Assignment No 1

Name :-Abhishek Vijay Deshmukh

Roll No :-323073

Prn No :-22120152

Class : TY-C

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

```
wings@wings-VirtualBox:~$ ls
 a.out           Matrix.cpp                              server1
 client          Music                                   server1.cpp
 client1         Public                                  server.c
 client1.cpp     Roundrobin.cpp                          'sudo mysql'
 client.c        Sample.cpp                              Templates
 command.cpp     scheduling.cpp                          thread.cpp
 Desktop         'Screenshot from 2022-05-01 23-12-14.png'  Videos
 Documents       'Screenshot from 2022-05-01 23-12-34.png'
 Downloads       server
wings@wings-VirtualBox:~$
```

2) pwd — Print working directory command in Linux
Output:-

```
wings@wings-VirtualBox:~$ pwd
/home/wings
wings@wings-VirtualBox:~$
```

3) cd — Linux command to navigate through directories
Output:-

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

4) mkdir — Command used to create directories in Linux
Output:-

```
wings@wings-VirtualBox:~/Desktop$ mkdir demo
wings@wings-VirtualBox:~/Desktop$ cd demo
wings@wings-VirtualBox:~/Desktop/demo$ ls
wings@wings-VirtualBox:~/Desktop/demo$
```

5) **mv — Move or rename files in Linux**
   Output:-

```
wings@wings-VirtualBox:~/Desktop/demo$ touch file1
wings@wings-VirtualBox:~/Desktop/demo$ ls
file1
wings@wings-VirtualBox:~/Desktop/demo$ mv file1 renamedfile
wings@wings-VirtualBox:~/Desktop/demo$ ls
renamedfile
wings@wings-VirtualBox:~/Desktop/demo$
```

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

```
wings@wings-VirtualBox:~/Desktop/demo$ ls
renamedfile
wings@wings-VirtualBox:~/Desktop/demo$ cat > renamedfile
abhi
raghav
keshav
mohit
^C
wings@wings-VirtualBox:~/Desktop/demo$ cat renamedfile
abhi
raghav
keshav
mohit
wings@wings-VirtualBox:~/Desktop/demo$ touch copy
wings@wings-VirtualBox:~/Desktop/demo$ cp renamedfile copy
wings@wings-VirtualBox:~/Desktop/demo$ cat copy
abhi
raghav
keshav
mohit
wings@wings-VirtualBox:~/Desktop/demo$
```

7) **rm — Delete files or directories**
   Output:-

```
wings@wings-VirtualBox:~/Desktop$ cd demo
wings@wings-VirtualBox:~/Desktop/demo$ ls
copy  renamedfile
wings@wings-VirtualBox:~/Desktop/demo$ rm copy
wings@wings-VirtualBox:~/Desktop/demo$ ls
renamedfile
wings@wings-VirtualBox:~/Desktop/demo$
```

8) touch — Create blank/empty files

Output:-

```
wings@wings-VirtualBox:~/Desktop/demo$ ls
renamedfile
wings@wings-VirtualBox:~/Desktop/demo$ touch newfile
wings@wings-VirtualBox:~/Desktop/demo$ ls
newfile   renamedfile
wings@wings-VirtualBox:~/Desktop/demo$
```

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

Output:-

```
wings@wings-VirtualBox:~/Desktop/demo$ ls
newfile   renamedfile
wings@wings-VirtualBox:~/Desktop/demo$ cat renamedfile
abhi
raghav
keshav
mohit
wings@wings-VirtualBox:~/Desktop/demo$ ln renamedfile sh
wings@wings-VirtualBox:~/Desktop/demo$ cat sh
abhi
raghav
keshav
mohit
wings@wings-VirtualBox:~/Desktop/demo$
```

10) cat — Display file contents on the terminal

Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ ls
newfile   renamedfile   sh
wings@wings-VirtualBox:~/Desktop/demo$ cat renamedfile
abhi
raghav
keshav
mohit
wings@wings-VirtualBox:~/Desktop/demo$
```

11) clear — Clear the terminal display
   Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ ls
newfile  renamedfile  sh
wings@wings-VirtualBox:~/Desktop/demo$ cat renamedfile
abhi
raghav
keshav
mohit
wings@wings-VirtualBox:~/Desktop/demo$ clear
```

12) echo — Print any text that follows the command
   Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ echo hii there i am echo command
hii there i am echo command
wings@wings-VirtualBox:~/Desktop/demo$
```

13) less — Linux command to display paged outputs in the terminal
   Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ ls
newfile  renamedfile  sh
wings@wings-VirtualBox:~/Desktop/demo$ less renamedfile
wings@wings-VirtualBox:~/Desktop/demo$
```

```
abhi
raghav
keshav
mohit
renamedfile (END)
```

