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1 Experiment 1

Aim

Getting started with linux basic commands for directory operations, displaying directory structure in tree format etc...

1.1 Command 1 : touch

Purpose

Used to make a new file in the current directory

Usage

touch filename

Sample i/p and o/p

```
s1860@abhln-Vostro-15-3568:~$ touch file1
s1860@abhln-Vostro-15-3568:~$ ls
Desktop dir1 Documents Downloads file1 Music Pictures Public Templates Videos
s1860@abhln-Vostro-15-3568:~$ ]
```

1.2 Command 2 : mkdir

Purpose

Used to create a new directory inside the current directory

Usage

mkdir diename

Sample i/p and o/p

```
s1860@abhln-Vostro-15-3568:~$ mkdir dir1
s1860@abhln-Vostro-15-3568:~$ ls
Desktop dir1 Documents Downloads file1 Music Pictures Public Templates Videos
s1860@abhln-Vostro-15-3568:~$ ]
```

1.3 Command 3 : pwd

Purpose

Prints the present working directory

Usage

pwd

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ pwd
/home/s1860
s1860@abhin-Vostro-15-3568:~$
```

1.4 Command 4 : cd

Purpose

Used to change directory

Usage

cd dirname

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ cd dir1
s1860@abhin-Vostro-15-3568:~/dir1$
```

1.5 Command 5 : cat

Purpose

Views the content of a file

Usage

cat filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ touch file2.txt
s1860@abhin-Vostro-15-3568:~$ echo "hello, in new to this world">file2.txt
s1860@abhin-Vostro-15-3568:~$ cat file2.txt
hello, in new to this world
s1860@abhin-Vostro-15-3568:~$ ]
```

1.6 Command 6 : more

Purpose

View content of a file one screenful at a time

Usage

more filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ more file2.txt
hello, in new to this world
s1860@abhin-Vostro-15-3568:~$ ]
```

1.7 Command 7 : ls

Purpose

List files in a directory

Usage

ls

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ ls
Desktop  dir1  Documents  Downloads  file1  file2.txt  Music  Pictures  Public  Templates  Videos
s1860@abhin-Vostro-15-3568:~$
```

1.8 Command 8 : ls -l

Purpose

Provide long listing of all the files

Usage

ls -l

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ ls -l
total 40
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Desktop
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:53 dir1
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Documents
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Downloads
-rw-r--r-- 1 s1860 s1860 0 Jan 19 08:49 file1
-rw-r--r-- 1 s1860 s1860 28 Jan 19 08:58 file2.txt
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Music
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 09:00 Pictures
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Public
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Templates
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Videos
s1860@abhin-Vostro-15-3568:~$
```

1.9 Command 9 : ls -l -h

Purpose

Provides sizes of files in human readable form

Usage

ls -l -h

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ ls -l -h
total 40K
drwxr-xr-x 2 s1860 s1860 4.0K Jan 19 08:29 Desktop
drwxr-xr-x 2 s1860 s1860 4.0K Jan 19 08:53 dir1
drwxr-xr-x 2 s1860 s1860 4.0K Jan 19 08:29 Documents
drwxr-xr-x 2 s1860 s1860 4.0K Jan 19 08:29 Downloads
-rw-r--r-- 1 s1860 s1860  0 Jan 19 08:49 file1
-rw-r--r-- 1 s1860 s1860 28 Jan 19 08:58 file2.txt
drwxr-xr-x 2 s1860 s1860 4.0K Jan 19 08:29 Music
drwxr-xr-x 2 s1860 s1860 4.0K Jan 19 09:00 Pictures
drwxr-xr-x 2 s1860 s1860 4.0K Jan 19 08:29 Public
drwxr-xr-x 2 s1860 s1860 4.0K Jan 19 08:29 Templates
drwxr-xr-x 2 s1860 s1860 4.0K Jan 19 08:29 Videos
s1860@abhin-Vostro-15-3568:~$
```

1.10 Command 10 : ls -F

Purpose

Mark all the executable with * and directories with /

Usage

ls -F

Sample i/p and o/p

```
s1860@gabhin-Vostro-15-3568:~$ ls -F
Desktop/  dir1/  Documents/  Downloads/  file1  file2.txt  Music/  Pictures/  Public/  Templates/  Videos/
s1860@gabhin-Vostro-15-3568:~$
```

1.11 Command 11 : ls -a

Purpose

Show all the file in the present directory with special dot files

Usage

ls -a

Sample i/p and o/p

```
s1860@gabhin-Vostro-15-3568:~$ ls -a
.  .bash_history  .bashrc  .config  dir1  Downloads  file2.txt  .local  Pictures  Public  Templates
.. .bash_logout  .cache  Desktop  Documents  file1  .gnupg  Music  .profile  .ssh  Videos
s1860@gabhin-Vostro-15-3568:~$
```

1.12 Command 12 : cp

Purpose

Used to copy files and directories

Usage

1. cp file1 file2
2. cp -r dirname1 dirname2

Sample i/p and o/p

cp

