



Assignments No. 1

Assignments Name : Study Linux Commands

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1) **Ls** - The most frequently used command in Linux to list directories.

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR: /cloud_devOps# ls
test
```

2) **pwd** — Print working directory command in Linux

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR: /cloud_devOps# pwd
/cloud_devOps
```

3) **cd** — Linux command to navigate through directories.

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR: /cloud_devOps# cd test
root@SANKET-SUPEKAR: /cloud_devOps/test# cd ..
```

4) **mkdir** — Command used to create directories in Linux

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR: /cloud_devOps# mkdir testFile
root@SANKET-SUPEKAR: /cloud_devOps# ls
test testFile
```



5) **mv** — Move or rename files in Linux

Output:-

```
root@SANKET-SUPEKAR: /clo × + ▾
root@SANKET-SUPEKAR:/cloud_devOps# mv testFile testing
root@SANKET-SUPEKAR:/cloud_devOps# ls
test  testing
```

6) **cp** — Similar usage as mv but for copying files in Linux

Output:-

```
root@SANKET-SUPEKAR: /clo × + ▾
root@SANKET-SUPEKAR:/cloud_devOps# cp ./test/temp.txt ./testing/temp2.txt
root@SANKET-SUPEKAR:/cloud_devOps# tree
.
├── test
│   └── temp.txt
└── testing
    └── temp2.txt

2 directories, 2 files
```

7) **rm** — Delete files or directories

Output:-

```
root@SANKET-SUPEKAR: /clo × + ▾
root@SANKET-SUPEKAR:/cloud_devOps# rm ./testing/temp2.txt
root@SANKET-SUPEKAR:/cloud_devOps# tree
.
├── test
│   └── temp.txt
└── testing

2 directories, 1 file
```

8) **touch** — Create blank/empty files

Output:-

```
root@SANKET-SUPEKAR: /clo × + ▾
root@SANKET-SUPEKAR:/cloud_devOps# touch ./test/temp2.txt
root@SANKET-SUPEKAR:/cloud_devOps# tree
.
├── test
│   ├── temp2.txt
│   └── temp.txt
└── testing
```



9) **ln** — Create symbolic links (shortcuts) to other files

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# ln /cloud_devOps/test/temp.txt fileLink
root@SANKET-SUPEKAR:/cloud_devOps# cat fileLink
Hello sanket here !
```

10) **cat** — Display file contents on the terminal

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# cat fileLink
Hello sanket here !
```

11) **clear** — Clear the terminal display

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# clear
```

12) **echo** — Print any text that follows the command

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# echo "Sanket Supekar TY-C"
Sanket Supekar TY-C
```

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

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
Hello sanket here !
~
~
(END)
```



14) **man** — Access manual pages for all Linux commands

Output:-

```
root@SANKET-SUPEKAR: / x + v
CAT(1) User Commands CAT(1)
NAME
    cat - concatenate files and print on the standard
    output
SYNOPSIS
    cat [OPTION]... [FILE]...
DESCRIPTION
    Concatenate FILE(s) to standard output.
    With no FILE, or when FILE is -, read standard in-
    put.
    -A, --show-all
        equivalent to -vET
    -b, --number-nonblank
Manual page cat(1) line 1 (press h for help or q to quit)
```

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

Output:-

```
root@SANKET-SUPEKAR: / x + v
root@SANKET-SUPEKAR: /# uname
Linux
root@SANKET-SUPEKAR: /#
```

16) **whoami** — Get the active username

Output:-

```
root@SANKET-SUPEKAR: / x + v
root@SANKET-SUPEKAR: /# whoami
root
root@SANKET-SUPEKAR: /#
```



17) **tar** — Command to extract and compress files in Linux

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# tar -xzvf zipFile.tar.gz
fileLink
test/
test/temp2.txt
test/temp.txt
testing/
```

18) **grep** — Search for a string within an output

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# cat fileLink | grep sanket
Hello sanket here !
root@SANKET-SUPEKAR:/cloud_devOps#
```

19) **head** — Return the specified number of lines from the top

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# head -n 1 fileLink
Hello sanket here !
root@SANKET-SUPEKAR:/cloud_devOps#
```

20) **tail** — Return the specified number of lines from the bottom

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# tail -n 1 fileLink
I have completed diploma in Computer Technology From Sanjivani K.B.P
Polytechnic, Kopergoan.
root@SANKET-SUPEKAR:/cloud_devOps#
```



21) **diff** — Find the difference between two files

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps/test# diff temp.txt temp2.txt
1,3c1
```

