```
aditya@aditya-virtual-machine:~$ ls
a.out  Desktop  Documents  Downloads  hello.c  Music  Pictures  Public  snap  Templates  Videos
aditya@aditya-virtual-machine:~$ mkdir new.txt
aditya@aditya-virtual-machine:~$ cat hey.txt
cat: hey.txt: No such file or directory
aditya@aditya-virtual-machine:~$ cat new.txt
cat: new.txt: Is a directory
aditya@aditya-virtual-machine:~$ pwd
/home/aditya
aditya@aditya-virtual-machine:~$ rmdir new.txt
aditya@aditya-virtual-machine:~$ cd /desktop
bash: cd: /desktop: No such file or directory
aditya@aditya-virtual-machine:~$ cd desktop
bash: cd: desktop: No such file or directory
aditya@aditya-virtual-machine:~$ cd Desktop
aditya@aditya-virtual-machine:~/Desktop$ cd ..
aditya@aditya-virtual-machine:~$ touch demo.txt
aditya@aditya-virtual-machine:~$ cat > demo.txt
sds
^z
[1]+
Stopped
^C
aditya@aditya-virtual-machine:~$ rm demo.txt
aditya@aditya-virtual-machine:~$ mkdir aditya
aditya@aditya-virtual-machine:~$ mv demo.txt aditya
mv: cannot stat 'demo.txt': No such file or directory
aditya@aditya-virtual-machine:~$ mkdir aditya.txt
aditya@aditya-virtual-machine:~$ mv aditya.txt aditya
aditya@aditya-virtual-machine:~$ gedit aditya.txt
aditya@aditya-virtual-machine:~$ mv aditya.txt aditya
mv: cannot stat 'aditya.txt': No such file or directory
aditya@aditya-virtual-machine:~$ head aditya.txt
head: cannot open 'aditya.txt' for reading: No such file or directory
aditya@aditya-virtual-machine:~$ gedit aditya.txt
aditya@aditya-virtual-machine:~$ head aditya.txt
aditya
aditya@aditya-virtual-machine:~$ tail aditya.txt
aditya
aditya@aditya-virtual-machine:~$ tac aditya.txt
aditya
aditya@aditya-virtual-machine:~$ id
uid=1000(aditya) gid=1000(aditya) groups=1000(aditya),4(adm),24(cdrom),27(sudo),30(dip),46(plugdev),122(lpadmin),134(lxd),135(sambashare)
aditya@aditya-virtual-machine:~$ passwd
Changing password for aditya.
Current password:
New password:
BAD PASSWORD: The password is shorter than 8 characters
New password:
BAD PASSWORD: No password supplied
New password:
BAD PASSWORD: The password fails the dictionary check - it does not contain enough DIFFERENT characters
passwd: Have exhausted maximum number of retries for service
passwd: password unchanged
```

```
aditya@aditya-virtual-machine:~$ sudo groupadd developer
[sudo] password for aditya:
aditya@aditya-virtual-machine:~$ wc aditya.txt
1 1 8 aditya.txt
aditya@aditya-virtual-machine:~$ od prakhar.txt
od: prakhar.txt: No such file or directory
aditya@aditya-virtual-machine:~$ od aditya.txt
0000000 062141 072151 060571 005040
0000010
aditya@aditya-virtual-machine:~$ sort aditya.txt
aditya
aditya@aditya-virtual-machine:~$ gedit aditya.txt
sort aditya.txt
^C
aditya@aditya-virtual-machine:~$ sort aditya.txt

1
2
3
4
5
6
7
8
9
aditya@aditya-virtual-machine:~$ gzip aditya.txt
aditya@aditya-virtual-machine:~$ gunzip aditya.txt
aditya@aditya-virtual-machine:~$ locate aditya.txt
Command 'locate' not found, but can be installed with:
sudo apt install plocate
aditya@aditya-virtual-machine:~$ sudo apt install plocate
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libflashrom1 libftdi1-2
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  liburing2
The following NEW packages will be installed:
  liburing2 plocate
0 upgraded, 2 newly installed, 0 to remove and 11 not upgraded.
Need to get 140 kB of archives.