```
s1860@abhin-Vostro-15-3568:~$ cp file2.txt file1.txt
s1860@abhin-Vostro-15-3568:~$ cat file1.txt
hello, in new to this world
s1860@abhin-Vostro-15-3568:~$ cat file2.txt
hello, in new to this world
s1860@abhin-Vostro-15-3568:~$
```

cp -r

```
s1860@abhin-Vostro-15-3568:~$ cp -r dir1 dir2
s1860@abhin-Vostro-15-3568:~$ cd dir2
s1860@abhin-Vostro-15-3568:~/dir2$ ls
dir1  file2  file3
s1860@abhin-Vostro-15-3568:~/dir2$
```

1.13 Command 13 : rm

Purpose

Used to remove a file

Usage

rm filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ ls
Desktop  dir1  dir2  Documents  Downloads  file1.txt  file2.txt  Music  Pictures  Public  Templates  Videos
s1860@abhin-Vostro-15-3568:~$ rm file2.txt
s1860@abhin-Vostro-15-3568:~$ ls
Desktop  dir1  dir2  Documents  Downloads  file1.txt  Music  Pictures  Public  Templates  Videos
s1860@abhin-Vostro-15-3568:~$
```

1.14 Command 14 : rmdir

Purpose

Used to remove a non empty directory

Usage

rmdir -r dirname

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~/dir2$ ls
dir1  file2  file3
s1860@abhin-Vostro-15-3568:~/dir2$ rm -r dir1
s1860@abhin-Vostro-15-3568:~/dir2$
```

1.15 Command 15 : clear

Purpose

Clear the contents of the terminal

Usage

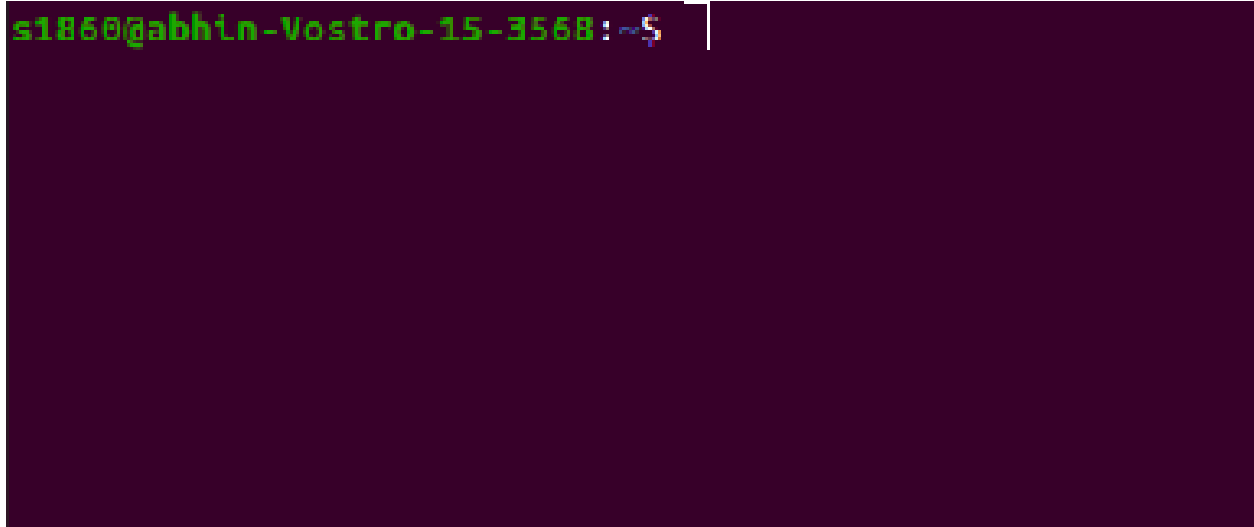
clear

Sample i/p and o/p

input

```
s1860@abhin-Vostro-15-3568:~$ rmdir dir2
rmdir: failed to remove 'dir2': Directory not empty
s1860@abhin-Vostro-15-3568:~$ ls
Desktop  dir1  dir2  Documents  Downloads  file1.txt  Music  Pictures  Public  Templates  Videos
s1860@abhin-Vostro-15-3568:~$ ls
Desktop  dir1  dir2  Documents  Downloads  file1.txt  Music  Pictures  Public  Templates  Videos
s1860@abhin-Vostro-15-3568:~$ ls -F
Desktop/  dir1/  dir2/  Documents/  Downloads/  file1.txt  Music/  Pictures/  Public/  Templates/  Videos/
s1860@abhin-Vostro-15-3568:~$ ls -l
total 44
drwxr-xr-x  2 s1860 s1860 4096 Jan 19 08:29 Desktop
drwxr-xr-x  2 s1860 s1860 4096 Jan 19 09:04 dir1
drwxr-xr-x  3 s1860 s1860 4096 Jan 19 09:04 dir2
drwxr-xr-x  2 s1860 s1860 4096 Jan 19 08:29 Documents
drwxr-xr-x  2 s1860 s1860 4096 Jan 19 08:29 Downloads
-rw-r--r--  1 s1860 s1860   28 Jan 19 09:07 file1.txt
drwxr-xr-x  2 s1860 s1860 4096 Jan 19 08:29 Music
drwxr-xr-x  2 s1860 s1860 4096 Jan 19 14:20 Pictures
drwxr-xr-x  2 s1860 s1860 4096 Jan 19 08:29 Public
drwxr-xr-x  2 s1860 s1860 4096 Jan 19 08:29 Templates
drwxr-xr-x  2 s1860 s1860 4096 Jan 19 08:29 Videos
s1860@abhin-Vostro-15-3568:~$ clear
```

output



1.16 Command 16 : man

Purpose

View help of the specified command name

Usage

man commandname

Sample i/p and o/p