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

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps/test# cmp temp.txt temp2.txt
temp.txt temp2.txt differ: byte 14, line 1
```

23) **comm** — Combines the functionality of diff and cmp.

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps/test# comm temp.txt temp2.txt
Hello sanket here !
comm: file 1 is not in sorted order
Currently, B.Tech Third Year Student of Information Technology
At Vishwakarma Institute of Information
Technology, Pune
Hello sanket supekar here !
I have completed diploma in Computer Technology From Sanjivani K.B.P
Polytechnic, Kopergoan.
comm: input is not in sorted order
root@SANKET-SUPEKAR:/cloud_devOps/test#
```

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

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# sort fileLink
Currently, B.Tech Third Year Student of Information Technology
At Vishwakarma Institute of Information
Technology, Pune
Hello sanket here !
I have completed diploma in Computer Technology From Sanjivani K.B.P
Polytechnic, Kopergoan.
root@SANKET-SUPEKAR:/cloud_devOps#
```


25) export — Export environment variables in Linux

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR: /ccloud_devOps# export
declare -x DISPLAY=":0"
declare -x HOME="/root"
declare -x LANG="en_US.UTF-8"
declare -x LESSCLOSE="/usr/bin/lesspipe %s %s"
declare -x LESSOPEN="| /usr/bin/lesspipe %s"
declare -x LOGNAME="root"
declare -x LS_COLORS="rs=0:di=01;34:ln=01;36:mh=00:pi=40;33:so=01;35:do=01;35:bd=40;33;01:cd=40;33;01:or=40;31;01:
mi=00:su=37;41:sg=30;43:ca=30;41:tw=30;42:ow=34;42:st=37;44:ex=01;32:*.tar=01;31:*.tgz=01;31:*.arc=01;31:*.arj=01;
31:*.taz=01;31:*.lha=01;31:*.lz4=01;31:*.lzh=01;31:*.lzma=01;31:*.tlz=01;31:*.txz=01;31:*.tzo=01;31:*.t7z=01;31:*.
zip=01;31:*.z=01;31:*.dz=01;31:*.gz=01;31:*.lrz=01;31:*.lz=01;31:*.lzo=01;31:*.xz=01;31:*.zst=01;31:*.tzt=01;31:*.
bz2=01;31:*.bz=01;31:*.tbz=01;31:*.tbz2=01;31:*.tz=01;31:*.deb=01;31:*.rpm=01;31:*.jar=01;31:*.war=01;31:*.ear=01
;31:*.sar=01;31:*.rar=01;31:*.alz=01;31:*.ace=01;31:*.zoo=01;31:*.cpio=01;31:*.7z=01;31:*.rz=01;31:*.cab=01;31:*.w
im=01;31:*.swm=01;31:*.dwm=01;31:*.esd=01;31:*.jpg=01;35:*.jpeg=01;35:*.mjpg=01;35:*.mjpeg=01;35:*.gif=01;35:*.bmp
=01;35:*.pbm=01;35:*.pgm=01;35:*.ppm=01;35:*.tga=01;35:*.xbm=01;35:*.xpm=01;35:*.tif=01;35:*.tiff=01;35:*.png=01;3
5:*.svg=01;35:*.svgz=01;35:*.mng=01;35:*.pcx=01;35:*.mov=01;35:*.mpg=01;35:*.mpeg=01;35:*.m2v=01;35:*.mkv=01;35:*.
webm=01;35:*.webp=01;35:*.ogm=01;35:*.mp4=01;35:*.m4v=01;35:*.mp4v=01;35:*.vob=01;35:*.qt=01;35:*.nuv=01;35:*.wmv=
01;35:*.asf=01;35:*.rm=01;35:*.rmvb=01;35:*.flc=01;35:*.avi=01;35:*.fli=01;35:*.flv=01;35:*.gl=01;35:*.dl=01;35:*.
xcf=01;35:*.xwd=01;35:*.yuv=01;35:*.cgm=01;35:*.emf=01;35:*.ogv=01;35:*.ogx=01;35:*.aac=00;36:*.au=00;36:*.flac=00
;36:*.m4a=00;36:*.mid=00;36:*.midi=00;36:*.mka=00;36:*.mp3=00;36:*.mpc=00;36:*.ogg=00;36:*.ra=00;36:*.wav=00;36:*.
oga=00;36:*.opus=00;36:*.spx=00;36:*.xspf=00;36:"
declare -x MAIL="/var/mail/root"
declare -x OLDPWD="/ccloud_devOps/test"
declare -x PATH="/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bi
n"
declare -x PWD="/ccloud_devOps"
declare -x SHELL="/bin/bash"
declare -x SHLVL="1"
declare -x SUDO_COMMAND="/usr/bin/su"
declare -x SUDO_GID="1000"
declare -x SUDO_UID="1000"
declare -x SUDO_USER="coder"
declare -x TERM="xterm-256color"
declare -x USER="root"
root@SANKET-SUPEKAR: /ccloud_devOps#
```