After this operation, 555 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
```

```
aditya@aditya-virtual-machine:~$ date
Sunday 15 January 2023 10:58:34 PM IST
aditya@aditya-virtual-machine:~$ sleep 1
aditya@aditya-virtual-machine:~$ time

real    0m0.000s
user    0m0.000s
sys     0m0.000s
aditya@aditya-virtual-machine:~$ df
Filesystem       1K-blocks      Used Available Use% Mounted on
tmpfs               610492      2040    608452   1% /run
/dev/sda3         50770432  10589900  37569128  22% /
tmpfs              3052452         0   3052452   0% /dev/shm
tmpfs                 5120         4      5116   1% /run/lock
/dev/sda2           524252      5364    518888   2% /boot/efi
tmpfs               610488      2416    608072   1% /run/user/1000
/dev/sr1           3737140   3737140         0 100% /media/aditya/Ubuntu 22.04.1 LTS amd64
/dev/sr0            129834    129834         0 100% /media/aditya/CDROM
/dev/fd0              1424         9      1415   1% /media/floppy0
aditya@aditya-virtual-machine:~$ mount
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=3017088k,nr_inodes=754272,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=610492k,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)
pstore on /sys/fs/pstore type pstore (rw,nosuid,nodev,noexec,relatime)
bpf on /sys/fs/bpf type bpf (rw,nosuid,nodev,noexec,relatime,mode=700)
systemd-1 on /proc/sys/fs/binfmt_misc type autofs (rw,relatime,fd=29,pgrp=1,timeout=0,minproto=5,maxproto=5,direct,pipe_ino=29701)
```

```
aditya@aditya-virtual-machine:~$ ping
ping: usage error: Destination address required
aditya@aditya-virtual-machine:~$ ping kiit.ac.in
PING kiit.ac.in (172.67.147.28) 56(84) bytes of data.
ping 64 bytes from 172.67.147.28: icmp_seq=1 ttl=128 time=258 ms
64 bytes from 172.67.147.28 (172.67.147.28): icmp_seq=2 ttl=128 time=187 ms
^C64 bytes from 172.67.147.28: icmp_seq=3 ttl=128 time=187 ms

--- kiit.ac.in ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 11513ms
rtt min/avg/max/mdev = 187.115/210.827/258.229/33.517 ms
aditya@aditya-virtual-machine:~$ ping google.com
PING google.com (172.217.174.78) 56(84) bytes of data.
^C64 bytes from 172.217.174.78: icmp_seq=1 ttl=128 time=46.4 ms

--- google.com ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 46.386/46.386/46.386/0.000 ms
aditya@aditya-virtual-machine:~$ host google.com
google.com has address 172.217.174.78
google.com has IPv6 address 2404:6800:4007:819::200e
^Caditya@aditya-virtual-machine:~$ who
aditya    tty2          2023-01-13 09:03 (tty2)
aditya@aditya-virtual-machine:~$ apt
apt 2.4.8 (amd64)
Usage: apt [options] command

apt is a commandline package manager and provides commands for
searching and managing as well as querying information about packages.
It provides the same functionality as the specialized APT tools,
like apt-get and apt-cache, but enables options more suitable for
interactive use by default.

Most used commands:
  list - list packages based on package names
  search - search in package descriptions
  show - show package details
  install - install packages
  reinstall - reinstall packages
  remove - remove packages
  autoremove - Remove automatically all unused packages
  update - update list of available packages
  upgrade - upgrade the system by installing/upgrading packages
  full-upgrade - upgrade the system by removing/installing/upgrading packages
  edit-sources - edit the source information file
  satisfy - satisfy dependency strings

See apt(8) for more information about the available commands.
Configuration options and syntax is detailed in apt.conf(5).
Information about how to configure sources can be found in sources.list(5).
Package and version choices can be expressed via apt_preferences(5).
Security details are available in apt-secure(8).
                                This APT has Super Cow Powers.
aditya@aditya-virtual-machine:~$ apt-get
apt 2.4.8 (amd64)
Usage: apt-get [options] command
        apt-get [options] install|remove pkg1 [pkg2 ...]
        apt-get [options] source pkg1 [pkg2 ...]