14) man — Access manual pages for all Linux commands

Output :-

```
LS(1)                          User Commands                         LS(1)

NAME
       ls - list directory contents

SYNOPSIS
       ls [OPTION]... [FILE]...

DESCRIPTION
       List  information  about  the FILEs (the current directory by default).
       Sort entries alphabetically if none of -cftuvSUX nor --sort  is  speci-
       fied.

       Mandatory  arguments  to  long  options are mandatory for short options
       too.

       -a, --all
              do not ignore entries starting with .

       -A, --almost-all
              do not list implied . and ..

       --author
              with -l, print the author of each file

       -b, --escape
              print C-style escapes for nongraphic characters

       --block-size=SIZE
              with  -l,  scale  sizes  by  SIZE  when  printing  them;   e.g.,
              '--block-size=M'; see SIZE format below

       -B, --ignore-backups
              do not list implied entries ending with ~

       -c     with -lt: sort by, and show, ctime (time of last modification of
              file status information); with -l: show ctime and sort by  name;
              otherwise: sort by ctime, newest first

       -C     list entries by columns

       --color[=WHEN]
              colorize  the output; WHEN can be 'always' (default if omitted),
              'auto', or 'never'; more info below
 Manual page ls(1) line 1 (press h for help or q to quit)
```

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

Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ uname -a
Linux wings-VirtualBox 5.13.0-27-generic #29~20.04.1-Ubuntu SMP Fri Jan 14 00
2:30 UTC 2022 x86_64 x86_64 x86_64 GNU/Linux
wings@wings-VirtualBox:~/Desktop/demo$
```

16) whoami — Get the active username

Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ whoami
wings
wings@wings-VirtualBox:~/Desktop/demo$
```

17) tar — Command to extract and compress files in Linux
   Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ tar -cvf newtar.tar *
newfile
renamedfile
sh
wings@wings-VirtualBox:~/Desktop/demo$ ls
newfile  newtar.tar  renamedfile  sh
wings@wings-VirtualBox:~/Desktop/demo$ tar -xvf newtar.tar
newfile
renamedfile
sh
wings@wings-VirtualBox:~/Desktop/demo$
```

18) grep — Search for a string within an output
   Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ ls
newfile  renamedfile  sh
wings@wings-VirtualBox:~/Desktop/demo$ grep -i "abhi" renamedfile
abhi
wings@wings-VirtualBox:~/Desktop/demo$
```

19) head — Return the specified number of lines from the top
   Output :-

```
wings@wings-VirtualBox:~$ cd Desktop/demo
wings@wings-VirtualBox:~/Desktop/demo$ ls
newfile  renamedfile  sh
wings@wings-VirtualBox:~/Desktop/demo$ head renamedfile
abhi
raghav
keshav
mohit
wings@wings-VirtualBox:~/Desktop/demo$
```

20) tail — Return the specified number of lines from the bottom
   Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ ls
newfile  renamedfile  sh
wings@wings-VirtualBox:~/Desktop/demo$ tail renamedfile
abhi
raghav
keshav
mohit
wings@wings-VirtualBox:~/Desktop/demo$
```

21) diff — Find the difference between two files
    Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ ls
new  renamedfile  sh
wings@wings-VirtualBox:~/Desktop/demo$ diff new renamedfile
2d1
< keshav
3a3,9
> keshav
> mohit
> five
> sixth
> random
> text
> here
wings@wings-VirtualBox:~/Desktop/demo$ 
```

22) cmp — Allows you to check if two files are identical
    Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ cmp new renamedfile
new renamedfile differ: byte 6, line 2
wings@wings-VirtualBox:~/Desktop/demo$ 
```

23) comm — Combines the functionality of diff and cmp.
    Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ comm new renamedfile
                abhi
keshav
                raghav
comm: file 2 is not in sorted order
        keshav
        mohit
        five
        sixth
        random
        text
        here
wings@wings-VirtualBox:~/Desktop/demo$ 
```

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

Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ cat new
zxd
ghds
abc
ycg
khs
wings@wings-VirtualBox:~/Desktop/demo$ sort new
abc
ghds
khs
ycg
zxd
wings@wings-VirtualBox:~/Desktop/demo$
```

25) export — Export environment variables in Linux

Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ export var="Hellow there"
wings@wings-VirtualBox:~/Desktop/demo$ echo $var
Hellow there
wings@wings-VirtualBox:~/Desktop/demo$
```

26) zip — Zip files in Linux

Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ ls
new   renamedfile   sh
wings@wings-VirtualBox:~/Desktop/demo$ zip myzip.zip new
  adding: new (stored 0%)
wings@wings-VirtualBox:~/Desktop/demo$ ls
myzip.zip   new   renamedfile   sh
wings@wings-VirtualBox:~/Desktop/demo$
```

27) unzip — Unzip files in Linux

Output :-

```
wings@wings-VirtualBox:~/Desktop/demo/zipper$ ls
myzip.zip
wings@wings-VirtualBox:~/Desktop/demo/zipper$ unzip myzip.zip
Archive:  myzip.zip
 extracting: new
wings@wings-VirtualBox:~/Desktop/demo/zipper$ ls
myzip.zip   new
wings@wings-VirtualBox:~/Desktop/demo/zipper$
```

28) ssh — Secure Shell command in Linux
Output :-

29) service — Linux command to start and stop services
Output :-

30) ps — Display active processes
   Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ ps
    PID TTY          TIME CMD
   5110 pts/0    00:00:00 bash
   7326 pts/0    00:00:00 ps
wings@wings-VirtualBox:~/Desktop/demo$
```

31) kill and killall — Kill active processes by process ID or name
   Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ python3 -m http.server
Serving HTTP on 0.0.0.0 port 8000 (http://0.0.0.0:8000/) ...