26) zip — Zip files in Linux

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR: /ccloud_devOps# zip zipFile test
adding: test/ (stored 0%)
```

27) unzip — Unzip files in Linux

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR: /ccloud_devOps# unzip zipFile.zip
Archive:  zipFile.zip
```

28) ssh — Secure Shell command in Linux

29) service — Linux command to start and stop services



30) **ps** — Display active processes

Output:-

```
root@SANKET-SUPEKAR: /  
root@SANKET-SUPEKAR:/# ps  
  PID TTY          TIME CMD  
   25 pts/1        00:00:00 sudo  
   26 pts/1        00:00:00 su  
   27 pts/1        00:00:00 bash  
   35 pts/1        00:00:00 ps  
root@SANKET-SUPEKAR:/#
```

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

Output:-

```
coder@SANKET-SUPEKAR: ~  
root@SANKET-SUPEKAR:/# kill 26  
root@SANKET-SUPEKAR:/#  
Session terminated, killing shell... ...killed.  
Terminated  
coder@SANKET-SUPEKAR:~$
```

32) **df** — Display disk filesystem information

Output:-

```
root@SANKET-SUPEKAR: /  
root@SANKET-SUPEKAR:/# df  
Filesystem      1K-blocks      Used Available Use% Mounted on  
/dev/sdc        263174212  2339468  247396588   1% /  
none            1952280      28   1952252   1% /mnt/wslg  
none            1952280       4   1952276   1% /mnt/wsl  
tools           248610300 155881464  92728836  63% /init  
none            1952280       4   1952276   1% /run  
none            1952280       0   1952280   0% /run/lock  
none            1952280       0   1952280   0% /run/shm  
none            1952280       0   1952280   0% /run/user  
tmpfs           1952280       0   1952280   0% /sys/fs/cgroup  
drivers          248610300 155881464  92728836  63% /usr/lib/wsl/drivers  
lib              248610300 155881464  92728836  63% /usr/lib/wsl/lib  
none            1952280       76   1952204   1% /mnt/wslg/versions.txt  
none            1952280       76   1952204   1% /mnt/wslg/doc  
drvfs           248610300 155881464  92728836  63% /mnt/c  
drvfs           259960828 115033640 144927188  45% /mnt/d  
drvfs           307199996  69288444 237911552  23% /mnt/e  
drvfs           409598972 25167468 384431504   7% /mnt/f  
drvfs           15728640  11610372  4118268  74% /mnt/g  
root@SANKET-SUPEKAR:/#
```