```

```
aditya@aditya-virtual-machine:~$ dir
aditya  aditya.txt  a.out  Desktop  Documents  Downloads  hello.c  Music  Pictures  Public  snap  Templates  Videos
aditya@aditya-virtual-machine:~$ fc
dir
aditya  aditya.txt  a.out  Desktop  Documents  Downloads  hello.c  Music  Pictures  Public  snap  Templates  Videos
aditya@aditya-virtual-machine:~$ ifconfig
Command 'ifconfig' not found, but can be installed with:
sudo apt install net-tools
aditya@aditya-virtual-machine:~$ iftop
Command 'iftop' not found, but can be installed with:
sudo apt install iftop
aditya@aditya-virtual-machine:~$ ^C
aditya@aditya-virtual-machine:~$ sudo apt install nte-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package nte-tools
aditya@aditya-virtual-machine:~$ sudo apt install net-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libflashrom1 libftdi1-2
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  net-tools
0 upgraded, 1 newly installed, 0 to remove and 11 not upgraded.
Need to get 204 kB of archives.
After this operation, 819 kB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 net-tools amd64 1.60+git20181103.0eebece-1ubuntu5 [204 kB]
Fetched 204 kB in 13s (15.5 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 200185 files and directories currently installed.)
Preparing to unpack .../net-tools_1.60+git20181103.0eebece-1ubuntu5_amd64.deb ...
Unpacking net-tools (1.60+git20181103.0eebece-1ubuntu5) ...
Setting up net-tools (1.60+git20181103.0eebece-1ubuntu5) ...
Processing triggers for man-db (2.10.2-1) ...
aditya@aditya-virtual-machine:~$ sudo apt install iftop
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libflashrom1 libftdi1-2
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  iftop
0 upgraded, 1 newly installed, 0 to remove and 11 not upgraded.
Need to get 35.6 kB of archives.
After this operation, 95.2 kB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu jammy/universe amd64 iftop amd64 1.0~pre4-7 [35.6 kB]
Fetched 35.6 kB in 4s (8,711 B/s)
Selecting previously unselected package iftop.
(Reading database ... 200234 files and directories currently installed.)
Preparing to unpack .../iftop_1.0~pre4-7_amd64.deb ...
Unpacking iftop (1.0~pre4-7) ...
Setting up iftop (1.0~pre4-7) ...
Processing triggers for man-db (2.10.2-1) ...
```

```
aditya@aditya-virtual-machine:-$ ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.177.128  netmask 255.255.255.0  broadcast 192.168.177.255
        inet6 fe80::ce21:7ddd:a882:a804  prefixlen 64  scopeid 0x20<link>
        ether 00:0c:29:71:b5:c8  txqueuelen 1000  (Ethernet)
        RX packets 167380  bytes 235826300 (235.8 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 33093  bytes 2093760 (2.0 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 4441  bytes 378619 (378.6 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 4441  bytes 378619 (378.6 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

aditya@aditya-virtual-machine:-$ iftop
interface: ens33
IP address is: 192.168.177.128
MAC address is: 00:0c:29:71:b5:c8
pcap_open_live(ens33): ens33: You don't have permission to capture on that device (socket: Operation not permitted)
aditya@aditya-virtual-machine:-$ info

aditya@aditya-virtual-machine:-$ ipcs

------ Message Queues --------
key        msqid       owner       perms       used-bytes    messages

------ Shared Memory Segments --------
key        shmid       owner       perms       bytes       nattch      status

------ Semaphore Arrays --------
key        semid       owner       perms       nsems

aditya@aditya-virtual-machine:-$ man man
aditya@aditya-virtual-machine:-$ tty
/dev/pts/0
aditya@aditya-virtual-machine:-$ uname
Linux
aditya@aditya-virtual-machine:-$ uniq
sdas
sdas
asdas
asdas
asd
asd
^C
aditya@aditya-virtual-machine:-$ uptime
 23:04:40 up  1:19,  1 user,  load average: 0.03, 0.05, 0.02
aditya@aditya-virtual-machine:-$ users
aditya
aditya@aditya-virtual-machine:-$ w
 23:04:48 up  1:20,  1 user,  load average: 0.19, 0.08, 0.03
USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
aditya   tty2     tty2             Fri09    2days  0.12s  0.09s /usr/libexec/gnome-session-binary --session=ubuntu
aditya@aditya-virtual-machine:-$ whoami
aditya
aditya@aditya-virtual-machine:-$ []
```