^Z
[1]+  Stopped                 python3 -m http.server
wings@wings-VirtualBox:~/Desktop/demo$ ps
    PID TTY          TIME CMD
   5110 pts/0    00:00:00 bash
   7475 pts/0    00:00:00 python3
   7476 pts/0    00:00:00 ps
wings@wings-VirtualBox:~/Desktop/demo$ kill -9 7475
wings@wings-VirtualBox:~/Desktop/demo$ ps
    PID TTY          TIME CMD
   5110 pts/0    00:00:00 bash
   7477 pts/0    00:00:00 ps
[1]+  Killed                  python3 -m http.server
wings@wings-VirtualBox:~/Desktop/demo$
```

32) df — Display disk filesystem information
   Output:-

```
wings@wings-VirtualBox:~/Desktop/demo$ df
Filesystem     1K-blocks     Used Available Use% Mounted on
udev             1095320        0   1095320   0% /dev
tmpfs             225748     1440    224308   1% /run
/dev/sda5       25707520 10779504  13599072  45% /
tmpfs            1128732        0   1128732   0% /dev/shm
tmpfs               5120        4      5116   1% /run/lock
tmpfs            1128732        0   1128732   0% /sys/fs/cgroup
/dev/loop0           128      128         0 100% /snap/bare/5
/dev/loop2         93952    93952         0 100% /snap/gtk-common-themes/1535
/dev/loop1         56960    56960         0 100% /snap/core18/2667
/dev/loop3         50816    50816         0 100% /snap/snapd/17883
/dev/loop4         64896    64896         0 100% /snap/core20/1778
/dev/loop6        224256   224256         0 100% /snap/gnome-3-34-1804/72
/dev/loop5         47104    47104         0 100% /snap/snap-store/592
/dev/loop7         47104    47104         0 100% /snap/snap-store/638
/dev/loop8        354688   354688         0 100% /snap/gnome-3-38-2004/115
/dev/loop9        224256   224256         0 100% /snap/gnome-3-34-1804/77
/dev/loop10       354688   354688         0 100% /snap/gnome-3-38-2004/119
/dev/loop11        56960    56960         0 100% /snap/core18/2632
/dev/loop12        66816    66816         0 100% /snap/gtk-common-themes/1519
/dev/loop13        51072    51072         0 100% /snap/snapd/17950
/dev/loop14        64768    64768         0 100% /snap/core20/1738
/dev/sda1         523248        4    523244   1% /boot/efi
tmpfs             225744       12    225732   1% /run/user/125
tmpfs             225744       28    225716   1% /run/user/1000
wings@wings-VirtualBox:~/Desktop/demo$
```

33) mount — Mount file systems in Linux

Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ mkdir /tmp/mount
wings@wings-VirtualBox:~/Desktop/demo$ sudo mount /dev/sda5 /tmp/mount/
wings@wings-VirtualBox:~/Desktop/demo$ ls /tmp/mount/
bin  boot  cdrom  dev  etc  home  lib  lib32  lib64  libx32  lost+found  media  mnt  opt  proc  root  run  sbin  snap  srv  swapfile  sys  tmp  usr  var
wings@wings-VirtualBox:~/Desktop/demo$
```

34) chmod — Command to change file permissions

Output :-

```
new    renamedfile    sh
wings@wings-VirtualBox:~/Desktop/demo$ cat new
zxd
ghds
abc
ycg
khs
wings@wings-VirtualBox:~/Desktop/demo$ ls -l
total 12
-rw-rw-r-- 1 wings wings 21 Jan 23 16:59 new
-rw-rw-r-- 2 wings wings 53 Jan 23 16:54 renamedfile
-rw-rw-r-- 2 wings wings 53 Jan 23 16:54 sh
wings@wings-VirtualBox:~/Desktop/demo$ chmod 445 sh
wings@wings-VirtualBox:~/Desktop/demo$ ls -l
total 12
-rw-rw-r-- 1 wings wings 21 Jan 23 16:59 new
-r--r--r-x 2 wings wings 53 Jan 23 16:54 renamedfile
-r--r--r-x 2 wings wings 53 Jan 23 16:54 sh
wings@wings-VirtualBox:~/Desktop/demo$
```

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

Output :-

```
wings@wings-VirtualBox:~/Desktop/demo$ ls -l
total 12
-rw-rw-r-- 1 wings wings 21 Jan 23 16:59 new
-r--r--r-x 2 wings wings 53 Jan 23 16:54 renamedfile
-r--r--r-x 2 wings wings 53 Jan 23 16:54 sh
wings@wings-VirtualBox:~/Desktop/demo$ sudo chown root:root sh
wings@wings-VirtualBox:~/Desktop/demo$ ls -l
total 12
-rw-rw-r-- 1 wings wings 21 Jan 23 16:59 new
-r--r--r-x 2 root  root  53 Jan 23 16:54 renamedfile
-r--r--r-x 2 root  root  53 Jan 23 16:54 sh
wings@wings-VirtualBox:~/Desktop/demo$
```