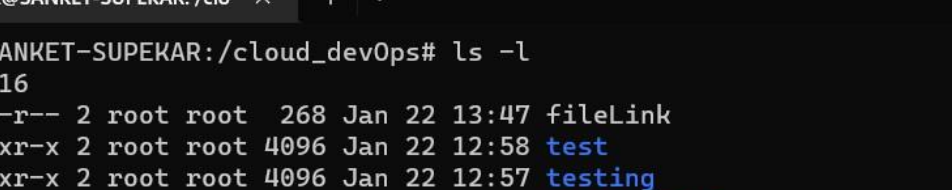

33) **mount** — Mount file systems in Linux

Output:-

```
root@SANKET-SUPEKAR: /# mount
/dev/sdc on / type ext4 (rw,relatime,discard,errors=remount-ro,data=ordered)
none on /mnt/wslg type tmpfs (rw,relatime)
none on /mnt/wsl type tmpfs (rw,relatime)
tools on /init type 9p (ro,relatime,dirsync,aname=tools,fmask=022,loose,access=client,msize=65536,trans=fd,rfd=7,wfd=7)
none on /dev type devtmpfs (rw,nosuid,relatime,size=1949848k,nr_inodes=487462,mode=755)
sysfs on /sys type sysfs (rw,nosuid,nodev,noexec,noatime)
proc on /proc type proc (rw,nosuid,nodev,noexec,noatime)
devpts on /dev/pts type devpts (rw,nosuid,noexec,noatime,gid=5,mode=620,ptmxmode=000)
none on /run type tmpfs (rw,nosuid,noexec,noatime,mode=755)
none on /run/lock type tmpfs (rw,nosuid,nodev,noexec,noatime)
none on /run/shm type tmpfs (rw,nosuid,nodev,noatime)
none on /run/user type tmpfs (rw,nosuid,nodev,noexec,noatime,mode=755)
binfmt_misc on /proc/sys/fs/binfmt_misc type binfmt_misc (rw,relatime)
tmpfs on /sys/fs/cgroup type tmpfs (rw,nosuid,nodev,noexec,relatime,mode=755)
cgroup2 on /sys/fs/cgroup/unified type cgroup2 (rw,nosuid,nodev,noexec,relatime,nsdelegated)
cgroup on /sys/fs/cgroup/cpuset type cgroup (rw,nosuid,nodev,noexec,relatime,cpuset)
cgroup on /sys/fs/cgroup/cpu type cgroup (rw,nosuid,nodev,noexec,relatime,cpu)
cgroup on /sys/fs/cgroup/cpusacct type cgroup (rw,nosuid,nodev,noexec,relatime,cpuacct)
cgroup on /sys/fs/cgroup/blkio type cgroup (rw,nosuid,nodev,noexec,relatime,blkio)
cgroup on /sys/fs/cgroup/memory type cgroup (rw,nosuid,nodev,noexec,relatime,memory)
cgroup on /sys/fs/cgroup/devices type cgroup (rw,nosuid,nodev,noexec,relatime,devices)
cgroup on /sys/fs/cgroup/freezer type cgroup (rw,nosuid,nodev,noexec,relatime,freezer)
cgroup on /sys/fs/cgroup/net_cls type cgroup (rw,nosuid,nodev,noexec,relatime,net_cls)
cgroup on /sys/fs/cgroup/perf_event type cgroup (rw,nosuid,nodev,noexec,relatime,perf_event)
cgroup on /sys/fs/cgroup/net_prio type cgroup (rw,nosuid,nodev,noexec,relatime,net_prio)
cgroup on /sys/fs/cgroup/hugetlb type cgroup (rw,nosuid,nodev,noexec,relatime,hugetlb)
cgroup on /sys/fs/cgroup/pids type cgroup (rw,nosuid,nodev,noexec,relatime,pids)
cgroup on /sys/fs/cgroup/rdma type cgroup (rw,nosuid,nodev,noexec,relatime,rdma)
drivers on /usr/lib/wsl/drivers type 9p (ro,nosuid,nodev,noatime,dirsync,aname=drivers,fmask=222,dmask=222,mmap,access=client,msize=65536,trans=fd,rfd=4,wfd=4)
lib on /usr/lib/wsl/lib type 9p (ro,nosuid,nodev,noatime,dirsync,aname=lib,fmask=222,dmask=222,mmap,access=client,msize=65536,trans=fd,rfd=4,wfd=4)
none on /mnt/wslg/versions.txt type overlay (rw,relatime,lowerdir=/system/lower,upperdir=/system/upper,workdir=/system/work)
none on /mnt/wslg/doc type overlay (rw,relatime,lowerdir=/system/lower,upperdir=/system/upper,workdir=/system/work)
drfs on /mnt/c type 9p (rw,relatime,dirsync,aname=drfs,path=C:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/d type 9p (rw,relatime,dirsync,aname=drfs,path=D:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/e type 9p (rw,relatime,dirsync,aname=drfs,path=E:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/f type 9p (rw,relatime,dirsync,aname=drfs,path=F:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/g type 9p (rw,relatime,dirsync,aname=drfs,path=G:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/h type 9p (rw,relatime,dirsync,aname=drfs,path=H:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/i type 9p (rw,relatime,dirsync,aname=drfs,path=I:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/j type 9p (rw,relatime,dirsync,aname=drfs,path=J:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/k type 9p (rw,relatime,dirsync,aname=drfs,path=K:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/l type 9p (rw,relatime,dirsync,aname=drfs,path=L:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/m type 9p (rw,relatime,dirsync,aname=drfs,path=M:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/n type 9p (rw,relatime,dirsync,aname=drfs,path=N:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/o type 9p (rw,relatime,dirsync,aname=drfs,path=O:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/p type 9p (rw,relatime,dirsync,aname=drfs,path=P:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/q type 9p (rw,relatime,dirsync,aname=drfs,path=Q:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/r type 9p (rw,relatime,dirsync,aname=drfs,path=R:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/s type 9p (rw,relatime,dirsync,aname=drfs,path=S:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/t type 9p (rw,relatime,dirsync,aname=drfs,path=T:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/u type 9p (rw,relatime,dirsync,aname=drfs,path=U:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/v type 9p (rw,relatime,dirsync,aname=drfs,path=V:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/w type 9p (rw,relatime,dirsync,aname=drfs,path=W:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/x type 9p (rw,relatime,dirsync,aname=drfs,path=X:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/y type 9p (rw,relatime,dirsync,aname=drfs,path=Y:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/z type 9p (rw,relatime,dirsync,aname=drfs,path=Z:\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/aa type 9p (rw,relatime,dirsync,aname=drfs,path=aa\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/ab type 9p (rw,relatime,dirsync,aname=drfs,path=ab\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/ac type 9p (rw,relatime,dirsync,aname=drfs,path=ac\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/ad type 9p (rw,relatime,dirsync,aname=drfs,path=ad\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/ae type 9p (rw,relatime,dirsync,aname=drfs,path=ae\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/af type 9p (rw,relatime,dirsync,aname=drfs,path=af\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/ag type 9p (rw,relatime,dirsync,aname=drfs,path=ag\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/ah type 9p (rw,relatime,dirsync,aname=drfs,path=ah\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/ai type 9p (rw,relatime,dirsync,aname=drfs,path=ai\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/aj type 9p (rw,relatime,dirsync,aname=drfs,path=aj\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/ak type 9p (rw,relatime,dirsync,aname=drfs,path=ak\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/al type 9p (rw,relatime,dirsync,aname=drfs,path=al\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/am type 9p (rw,relatime,dirsync,aname=drfs,path=am\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/an type 9p (rw,relatime,dirsync,aname=drfs,path=an\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/ao type 9p (rw,relatime,dirsync,aname=drfs,path=ao\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/ap type 9p (rw,relatime,dirsync,aname=drfs,path=ap\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/aq type 9p (rw,relatime,dirsync,aname=drfs,path=aq\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/ar type 9p (rw,relatime,dirsync,aname=drfs,path=ar\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/as type 9p (rw,relatime,dirsync,aname=drfs,path=as\;uid=1000;gid=1000;symlinkroot=/mnt,mmap,access=client,msize=262144,trans=virtio)drfs on /mnt/at type 
```