```
TOUCH(1)                                User Commands                                TOUCH(1)
NAME
    touch - change file timestamps
SYNOPSIS
    touch [OPTION]... FILE...
DESCRIPTION
    Update the access and modification times of each FILE to the current time.
    A FILE argument that does not exist is created empty, unless -c or -h is supplied.
    A FILE argument string of - is handled specially and causes touch to change the times of the file associated with standard output.
    Mandatory arguments to long options are mandatory for short options too.
    -a      change only the access time
    -c, --no-create
            do not create any files
    -d, --date=STRING
            parse STRING and use it instead of current time
    -f      (ignored)
    -h, --no-dereference
            affect each symbolic link instead of any referenced file (useful only on systems that can change the timestamps of a sym-
            link)
    -m      change only the modification time
    -r, --reference=FILE
            use this file's times instead of current time
    -t STAMP
Manual page touch(1) line 1 (press h for help or q to quit)
```

1.17 Command 17 : tree

Purpose

Used to list or display the content of a directory in a tree-like format

Usage

tree dirname

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ tree dir1
dir1
├── file
├── file2
└── new
    └── file2

1 directory, 3 files
s1860@abhin-Vostro-15-3568:~$
```

1.18 Command 18 : locate

Purpose

Used to find files by their filename

Usage

locate [*options*] filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~/dir1$ locate -b file1.txt
/home/s1860/file1.txt
s1860@abhin-Vostro-15-3568:~/dir1$
```

1.19 Command 19 : kill

Purpose

Kill command is used to terminate process manually

Usage

kill options pid

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~/dir1$ ps
  PID TTY          TIME CMD
 2831 pts/0    00:00:00 bash
 7260 pts/0    00:00:00 man
 7270 pts/0    00:00:00 pager
 7279 pts/0    00:00:00 man
 7289 pts/0    00:00:00 pager
 8023 pts/0    00:00:00 bash
 8420 pts/0    00:00:00 ps
s1860@abhin-Vostro-15-3568:~/dir1$ kill 2831
s1860@abhin-Vostro-15-3568:~/dir1$ kill -l
 1) SIGHUP      2) SIGINT      3) SIGQUIT     4) SIGILL      5) SIGTRAP
 6) SIGABRT     7) SIGBUS     8) SIGFPE      9) SIGKILL     10) SIGUSR1
11) SIGSEGV    12) SIGUSR2    13) SIGPIPE    14) SIGALRM     15) SIGTERM
16) SIGSTKFLT  17) SIGCHLD    18) SIGCONT     19) SIGSTOP     20) SIGTSTP
21) SIGTTIN    22) SIGTTOU    23) SIGURG      24) SIGXCPU     25) SIGXFSZ
26) SIGVTALRM  27) SIGPROF    28) SIGWINCH    29) SIGIO        30) SIGPWR
31) SIGSYS     34) SIGRTMIN   35) SIGRTMIN+1  36) SIGRTMIN+2  37) SIGRTMIN+3
38) SIGRTMIN+4 39) SIGRTMIN+5 40) SIGRTMIN+6 41) SIGRTMIN+7 42) SIGRTMIN+8
43) SIGRTMIN+9 44) SIGRTMIN+10 45) SIGRTMIN+11 46) SIGRTMIN+12 47) SIGRTMIN+13
48) SIGRTMIN+14 49) SIGRTMIN+15 50) SIGRTMAX-14 51) SIGRTMAX-13 52) SIGRTMAX-12
53) SIGRTMAX-11 54) SIGRTMAX-10 55) SIGRTMAX-9  56) SIGRTMAX-8  57) SIGRTMAX-7
58) SIGRTMAX-6 59) SIGRTMAX-5 60) SIGRTMAX-4 61) SIGRTMAX-3 62) SIGRTMAX-2
63) SIGRTMAX-1 64) SIGRTMAX
s1860@abhin-Vostro-15-3568:~/dir1$
```

1.20 Command 20 : less

Purpose

Views content of a file one screenful at a time. less command is similar to the more command but faster than more