36) ifconfig — Display network interfaces and IP addresses
Output :-

```
wings@wings-VirtualBox:~$ 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::c5c7:c1ea:5230:93a5  prefixlen 64  scopeid 0x20<link>
        ether 08:00:27:f5:8c:b5  txqueuelen 1000  (Ethernet)
        RX packets 345  bytes 445785 (445.7 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 215  bytes 18689 (18.6 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 160  bytes 13381 (13.3 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 160  bytes 13381 (13.3 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

wings@wings-VirtualBox:~$
```

37) traceroute — Trace all the network hops to reach the destination
Output:-

```
wings@wings-VirtualBox:~$ traceroute
Usage:
  traceroute [ -46dFITnreAUDV ] [ -f first_ttl ] [ -g gate,... ] [ -i device ] [ -m max_ttl ] [ -N squeries ] [ -p port ] [ -t tos ] [ -l flow_label ] [ -w MAX,HERE,NEAR ] [ -q nqueries ] [ -s src
  [ -z sendwait ] [ --fwmark=num ] host [ packetlen ]
Options:
  -4                           Use IPv4
  -6                           Use IPv6
  -d  --debug                  Enable socket level debugging
  -F  --dont-fragment          Do not fragment packets
  -f first_ttl  --first=first_ttl
                               Start from the first_ttl hop (instead from 1)
  -g gate,...  --gateway=gate,...
                               Route packets through the specified gateway
                               (maximum 8 for IPv4 and 127 for IPv6)
  -I  --icmp                   Use ICMP ECHO for tracerouting
  -T  --tcp                    Use TCP SYN for tracerouting (default port is 80)
  -i device  --interface=device
                               Specify a network interface to operate with
  -m max_ttl  --max-hops=max_ttl
                               Set the max number of hops (max TTL to be
                               reached). Default is 30
  -N squeries  --sim-queries=squeries
                               Set the number of probes to be tried
                               simultaneously (default is 16)
  -n                           Do not resolve IP addresses to their domain names
  -p port  --port=port         Set the destination port to use. It is either
                               initial udp port value for "default" method
                               (incremented by each probe, default is 33434), or
                               initial seq for "icmp" (incremented as well,
                               default from 1), or some constant destination
                               port for other methods (with default of 80 for
                               "tcp", 53 for "udp", etc.)
  -t tos  --tos=tos            Set the TOS (IPv4 type of service) or TC (IPv6
                               traffic class) value for outgoing packets
  -l flow_label  --flowlabel=flow_label
                               Use specified flow_label for IPv6 packets
  -w MAX,HERE,NEAR  --wait=MAX,HERE,NEAR
                               Wait for a probe no more than HERE (default 3)
                               times longer than a response from the same hop,
                               or no more than NEAR (default 10) times than some
                               next hop, or MAX (default 5.0) seconds (float
                               point values allowed too)
  -q nqueries  --queries=nqueries
                               Set the number of probes per each hop. Default is
                               3
  -r                           Bypass the normal routing and send directly to a
```

38) wget — Direct download files from the internet
    Output :-

```
wings@wings-VirtualBox:~$ wget www.google.com
--2023-01-23 23:24:40--  http://www.google.com/
Resolving www.google.com (www.google.com)... 142.250.183.4, 2404:6800:4009:821::2004
Connecting to www.google.com (www.google.com)|142.250.183.4|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'index.html'

index.html                 [ <=>                    ]  15.96K  --.-KB/s    in 0.06s

2023-01-23 23:24:40 (254 KB/s) - 'index.html' saved [16346]

wings@wings-VirtualBox:~$
```