34) **chmod** — Command to change file permissions

Output:-



```

root@SANKET-SUPEKAR: /clo  ×  +  ▾
root@SANKET-SUPEKAR:/cloud_devOps# ls -l
total 16
-rw-r--r-- 2 root root 268 Jan 22 13:47 fileLink
drwxr-xr-x 2 root root 4096 Jan 22 12:58 test
drwxr-xr-x 2 root root 4096 Jan 22 12:57 testing
-rw-r--r-- 1 root root 160 Jan 22 14:01 zipFile.zip
root@SANKET-SUPEKAR:/cloud_devOps# chmod 777 testing
root@SANKET-SUPEKAR:/cloud_devOps# ls -l
total 16
-rw-r--r-- 2 root root 268 Jan 22 13:47 fileLink
drwxr-xr-x 2 root root 4096 Jan 22 12:58 test
drwxrwxrwx 2 root root 4096 Jan 22 12:57 testing
-rw-r--r-- 1 root root 160 Jan 22 14:01 zipFile.zip
root@SANKET-SUPEKAR:/cloud_devOps#

```



35) **chown** — Command for granting ownership of files or folders

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# ls -l
total 16
-rw-r--r-- 2 root root 268 Jan 22 13:47 fileLink
drwxr-xr-x 2 root root 4096 Jan 22 12:58 test
drwxrwxrwx 2 root root 4096 Jan 22 12:57 testing
-rw-r--r-- 1 root root 160 Jan 22 14:01 zipFile.zip
root@SANKET-SUPEKAR:/cloud_devOps# chown coder testing
root@SANKET-SUPEKAR:/cloud_devOps# ls -l
total 16
-rw-r--r-- 2 root root 268 Jan 22 13:47 fileLink
drwxr-xr-x 2 root root 4096 Jan 22 12:58 test
drwxrwxrwx 2 coder root 4096 Jan 22 12:57 testing
-rw-r--r-- 1 root root 160 Jan 22 14:01 zipFile.zip
root@SANKET-SUPEKAR:/cloud_devOps#
```

36) **ifconfig** — Display network interfaces and IP addresses

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.18.12.118 netmask 255.255.240.0 broadcast 172.18.15.255
    inet6 fe80::215:5dff:fe0b:8455 prefixlen 64 scopeid 0x20<link>
    ether 00:15:5d:0b:84:55 txqueuelen 1000 (Ethernet)
    RX packets 298 bytes 234877 (234.8 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 117 bytes 8106 (8.1 KB)
    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 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@SANKET-SUPEKAR:/cloud_devOps#
```