Usage

less filename

Sample i/p and o/p

input

```
s1860@abhin-Vostro-15-3568:~$ less file2
```

output

```
def
ejh
ajh
bcd
klm
zmn
opr
hello
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
```

1.21 Command 21 : who

Purpose

Used to display who is logged in

Usage

who [*options*]

Sample i/p and o/p

```
s1860@gabhin-Vostro-15-3568:~$ who
s1860      :0                2020-01-19 14:18 (:0)
s1860@gabhin-Vostro-15-3568:~$ _
```

1.22 Command 22 : top

Purpose

Used to display the resources being used in your system

Usage

top

Sample i/p and o/p

```
top - 14:26:06 up 8 min, 1 user, load average: 0.11, 0.38, 0.32
tasks: 203 total, 3 running, 196 sleeping, 4 stopped, 0 zombie
%Cpu(s): 0.1 us, 0.4 sy, 0.0 ni, 99.4 id, 0.0 wa, 0.0 hi, 0.1 si, 0.0 st
MiB Mem : 3801.8 total, 2480.4 free, 616.1 used, 705.3 buff/cache
MiB Swap: 2048.0 total, 2048.0 free, 0.0 used, 2826.7 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM    TIME+ COMMAND
 246 root        -51   0       0       0       0 R   1.0   0.0   0:00.13 irq/51-DELL0794
1377 s1860       20   0  281724  34604  22688 S   0.7   0.9   0:03.24 Xorg
 261 root        -51   0       0       0       0 S   0.3   0.0   0:00.03 irq/127-l2c_hld
2399 s1860       20   0   20536   3968   3196 R   0.3   0.1   0:00.03 top
    1 root        20   0  167048  16688  7864 S   0.0   0.3   0:01.53 systemd
    2 root        20   0       0       0       0 S   0.0   0.0   0:00.00 kthreadd
    3 root         0 -20   0       0       0 S   0.0   0.0   0:00.00 rcu_gp
    4 root         0 -20   0       0       0 S   0.0   0.0   0:00.00 rcu_par_gp
    6 root         0 -70   0       0       0 S   0.0   0.0   0:00.00 kworker/0:0H-kblockd
    7 root        20   0       0       0       0 S   0.0   0.0   0:00.05 kworker/0:1-rcu_gp
    8 root        20   0       0       0       0 S   0.0   0.0   0:00.12 kworker/u8:0-events_unbound
    9 root         0 -20   0       0       0 S   0.0   0.0   0:00.00 mm_percpu_wq
   10 root        20   0       0       0       0 S   0.0   0.0   0:00.01 ksoftirqd/0
   11 root        20   0       0       0       0 R   0.0   0.0   0:00.25 rcu_sched
   12 root        rt    0       0       0       0 S   0.0   0.0   0:00.00 migration/0
   13 root       -51   0       0       0       0 S   0.0   0.0   0:00.00 idle_inject/0
   14 root        20   0       0       0       0 S   0.0   0.0   0:00.00 cpuhp/0
   15 root        20   0       0       0       0 S   0.0   0.0   0:00.00 cpuhp/1
   16 root       -51   0       0       0       0 S   0.0   0.0   0:00.00 idle_inject/1
   17 root        rt    0       0       0       0 S   0.0   0.0   0:00.00 migration/1
   18 root        20   0       0       0       0 S   0.0   0.0   0:00.02 ksoftirqd/1
   20 root         0 -20   0       0       0 S   0.0   0.0   0:00.00 kworker/1:0H-kblockd
   21 root        20   0       0       0       0 S   0.0   0.0   0:00.00 cpuhp/2
   22 root       -51   0       0       0       0 S   0.0   0.0   0:00.00 idle_inject/2
   23 root        rt    0       0       0       0 S   0.0   0.0   0:00.01 migration/2
   24 root        20   0       0       0       0 S   0.0   0.0   0:00.01 ksoftirqd/2
   26 root         0 -20   0       0       0 S   0.0   0.0   0:00.00 kworker/2:0H-kblockd
   27 root        20   0       0       0       0 S   0.0   0.0   0:00.00 cpuhp/3
   28 root       -51   0       0       0       0 S   0.0   0.0   0:00.00 idle_inject/3
   29 root        rt    0       0       0       0 S   0.0   0.0   0:00.00 migration/3
   30 root        20   0       0       0       0 S   0.0   0.0   0:00.02 ksoftirqd/3
```

1.23 Command 23 : chmod

Purpose

Used to modify the file access rights

Usage

chmod options permissions filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ chmod 765 file1.txt
s1860@abhin-Vostro-15-3568:~$ ls -l
total 44
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Desktop
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 09:04 dir1
drwxr-xr-x 3 s1860 s1860 4096 Jan 19 09:04 dir2
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Documents
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Downloads
-rwxrw-r-x 1 s1860 s1860 28 Jan 19 09:02 file1.txt
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Music
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 14:22 Pictures
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Public
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Templates
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Videos
s1860@abhin-Vostro-15-3568:~$ ]
```

1.24 Command 24 : chown

Purpose

The chown command allows you to change the user and/or group ownership of a given file, directory, or symbolic link.

Usage

chown [options] user[: group] file(s)

Sample i/p and o/p