39) ufw — Firewall command
    Output :-

```
wings@wings-VirtualBox:~$ ufw show report
ERROR: Invalid syntax

Usage: ufw COMMAND

Commands:
 enable                         enables the firewall
 disable                        disables the firewall
 default ARG                    set default policy
 logging LEVEL                  set logging to LEVEL
 allow ARGS                     add allow rule
 deny ARGS                      add deny rule
 reject ARGS                    add reject rule
 limit ARGS                     add limit rule
 delete RULE|NUM                delete RULE
 insert NUM RULE                insert RULE at NUM
 route RULE                     add route RULE
 route delete RULE|NUM          delete route RULE
 route insert NUM RULE          insert route RULE at NUM
 reload                         reload firewall
 reset                          reset firewall
 status                         show firewall status
 status numbered                show firewall status as numbered list of RULES
 status verbose                 show verbose firewall status
 show ARG                       show firewall report
 version                        display version information

Application profile commands:
 app list                       list application profiles
 app info PROFILE               show information on PROFILE
 app update PROFILE             update PROFILE
 app default ARG                set default application policy

wings@wings-VirtualBox:~$ ufw version
ufw 0.36
Copyright 2008-2015 Canonical Ltd.
wings@wings-VirtualBox:~$ ufw status
ERROR: You need to be root to run this script
wings@wings-VirtualBox:~$
```
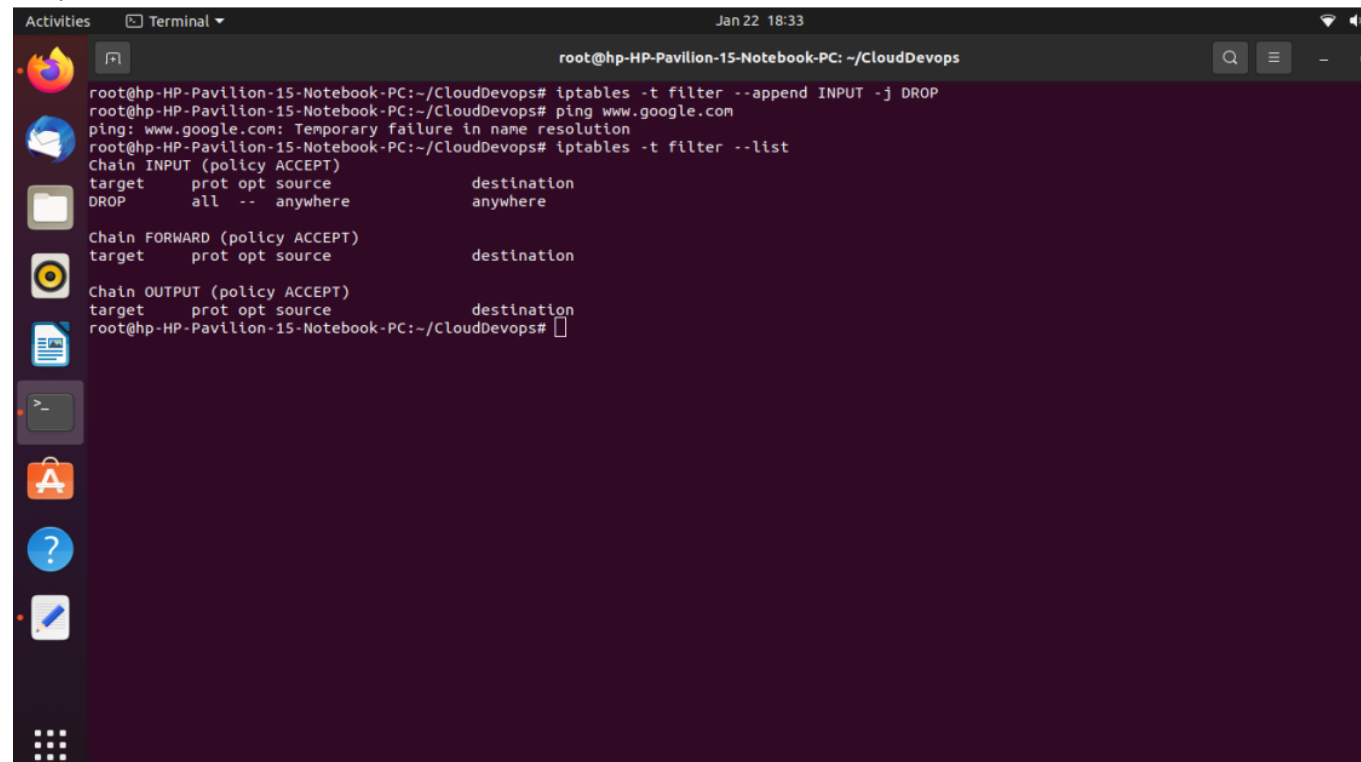
40) iptables — Base firewall for all other firewall utilities to interface with

Output :-

41) apt, pacman, yum, rpm — Package managers depending on the distro
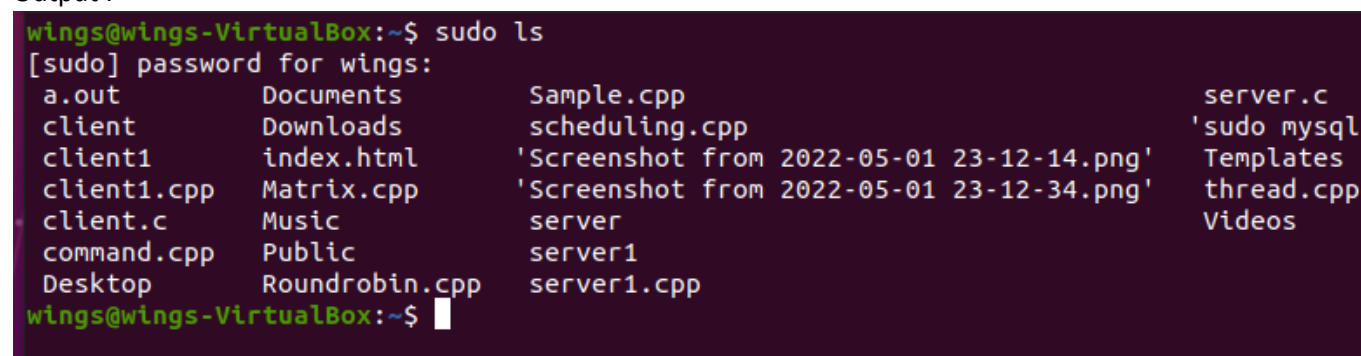
Output :-