37) **traceroute** — Trace all the network hops to reach the destination

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# traceroute -n google.com
traceroute to google.com (142.250.199.174), 30 hops max, 60 byte packets
 1  172.18.0.1  0.474 ms  0.373 ms  0.278 ms
 2  192.168.43.253  5.054 ms  7.704 ms  6.537 ms
 3  192.0.0.1  8.971 ms  8.958 ms  9.347 ms
```



38) **wget** — Direct download files from the internet

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# wget https://www.google.com/doodles/gerardus-mercators-503rd-birthday
--2023-01-22 16:00:40-- https://www.google.com/doodles/gerardus-mercators-503rd-birthday
Resolving www.google.com (www.google.com)... 142.250.66.4, 2404:6800:4009:82d::2004
Connecting to www.google.com (www.google.com)|142.250.66.4|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2770233 (2.6M) [text/html]
Saving to: 'gerardus-mercators-503rd-birthday'

gerardus-mercators-503rd-b 100%[=====>] 2.64M 664KB/s in 4.1s

2023-01-22 16:00:46 (664 KB/s) - 'gerardus-mercators-503rd-birthday' saved [2770233/2770233]

root@SANKET-SUPEKAR:/cloud_devOps#
```

39) **ufw** — Firewall command

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

Output:-

```
root@SANKET-SUPEKAR: / x + v
root@SANKET-SUPEKAR:/# iptables -t filter --list
# Warning: iptables-legacy tables present, use iptables-legacy to see them
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
root@SANKET-SUPEKAR:/#
```

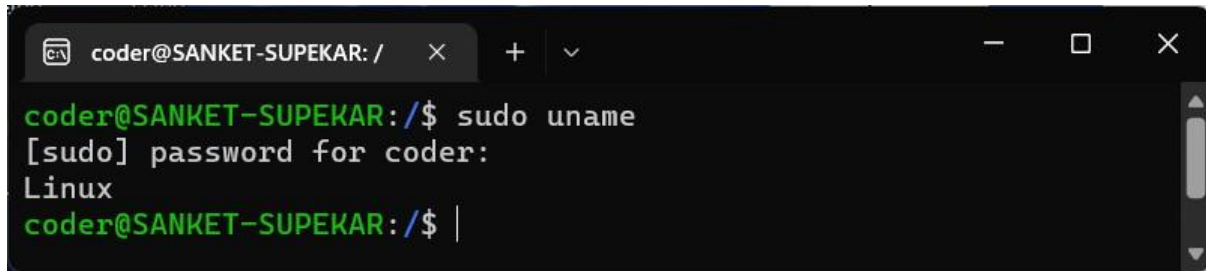
41) **apt, pacman, yum, rpm** — Package managers depending on the distro

Output:-

```
root@SANKET-SUPEKAR: / x + v
root@SANKET-SUPEKAR:/# apt upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages will be upgraded:
  apt apt-utils cryptsetup cryptsetup-bin cryptsetup-initramfs curl dmidecode
  isc-dhcp-client isc-dhcp-common libapt-pkg6.0 libcryptsetup12
  libcurl3-gnutls libcurl4 libldap-2.5-0 libldap-common libnftables1 libxslt1
  .1 nftables open-vm-tools python3-jwt python3-software-properties
  python3-twisted software-properties-common tzdata ubuntu-advantage-tools
25 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
8 standard security updates
```