```
abhin@abhin-Vostro-15-3568:/home/s1860$ ls -l file2
-rw-r--r-- 1 s1860 s1860 34 Jan 20 07:49 file2
abhin@abhin-Vostro-15-3568:/home/s1860$ sudo chown abhin file2
[sudo] password for abhin:
abhin@abhin-Vostro-15-3568:/home/s1860$ ls -l file2
-rw-r--r-- 1 abhin s1860 34 Jan 20 07:49 file2
abhin@abhin-Vostro-15-3568:/home/s1860$
```

1.25 Command 25 : tree

Purpose

Usage

Sample i/p and o/p

```
abhin@abhin-Vostro-15-3568:/home/s1860$ ls -l file2
-rw-r--r-- 1 s1860 s1860 34 Jan 20 07:49 file2
abhin@abhin-Vostro-15-3568:/home/s1860$ sudo chown abhin file2
[sudo] password for abhin:
abhin@abhin-Vostro-15-3568:/home/s1860$ ls -l file2
-rw-r--r-- 1 abhin s1860 34 Jan 20 07:49 file2
abhin@abhin-Vostro-15-3568:/home/s1860$
```

Result

Several basic linux commands and the directory structure of linux were studied. The directory structure was printed in tree structure using the tree command

2 Experiment 2

Aim

Linux commands for operations such as redirection, pipes, filters, job control, changing ownership/permissions of files/links/directory

2.1 Command 1 : redirection(>)

Purpose

Overwrites the file with the output of the command

Usage

command > filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ ls > file2
s1860@abhin-Vostro-15-3568:~$ ls
Desktop  dir1  dir2  Documents  Downloads  file1.txt  file2  Music  Pictures  Public  Templates  Videos
s1860@abhin-Vostro-15-3568:~$ cat file2
Desktop
dir1
dir2
Documents
Downloads
file1.txt
file2
Music
Pictures
Public
Templates
Videos
s1860@abhin-Vostro-15-3568:~$
```

2.2 Command 2 : redirection(>>)

Purpose

Appends the file with the output of the command

Usage

command >> filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ cat file2
def
ejh
ajh
bcd
klm
zmn
opr
s1860@abhin-Vostro-15-3568:~$ echo "hello" >> file2
s1860@abhin-Vostro-15-3568:~$ cat file2
def
ejh
ajh
bcd
klm
zmn
opr
hello
s1860@abhin-Vostro-15-3568:~$
```

2.3 Command 3 : redirection(<)

Purpose

Used to redirect standard input to a command

Usage

command < filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ cat file2
def
ejh
ajh
bcd
klm
zmn
opr
hello
s1860@abhin-Vostro-15-3568:~$ sort < file2
ajh
bcd
def
ejh
hello
klm
opr
zmn
s1860@abhin-Vostro-15-3568:~$
```

2.4 Command 4 : piping(|)

Purpose

Used to redirect standard output of one command to the standard input of another command

Usage

command1 | command2

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ ls
Desktop dir1 dir2 Documents Downloads file1.txt file2 Music Pictures Public Templates Videos
s1860@abhin-Vostro-15-3568:~$ ls | head -3
Desktop
dir1
dir2
s1860@abhin-Vostro-15-3568:~$ ls | head -5 | tail -2
Documents
Downloads
s1860@abhin-Vostro-15-3568:~$
```

2.5 Command 5 : Filters (sort)

Purpose

Sorts the standard input and sends the output to standard output

Usage

sort filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ cat file2
def
ejh
ajh
bcd
klm
zmn
opr
s1860@abhin-Vostro-15-3568:~$ sort < file2
ajh
bcd
def
ejh
klm
opr
zmn
s1860@abhin-Vostro-15-3568:~$
```

2.6 Command 6 : Filters (uniq)

Purpose

Given a sorted stream of data from standard input it removes the duplicate lines of data and return the result to the standard output

Usage

uniq filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ cat file1.txt
Desktop
dir1
dir2
Documents
Documents
Downloads
Downloads
file1.txt
file2
Music
Pictures
Public
Templates
Videos
s1860@abhin-Vostro-15-3568:~$ uniq < file1.txt
Desktop
dir1
dir2
Documents
Downloads
file1.txt
file2
Music
Pictures
Public
Templates
Videos
s1860@abhin-Vostro-15-3568:~$
```

2.7 Command 7 : Filters (grep)

Purpose

Examines each line of data it receives from standard input and outputs all lines that contain a specific pattern of characters

Usage

grep "string" filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ cat file1.txt
Desktop
dir1
dir2
Documents
Documents
Downloads
Downloads
file1.txt
file2
Music
Pictures
Public
Templates
Videos
s1860@abhin-Vostro-15-3568:~$ grep "Do" file1.txt
Documents
Documents
Downloads
Downloads
s1860@abhin-Vostro-15-3568:~$
```