42) sudo — Command to escalate privileges in Linux

Output :-

43) cal — View a command-line calendar

Output :-

```
wings@wings-VirtualBox:~$ 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

wings@wings-VirtualBox:~$
```

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

Output:-

```
wings@wings-VirtualBox:~$ alias -p
alias alert='notify-send --urgency=low -i "$([ $? = 0 ] && echo terminal || echo error)" "$(histo
|tail -n1|sed -e '\''s/^\s*[0-9]\+\s*//;s/[;&|]\s*alert$//'\'')"'
alias egrep='egrep --color=auto'
alias fgrep='fgrep --color=auto'
alias grep='grep --color=auto'
alias l='ls -CF'
alias la='ls -A'
alias ll='ls -alF'
alias ls='ls --color=auto'
wings@wings-VirtualBox:~$
```

45) dd — Majorly used for creating bootable USB sticks

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

Output :-

```
wings@wings-VirtualBox:~$ whereis new
new:
wings@wings-VirtualBox:~$
```

47) whatis — Find what a command is used for

Output :-

```
wings@wings-VirtualBox:~$ whatis -h
Usage: whatis [OPTION...] KEYWORD...

  -d, --debug                emit debugging messages
  -v, --verbose              print verbose warning messages
  -r, --regex                interpret each keyword as a regex
  -w, --wildcard             the keyword(s) contain wildcards
  -l, --long                 do not trim output to terminal width
  -C, --config-file=FILE     use this user configuration file
  -L, --locale=LOCALE        define the locale for this search
  -m, --systems=SYSTEM       use manual pages from other systems
  -M, --manpath=PATH         set search path for manual pages to PATH
  -s, --sections=LIST, --section=LIST
                             search only these sections (colon-separated)
  -?, --help                 give this help list
      --usage                give a short usage message
  -V, --version              print program version

Mandatory or optional arguments to long options are also mandatory or optional
for any corresponding short options.

Report bugs to cjwatson@debian.org.
wings@wings-VirtualBox:~$
```

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

Output :-

```
top - 23:37:27 up  2:13,  1 user,  load average: 0.12, 0.12, 0.09
Tasks: 232 total,   1 running, 222 sleeping,   0 stopped,   9 zombie
%Cpu(s): 19.2 us,  0.8 sy,  0.0 ni, 80.0 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :   2204.6 total,    515.9 free,   1072.6 used,    616.1 buff/cache
MiB Swap:   1188.1 total,    876.4 free,    311.7 used.    959.1 avail Mem

    PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
   1697 wings     20   0 5018672 442176  92392 S  62.5  19.6   4:10.09 gnome-shell
   1481 wings     20   0 1031596  76696  36992 S   2.7   3.4   0:40.94 Xorg
      1 root      20   0  167716   9924   6688 S   0.3   0.4   0:01.23 systemd
     19 root      rt   0       0      0      0 S   0.3   0.0   0:00.21 migration/1
    743 mysql     20   0 2077412 283592   9584 S   0.3  12.6   0:19.63 mysqld
   1822 wings     20   0  322896   7848   7372 S   0.3   0.3   0:00.24 gsd-housekeepin
   7752 wings     20   0   20624   3796   3152 R   0.3   0.2   0:00.05 top
   7761 wings     20   0 2629432  45772  32588 S   0.3   2.0   0:00.26 org.gnome.Chara
      2 root      20   0       0      0      0 S   0.0   0.0   0:00.00 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_gp
      6 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 kworker/0:0H-events_highpri
      9 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 mm_percpu_wq
     10 root      20   0       0      0      0 S   0.0   0.0   0:00.00 rcu_tasks_rude_
     11 root      20   0       0      0      0 S   0.0   0.0   0:00.00 rcu_tasks_trace
     12 root      20   0       0      0      0 S   0.0   0.0   0:00.06 ksoftirqd/0
     13 root      20   0       0      0      0 I   0.0   0.0   0:00.79 rcu_sched
     14 root      rt   0       0      0      0 S   0.0   0.0   0:00.07 migration/0
     15 root     -51   0       0      0      0 S   0.0   0.0   0:00.00 idle_inject/0
     16 root      20   0       0      0      0 S   0.0   0.0   0:00.00 cpuhp/0
     17 root      20   0       0      0      0 S   0.0   0.0   0:00.00 cpuhp/1
     18 root     -51   0       0      0      0 S   0.0   0.0   0:00.00 idle_inject/1
     20 root      20   0       0      0      0 S   0.0   0.0   0:00.11 ksoftirqd/1
     22 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 kworker/1:0H-events_highpri
     23 root      20   0       0      0      0 S   0.0   0.0   0:00.00 cpuhp/2
     24 root     -51   0       0      0      0 S   0.0   0.0   0:00.00 idle_inject/2
     25 root      rt   0       0      0      0 S   0.0   0.0   0:00.20 migration/2
     26 root      20   0       0      0      0 S   0.0   0.0   0:00.06 ksoftirqd/2
     28 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 kworker/2:0H-events_highpri
     29 root      20   0       0      0      0 S   0.0   0.0   0:00.00 kdevtmpfs
     30 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 netns
     31 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 inet_frag_wq
     32 root      20   0       0      0      0 S   0.0   0.0   0:00.00 kauditd
     33 root      20   0       0      0      0 S   0.0   0.0   0:00.00 khungtaskd
     34 root      20   0       0      0      0 S   0.0   0.0   0:00.00 oom_reaper
     35 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 writeback
     36 root      20   0       0      0      0 S   0.0   0.0   0:01.33 kcompactd0
     37 root      25   5       0      0      0 S   0.0   0.0   0:00.00 ksmd
```

