   0.5    0:17.41 systemd
 2 root      20   0 0 0 0 S    0.0   0.0    0:00.02 kthrea+
 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_pa+
 5 root      0 -20 0 0 0 I    0.0   0.0    0:00.00 slub_f+
 6 root      0 -20 0 0 0 I    0.0   0.0    0:00.00 netns
 8 root      0 -20 0 0 0 I    0.0   0.0    0:00.00 kworke+
 10 root      0 -20 0 0 0 I    0.0   0.0    0:00.00 mm_per+
```

49. useradd and usermod — Add new user or change existing users data

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ sudo useradd person1
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ cat /etc/passwd | grep person1
person1:x:1001:1001::/home/person1:/bin/sh
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

50. passwd — Create or update passwords for existing users

```
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ passwd
Changing password for prathmesh.
Current password:
New password:
BAD PASSWORD: The password contains the user name in some form
New password:
Retype new password:
passwd: password updated successfully
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

51. ls -l | wc -l — Command to get the count of the files present into directory.

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls -l | wc -l
9
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```



52. kill --Command to kill the process (PID)

```
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ kill 13376
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

53. w -- to check how many users logged into the linux

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ w --
15:50:11 up 5:22, 1 user, load average: 0.02, 0.07, 0.12
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU   WHAT
prathmes  tty2     tty2          Fri22    26:19m 0.07s  0.06s /usr/libexec/g
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

54. date -- used to check the current date, time in linux

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ date --
Sunday 22 January 2023 03:50:45 PM IST
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

55. ls -a --List the hidden files in directory (hidden files are denoted as ..)

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls -a
.  ..  a.txt  b.txt  c.txt  d.txt  file2.zip  file.tar  index.html  test
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

56. ls -l --Use to check the permissions on all the files

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls -l
total 44
-rw-rw-r-- 1 prathmesh prathmesh 32 Jan 22 14:08 a.txt
-rw-rw-r-- 1 prathmesh prathmesh 34 Jan 22 14:39 b.txt
-rwxrwxr-x 1 prathmesh prathmesh 0 Jan 22 14:29 c.txt
-rw-rw-r-- 1 prathmesh prathmesh 0 Jan 22 15:38 d.txt
-rw-rw-r-- 1 prathmesh prathmesh 192 Jan 22 14:55 file2.zip
-rw-rw-r-- 1 prathmesh prathmesh 10240 Jan 22 14:31 file.tar
-rw-rw-r-- 1 prathmesh prathmesh 16336 Jan 22 15:29 index.html
drwxrwxr-x 2 prathmesh prathmesh 4096 Jan 22 14:16 test
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

57. ls -R -- used to list information about files and directories within the file system.

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls -R
.:
a.txt  b.txt  c.txt  d.txt  file2.zip  file.tar  index.html  test

./test:
a.txt
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```

58. `rm -rf` -- remove directory with the files

```
prathmesh@prathmesh-VirtualBox: ~/Desktop/sample
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls
a.txt  b.txt  c.txt  d.txt  file2.zip  file.tar  index.html  test
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ rm -rf c.txt
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$ ls
a.txt  b.txt  d.txt  file2.zip  file.tar  index.html  test
prathmesh@prathmesh-VirtualBox:~/Desktop/sample$
```