2.8 Command 8 : Filters (fmt)

Purpose

Reads text from standard input and outputs formatted text to standard output

Usage

fmt filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ cat file1.txt
Desktop
dir1
dir2
Documents
Documents
Downloads
Downloads
file1.txt
file2
Music
Pictures
Public
Templates
Videos
s1860@abhin-Vostro-15-3568:~$ fmt file1.txt
Desktop dir1 dir2 Documents Documents Downloads Downloads file1.txt
file2 Music Pictures Public Templates Videos
s1860@abhin-Vostro-15-3568:~$
```

2.9 Command 9 : Filters (pr)

Purpose

Takes data from the standard input and splits data into pages with page breaks, footers and headers in preparation for printing

Usage

pr filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ pr file1.txt

2020-01-20 05:57                                file1.txt                                Page 1

Desktop
dir1
dir2
Documents
Documents
Downloads
Downloads
file1.txt
file2
Music
Pictures
Public
Templates
Videos
```

2.10 Command 10 : Filters (head)

Purpose

Outputs the first few lines of a file and returns it to the standard output

Usage

head -n filename (n is the number of lines to be printed, default value is 10)

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ cat file2
def
ejh
ajh
bcd
klm
zmn
opr
s1860@abhin-Vostro-15-3568:~$ head -3 file2
def
ejh
ajh
s1860@abhin-Vostro-15-3568:~$
```

2.11 Command 11 : Filters (tail)

Purpose

Outputs the last few lines of a file and returns it to the standard output

Usage

tail -n filename (n is the number of lines to be printed, default value is 10)

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ cat file2
def
ejh
ajh
bcd
klm
zmn
opr
hello
s1860@abhin-Vostro-15-3568:~$ tail -3 file2
zmn
opr
hello
s1860@abhin-Vostro-15-3568:~$
```

2.12 Command 12 : Filters (tr)

Purpose

Translate characters, can be used to perform tasks such as uppercase to lowercase conversions

Usage

`tr [: lower :] [: upper :]`

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ cat file2
def
ejh
ajh
bcd
klm
zmn
opr
s1860@abhin-Vostro-15-3568:~$ tr [:lower:] [:upper:] < file2
DEF
EJH
AJH
BCD
KLM
ZMN
OPR
s1860@abhin-Vostro-15-3568:~$
```

2.13 Command 13 : Job Control (ps)

Purpose

List the processes running in the system

Usage

`ps`

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ ps
  PID TTY          TIME CMD
 2985 pts/1    00:00:00 bash
 2992 pts/1    00:00:00 uniq
 2993 pts/1    00:00:00 uniq
 3903 pts/1    00:00:00 tr
 3997 pts/1    00:00:00 ps
s1860@abhin-Vostro-15-3568:~$
```

2.14 Command 14 : Job Control (kill)

Purpose

Used to terminate process manually

Usage

kill options pid

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~/dir1$ ps
  PID TTY          TIME CMD
 2831 pts/0    00:00:00 bash
 7260 pts/0    00:00:00 man
 7270 pts/0    00:00:00 pager
 7279 pts/0    00:00:00 man
 7289 pts/0    00:00:00 pager
 8023 pts/0    00:00:00 bash
 8420 pts/0    00:00:00 ps
s1860@abhin-Vostro-15-3568:~/dir1$ kill 2831
s1860@abhin-Vostro-15-3568:~/dir1$ kill -l
 1) SIGHUP      2) SIGINT      3) SIGQUIT     4) SIGILL      5) SIGTRAP
 6) SIGABRT     7) SIGBUS     8) SIGFPE     9) SIGKILL     10) SIGUSR1
11) SIGSEGV    12) SIGUSR2   13) SIGPIPE   14) SIGALRM    15) SIGTERM
16) SIGSTKFLT  17) SIGCHLD   18) SIGCONT    19) SIGSTOP    20) SIGTSTP
21) SIGTTIN    22) SIGTTOU   23) SIGURG    24) SIGXCPU    25) SIGXFSZ
26) SIGVTALRM  27) SIGPROF   28) SIGWINCH   29) SIGIO      30) SIGPWR
31) SIGSYS     34) SIGRTMIN  35) SIGRTMIN+1 36) SIGRTMIN+2 37) SIGRTMIN+3
38) SIGRTMIN+4 39) SIGRTMIN+5 40) SIGRTMIN+6 41) SIGRTMIN+7 42) SIGRTMIN+8
43) SIGRTMIN+9 44) SIGRTMIN+10 45) SIGRTMIN+11 46) SIGRTMIN+12 47) SIGRTMIN+13
48) SIGRTMIN+14 49) SIGRTMIN+15 50) SIGRTMAX-14 51) SIGRTMAX-13 52) SIGRTMAX-12
53) SIGRTMAX-11 54) SIGRTMAX-10 55) SIGRTMAX-9 56) SIGRTMAX-8 57) SIGRTMAX-7
58) SIGRTMAX-6 59) SIGRTMAX-5 60) SIGRTMAX-4 61) SIGRTMAX-3 62) SIGRTMAX-2
63) SIGRTMAX-1 64) SIGRTMAX
s1860@abhin-Vostro-15-3568:~/dir1$
```

2.15 Command 15 : jobs

Purpose

It is an alternative way to of listing the processes

Usage

jobs

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~/dir2$ jobs
[1]  Stopped                  sudo apt install tree  (wd: ~)
[2]-  Stopped                  man ls
[3]+  Stopped                  man touch
s1860@abhin-Vostro-15-3568:~/dir2$
```