49) useradd and usermod — Add new user or change existing users data
   Output :-

```
chiragm@chirag in ~/Desktop took 6s
[●] × sudo usermod -c "PLUS ULTRA!" chiragm
[sudo] password for chiragm:

chiragm@chirag in ~/Desktop as 🦹 took 1s
λ
```

50) passwd — Create or update passwords for existing users
   Output :-

```
chiragm@chirag in ~/Desktop as 🦹 took 124ms
λ passwd -S chiragm
chiragm P 2022-12-29 0 99999 7 -1

chiragm@chirag in ~/Desktop as 🦹 took 3ms
λ
```

51) ls -1 | wc -l — Command to get the count of the files present into directory
   Output :-

```
chiragm@chirag in ~/Desktop as 🦹 took 3ms
λ ls -1 | wc -l
1
```

52) kill --Command to kill the process (PID)
   Output :-

```
                                            ~ : fish — Konsole <2>
 11325 chiragm   20   0   10008    6460    3768 S   3.0   0.1   0:00.65    fish
  2676 chiragm   20   0 2977188 106444   84152 S   2.0   1.3   0:33.49
  1852 chiragm   20   0   32.8g 330204 207688 S   1.7   4.2   0:51.70    Failed (137) after 55s
  2694 chiragm   20   0  680908   53772   43084 S   1.3   0.7   0:24.15    ~/ htop
  1331 chiragm   20   0 1270660   76092   70752 S   0.7   1.0   0:00.57   polkit-kde-auth
    84 root       0 -20       0       0       0 I   0.3   0.0   0:00.10 kworker/4:1H-kblockd
   487 systemd+  20   0   17016    7436    6428 S   0.3   0.1   0:02.29 systemd-oomd
  1153 chiragm   20   0  473668   18312   11680 S   0.3   0.2   0:00.10 xdg-desktop-por
  1196 chiragm   20   0 1195444   74472   72636 S   0.3   0.9   0:00.67 ksmserver
  1264 chiragm   20   0 1739796   97292   91240 S   0.3   1.2   0:01.89 plasmashell
  1462 chiragm   20   0 4647808 284260 143428 S   0.3   3.6   0:41.55 latte-dock
  1469 chiragm   20   0 1197492   73452   69512 S   0.3   0.9   0:00.73 kaccess
  2085 chiragm   20   0 1130.9g 150448 116516 S   0.3   1.9   0:05.82 brave
  2504 chiragm   25   5 1130.0g 147880 113996 S   0.3   1.9   0:06.71 brave
  5246 root      20   0       0       0       0 I   0.3   0.0   0:00.45 kworker/u16:17-events_unbound
  9517 chiragm   20   0 1510192 186220 155012 S   0.3   2.3   0:04.16 konsole

chiragm@chirag in ~/Desktop as 🦹 took 20s
λ top | grep htop
 11325 chiragm   20   0   10008    6460    3768 S   3.0   0.1   0:01.11 htop
 11325 chiragm   20   0   10008    6460    3768 S   3.0   0.1   0:01.20 htop
 11325 chiragm   20   0   10008    6460    3768 S   3.3   0.1   0:01.30 htop

chiragm@chirag in ~/Desktop as 🦹 took 11s
[[]|[🗃]] => 🗃INT × kill -9 11325

chiragm@chirag in ~ as 🦹 took 2ms
λ
```

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

```
chiragm@chirag in ~ as 🦹 took 2ms
λ w
 23:25:29 up 29 min,  2 users,  load average: 0.44, 0.58, 0.62
USER      TTY           LOGIN@   IDLE    JCPU    PCPU WHAT
chiragm   tty1          22:55    29:47   56.93s  0.05s /usr/bin/startplasma-x11
chiragm   pts/0         23:12    0.00s   0.52s   0.00s w

chiragm@chirag in ~ as 🦹 took 20ms
λ
```

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

Output:-

```
  ┌chiragm@chirag in ~ as 🥷 took 20ms
  └λ date
Mon Jan 23 11:25:56 PM IST 2023

  ┌chiragm@chirag in ~ as 🥷 took 3ms
  └λ
```