42) **sudo** — Command to escalate privileges in Linux

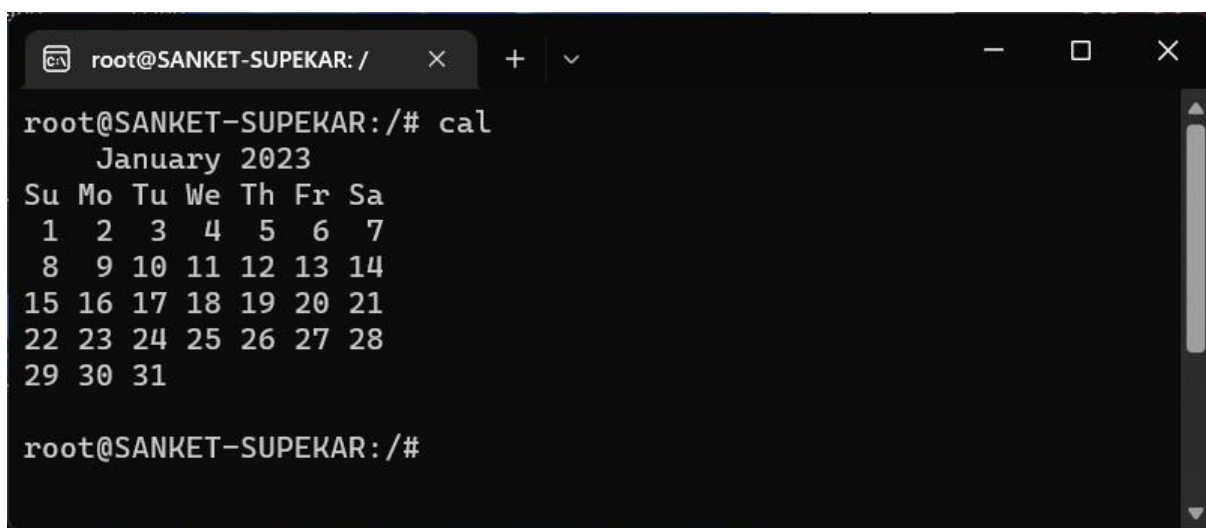
Output:-



```
coder@SANKET-SUPEKAR: /  
coder@SANKET-SUPEKAR:/$ sudo uname  
[sudo] password for coder:  
Linux  
coder@SANKET-SUPEKAR:/$ |
```

43) **cal** — View a command-line calendar

Output:-



```
root@SANKET-SUPEKAR: /  
root@SANKET-SUPEKAR:/# 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  
root@SANKET-SUPEKAR:/#
```

44) **alias** — Create custom shortcuts for your regularly used commands

Output:-



```
root@SANKET-SUPEKAR: /clo  
root@SANKET-SUPEKAR:/cloud_devOps# alias goToTest="cd test"  
root@SANKET-SUPEKAR:/cloud_devOps# goToTest  
root@SANKET-SUPEKAR:/cloud_devOps/test#
```

45) **dd** — Majorly used for creating bootable USB sticks



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

Output:-

```
root@SANKET-SUPEKAR: /clo × + ∨  
root@SANKET-SUPEKAR:/cloud_devOps# whereis ls  
ls: /usr/bin/ls /usr/share/man/man1/ls.1.gz  
root@SANKET-SUPEKAR:/cloud_devOps#
```

47) **whatis** — Find what a command is used for

Output:-

```
root@SANKET-SUPEKAR: /clo × + ∨  
root@SANKET-SUPEKAR:/cloud_devOps# whatis ls  
ls (1) - list directory contents  
root@SANKET-SUPEKAR:/cloud_devOps#
```




48) **top** — View active processes live with their system usage

Output:-

```
root@SANKET-SUPEKAR: /clo × + v
root@SANKET-SUPEKAR:/cloud_devOps# top
top - 16:35:07 up 56 min, 0 users, load average: 0.00, 0.00,
Tasks: 27 total, 1 running, 26 sleeping, 0 stopped, 0
%Cpu(s): 0.0 us, 0.0 sy, 0.0 ni,100.0 id, 0.0 wa, 0.0 hi,
MiB Mem : 3813.0 total, 3083.9 free, 311.1 used, 418
MiB Swap: 1024.0 total, 1024.0 free, 0.0 used. 3290
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM
1	root	20	0	1824	1188	1108	S	0.0	0.0
10	root	20	0	2184	400	0	S	0.0	0.0
36	root	20	0	14092	5716	4852	S	0.0	0.1
37	root	20	0	14092	872	0	S	0.0	0.0
38	root	20	0	12800	4400	3880	S	0.0	0.1
39	root	20	0	10228	4212	3576	S	0.0	0.1
431	root	20	0	10312	1308	1180	S	0.0	0.0
434	root	20	0	2184	388	0	S	0.0	0.0
435	root	20	0	2184	400	0	S	0.0	0.0
436	coder	20	0	11460	5560	3808	S	0.0	0.1
449	root	20	0	14128	6096	5208	S	0.0	0.2
450	root	20	0	14128	896	0	S	0.0	0.0
451	root	20	0	12800	4412	3888	S	0.0	0.1
452	root	20	0	10228	4368	3744	S	0.0	0.1
1023	root	20	0	12800	4360	3840	S	0.0	0.1
1024	coder	20	0	11384	5528	3816	S	0.0	0.1
1036	root	20	0	14092	5704	4840	S	0.0	0.1
1037	root	20	0	14092	872	0	S	0.0	0.0
1038	root	20	0	12800	4432	3912	S	0.0	0.1
1039	root	20	0	10228	4380	3760	S	0.0	0.1
1065	root	20	0	12800	4432	3908	S	0.0	0.1
1066	coder	20	0	11384	5480	3768	S	0.0	0.1
1081	root	20	0	14124	6012	5124	S	0.0	0.2
1082	root	20	0	14124	2592	1696	S	0.0	0.1
1083	root	20	0	12800	4244	3724	S	0.0	0.1
1084	root	20	0	10228	4364	3728	S	0.0	0.1
1333	root	20	0	12960	3940	3348	R	0.0	0.1



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

Output:-