2.16 Command 16 : bg

Purpose

Used to put a process in background

Usage

bg

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~/dir2$ jobs
[1]  Stopped                  sudo apt install tree  (wd: ~)
[2]-  Stopped                  man ls
[3]+  Stopped                  man touch
s1860@abhin-Vostro-15-3568:~/dir2$ bg
[3]+ man touch &
s1860@abhin-Vostro-15-3568:~/dir2$
```

2.17 Command 17 : fg

Purpose

Used to put a process in foreground

Usage

fg

Sample i/p and o/p

```
TOUCH(1)                                User Commands                                TOUCH(1)

NAME
    touch - change file timestamps

SYNOPSIS
    touch [OPTION]... FILE...

DESCRIPTION
    Update the access and modification times of each FILE to the current time.

    A FILE argument that does not exist is created empty, unless -c or -h is supplied.

    A FILE argument string of - is handled specially and causes touch to change the times of the file associated with standard output.

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

    -a      change only the access time

    -c, --no-create
            do not create any files

    -d, --date=STRING
            parse STRING and use it instead of current time

    -f      (ignored)

    -h, --no-dereference
            affect each symbolic link instead of any referenced file (useful only on systems that can change the timestamps of a sym-
            link)

    -m      change only the modification time

    -r, --reference=FILE
            use this file's times instead of current time

    -t STAMP

Manual page touch(1) line 1 (press h for help or q to quit)
```

2.18 Command 18 : chmod

Purpose

Used to modify the file access rights

Usage

chmod options permissions filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ chmod 765 file1.txt
s1860@abhin-Vostro-15-3568:~$ ls -l
total 44
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Desktop
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 09:04 dir1
drwxr-xr-x 3 s1860 s1860 4096 Jan 19 09:04 dir2
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Documents
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Downloads
-rwxrwxr-x 1 s1860 s1860 28 Jan 19 09:02 file1.txt
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Music
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 14:22 Pictures
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Public
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Templates
drwxr-xr-x 2 s1860 s1860 4096 Jan 19 08:29 Videos
s1860@abhin-Vostro-15-3568:~$ ]
```

2.19 Command 19 : su

Purpose

Temporarily become super user. It is used to switch from one user to another

Usage

su username

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~/dir2$ su abhin
Password:
abhin@abhin-Vostro-15-3568:/home/s1860/dir2$
```

2.20 Command 20 : chown

Purpose

The chown command allows you to change the user and/or group ownership of a given file, directory, or symbolic link.

Usage

`chown [options] user[: group] file(s)`

Sample i/p and o/p

```
abhin@abhin-Vostro-15-3568:/home/s1860$ ls -l file2
-rw-r--r-- 1 s1860 s1860 34 Jan 20 07:49 file2
abhin@abhin-Vostro-15-3568:/home/s1860$ sudo chown abhin file2
[sudo] password for abhin:
abhin@abhin-Vostro-15-3568:/home/s1860$ ls -l file2
-rw-r--r-- 1 abhin s1860 34 Jan 20 07:49 file2
abhin@abhin-Vostro-15-3568:/home/s1860$
```

2.21 Command 20 : chgrp

Purpose

It is used to change group ownership

Usage

`chgrp [OPTION]... GROUP FILE...`

Sample i/p and o/p