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

Output :-

```
  ┌chiragm@chirag in ~ as 🥷 took 20ms          Failed (137) after 55s
  └λ ls -a                                       ~/ htop
drwx------     - chiragm 23 Jan 22:55 ▻ .
drwxr-xr-x     - root    29 Dec  2022 ▻ ..
drwxr-xr-x     - chiragm 23 Jan 23:23 ▻ .cache
drwxr-xr-x     - chiragm 23 Jan 23:25 ▻ .config
drwx------     - chiragm  5 Jan 22:48 ▻ .firedragon
drwxr-xr-x     - chiragm 19 Oct  2022 ▻ .kde4
drwxr-xr-x     - chiragm 29 Dec  2022 ▻ .local
drwxr-xr-x     - chiragm 16 Jan 17:56 ▻ .npm
drwxr-xr-x     - chiragm 31 Dec  2022 ▻ .nvm
drwx------     - chiragm 29 Dec  2022 ▻ .pki
drwxr-xr-x     - chiragm 12 Jan 08:54 ▻ .PlayOnLinux
drwxr-xr-x     - chiragm 30 Dec  2022 ◀ .vscode
drwxr-xr-x     - chiragm 21 Jan 19:52 ▻ codes
drwxr-xr-x     - chiragm 31 Dec  2022 ▻ courses
drwxr-xr-x     - chiragm 29 Dec  2022 ▻ Desktop
drwxr-xr-x     - chiragm 17 Jan 19:33 ▻ Documents
drwxr-xr-x     - chiragm 23 Jan 20:10 ▻ Downloads
drwxr-xr-x     - chiragm 29 Dec  2022 ▻ Music
drwxr-xr-x     - chiragm  4 Jan 21:27 ▻ onlyoffice-bin
drwxr-xr-x     - chiragm 16 Jan 17:56 ▻ phonologix-web
drwxr-xr-x     - chiragm 20 Jan 23:40 ▻ Pictures
lrwxrwxrwx    39 chiragm 30 Dec  2022 ▻ PlayOnLinux's virtual drives -> /home/chiragm/.PlayOnLinux/w
drwxr-xr-x     - chiragm 29 Dec  2022 ▻ Public
drwxr-xr-x     - chiragm 17 Jan 01:42 ▻ react
drwxr-xr-x     - chiragm 29 Dec  2022 ▻ Templates
drwxr-xr-x     - chiragm  9 Jan 20:55 ▻ Videos
.rw-------   13k chiragm 22 Jan 17:09 ▢ .bash_history
.r--r--r--    21 chiragm  9 Jan  2022 ▪ .bash_logout
.r--r--r--    58 chiragm 31 Dec  2022 ▢ .bash_profile
.r--r--r--   506 chiragm 31 Dec  2022 ▢ .bashrc
.r--r--r-- 1.5k chiragm 24 Jun  2022 ▪ .bashrc_garuda
.r--r--r--    57 chiragm 12 Jan 19:38 git .gitconfig
.r--r--r--   303 chiragm 23 Jan 22:55 ▪ .gtkrc-2.0
.r--------    25 chiragm 30 Dec  2022 ▪ .node_repl_history
.r--r--r--   388 chiragm 30 Dec  2022 ▪ .profile
.r--r--r--   180 chiragm 31 Dec  2022 ▪ .wget-hsts
.r--------   116 chiragm 23 Jan 22:55 ▪ .Xauthority
.r--r--r--   414 chiragm 11 Oct  2022 ▪ .xinitrc
.r--r--r--     0 chiragm 23 Jan 21:01 ▪ iptables.txt
.r--r--r--   618 chiragm 18 Jan 19:00 ▪ phono-work.txt
```

56) rm -rf -- remove directory with the files
   Output:-

```
┌chiragm@chirag in ~/Documents/cc&devops as 🥷 took 1ms
└λ ls
drwxr-xr-x      - chiragm 21 Jan 13:57 ⊳ assigns
drwxr-xr-x      - chiragm 21 Jan 13:35 ⊳ renamed_folder
.rw-r--r--   10k chiragm 21 Jan 13:49 🗎 archive.tar
.rw-r--r--   472 chiragm 21 Jan 11:53 🗋 commands
.rwxr-xr-x    39 chiragm 23 Jan 20:17 ⊠ helloworld.sh
.rw-r--r--  3.4k chiragm 17 Jan 19:33 🗋 Linux Commands for DevOps Engineer
.rw-r--r--    75 chiragm 21 Jan 13:52 🗋 new_file
.rw-r--r--    75 chiragm 21 Jan 13:55 🗋 new_file2
.rw-r--r--   180 chiragm 22 Jan 17:05 🗎 new_zip.zip

┌chiragm@chirag in ~/Documents/cc&devops as 🥷 took 7ms
└λ rm -rf renamed_folder/

┌chiragm@chirag in ~/Documents/cc&devops as 🥷 took 2ms
└λ ls
drwxr-xr-x      - chiragm 21 Jan 13:57 ⊳ assigns
.rw-r--r--   10k chiragm 21 Jan 13:49 🗎 archive.tar
.rw-r--r--   472 chiragm 21 Jan 11:53 🗋 commands
.rwxr-xr-x    39 chiragm 23 Jan 20:17 ⊠ helloworld.sh
.rw-r--r--  3.4k chiragm 17 Jan 19:33 🗋 Linux Commands for DevOps Engineer
.rw-r--r--    75 chiragm 21 Jan 13:52 🗋 new_file
.rw-r--r--    75 chiragm 21 Jan 13:55 🗋 new_file2
.rw-r--r--   180 chiragm 22 Jan 17:05 🗎 new_zip.zip

┌chiragm@chirag in ~/Documents/cc&devops as 🥷 took 6ms
└λ
```