```
root@SANKET-SUPEKAR: /clo  × + ▾
root@SANKET-SUPEKAR:/cloud_devOps# useradd test_user
root@SANKET-SUPEKAR:/cloud_devOps#
```

50) **passwd** — Create or update passwords for existing users

Output:-

```
coder@SANKET-SUPEKAR: ~ × + ▾
coder@SANKET-SUPEKAR:~$ passwd
Changing password for coder.
Current password:
New password:
Retype new password:
passwd: password updated successfully
coder@SANKET-SUPEKAR:~$
```

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

Output:-

```
root@SANKET-SUPEKAR: / × + ▾
root@SANKET-SUPEKAR:/# ls -l
bin
boot
cloud_devOps
dev
etc
home
init
lib
lib32
lib64
libx32
lost+found
media
mnt
opt
proc
root
run
sbin
```



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

Output:-

```
coder@SANKET-SUPEKAR: ~  
root@SANKET-SUPEKAR:/# kill 26  
root@SANKET-SUPEKAR:/#  
Session terminated, killing shell... ..killed.  
Terminated  
coder@SANKET-SUPEKAR:~$
```

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

Output:-

```
root@SANKET-SUPEKAR: /  
root@SANKET-SUPEKAR:/# w --  
16:44:40 up 1:06, 0 users, load average: 0.00, 0.00, 0.00  
USER      TTY      FROM          LOGIN@  IDLE   JCPU   PCPU WHAT  
root@SANKET-SUPEKAR:/#
```

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

Output:-

```
root@SANKET-SUPEKAR: /  
root@SANKET-SUPEKAR:/# date  
Sun Jan 22 04:46:19 PM IST 2023  
root@SANKET-SUPEKAR:/#
```

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

Output:-

```
root@SANKET-SUPEKAR: /  
root@SANKET-SUPEKAR:/# ls -a  
.      boot      etc      lib      libx32    mnt      root     snap     tmp  
..     cloud_devOps home     lib32    lost+found opt      run      srv      usr  
bin    dev        init     lib64    media     proc     sbin     sys      var  
root@SANKET-SUPEKAR:/#
```



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

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# ls -l
total 2724
-rw-r--r-- 2 root root 268 Jan 22 13:47 fileLink
-rw-r--r-- 1 root root 2770233 Jan 22 16:00 gerardus-mercators-503rd-birthday
drwxr-xr-x 2 root root 4096 Jan 22 12:58 test
drwxrwxrwx 2 coder root 4096 Jan 22 12:57 testing
-rw-r--r-- 1 root root 160 Jan 22 14:01 zipFile.zip
root@SANKET-SUPEKAR:/cloud_devOps#
```

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

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# ls -R
.:
fileLink gerardus-mercators-503rd-birthday test testing zipFile.zip

./test:
temp2.txt temp.txt

./testing:
root@SANKET-SUPEKAR:/cloud_devOps#
```

58) **rm -rf** -- remove directory with the files

Output:-

```
root@SANKET-SUPEKAR: /clo x + v
root@SANKET-SUPEKAR:/cloud_devOps# rm -rf gerardus-mercators-503rd-birthday
root@SANKET-SUPEKAR:/cloud_devOps# ls
fileLink test testing zipFile.zip
root@SANKET-SUPEKAR:/cloud_devOps#
```