```
abhin@abhin-Vostro-15-3568:~$ ls -l file
-rw-r--r-- 1 abhin abhin 0 Jan 20 20:11 file
abhin@abhin-Vostro-15-3568:~$ sudo chgrp s1860 file
[sudo] password for abhin:
abhin@abhin-Vostro-15-3568:~$ ls -l file
-rw-r--r-- 1 abhin s1860 0 Jan 20 20:11 file
abhin@abhin-Vostro-15-3568:~$
```

Result

The linux commands for redirection of standard I/O, pipes, filters, job control and links in linux were run and studied

3 Experiment 3

Aim

Advanced linux commands curl, wget, ftp, ssh and grep

3.1 Command 1 : curl

Purpose

Used to transfer data to or from a network server

Usage

curl *[options]* *[URL...]*

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~/dir1$ curl https://www.computerhope.com/index.htm
<!DOCTYPE html><!--[if lt IE 7]><html class="ie6 ie"><![endif]>--><!--[if IE 7]><html class="ie7 ie"><![endif]>--><!--[if IE 8]><html class="ie8 ie"><![endif]>--><!--[if IE 9]><html class="ie9 ie"><![endif]>--><html lang="en" itemscope itemtype="http://schema.org/WebPage"><head><title>Computer Hope's Free Computer Help</title><base href="https://www.computerhope.com" /><link rel="canonical" href="https://www.computerhope.com" /><meta http-equiv="Content-Type" content="text/html; charset=utf-8" /><style type="text/css" media="all">body{background:#f9f8f3}header{background:#fff;border:1px solid #dde2e5;border-top:0;padding:.625em 2.5em;margin:0 auto .3125em}header,.container,footer{max-width:58.75em}header>div{float:right;width:55%;}header>div ul{margin:4.84% 0 0;width:96%;float:right;zoom:1}header .logo{float:left;display:block}.container{background:#fff;padding:1em 2.5em;margin:0 auto}article{margin:0 !important}h2 a{color:#2a70d0 !important;border:0 !important;margin-right:3em}h2 a:active{color:#2a70d0 !important}a:active,a:focus{color:#454545;border-bottom:0}article p{margin-right: 0 !important}article ul{margin-right:0 !important}article h2{margin:1em 0 1em 0 !important}.pageitem{clear:both;padding-bottom:1em}.pageitemlink{border-bottom:0 !important}#column1-wrap{float:left;width:100%;overflow-wrap:break-word}#column1{padding-top:1.5em;margin-right:240px}#column2{padding-top:1.5em;float:left;width:210px;margin-left:-210px}#column2 ul{margin:0 0 0 !important;list-style:none}#column2 ul li{background:none;background-position:0;padding:0;margin:0}#column2 ol{list-style:none;margin-right:0 !important}#column2 ul li a{border-bottom:0}#column2 a:hover{border-bottom:0 !important}#column2 ul >li.social-networks ol li{padding:1px}#column2 ul >li.social-networks ol li a{background:url(https://www.computerhope.com/cdn/chsprite.png) no-repeat top left;padding:0 0 2px 32px;padding-top:5px}#column2 ul >li.social-networks ol li a.facebook{background-position:0 -402px}#column2 ul >li.social-networks ol li a.twitter{background-position:0 -1303px}div#column2 p{margin-right:0 !important}#column2 ul >li.social-networks ol li a.google{background-position:0 -608px}#column2 ul >li.social-networks ol li a.pinterest{background-position:0 -950px}.followers{border-style:solid;border-width:1px;border-color:#C5C5C5;background-color:#F1F0F0;color:#6A6969;width:50px;text-align:center;font-size:small;display:inline;float:right}@media only screen and (max-width:764px){#column2{display:none}#column1{padding-top:0 !important;margin-right:0 !important}}</style><link href="https://www.computerhope.com/cdn/site.css" type="text/css" rel="stylesheet" /><script
```

3.2 Command 2 : wget

Purpose

Wget command is a Linux command line utility that helps us to download the files from the web

Usage

wget *[option]* *[URL]*

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~/dir1$ wget http://ftp.gnu.org/gnu/wget/wget-1.5.3.tar.gz
--2020-01-20 22:52:44-- http://ftp.gnu.org/gnu/wget/wget-1.5.3.tar.gz
Resolving ftp.gnu.org (ftp.gnu.org)... 2001:470:142:3::b, 209.51.188.20
Connecting to ftp.gnu.org (ftp.gnu.org)|2001:470:142:3::b|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 446966 (436K) [application/x-gzip]
Saving to: 'wget-1.5.3.tar.gz'

wget-1.5.3.tar.gz      100%[=====] 436.49K  95.7KB/s   in 5.2s

2020-01-20 22:52:50 (84.7 KB/s) - 'wget-1.5.3.tar.gz' saved [446966/446966]

s1860@abhin-Vostro-15-3568:~/dir1$
```

3.3 Command 3 : ssh

Purpose

This command is used to start the SSH client program that enables secure connection to the SSH server on a remote machine.

The ssh command is used from logging into the remote machine, transferring files between the two machines, and for executing commands on the remote machine.

Usage

ssh *user_name@host(IP/Domain_name)*

Sample i/p and o/p

```
guest-kntlh2@User:~$ ssh s1860@192.168.99.6
The authenticity of host '192.168.99.6 (192.168.99.6)' can't be established.
ECDSA key fingerprint is SHA256:zNjfdDYltJGQFV0vEQ71b+0Ez8yXxo8h4Pzohqnvb2c.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.99.6' (ECDSA) to the list of known hosts.
s1860@192.168.99.6's password:
Welcome to Ubuntu 16.04.3 LTS (GNU/Linux 4.4.0-83-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

667 packages can be updated.
446 updates are security updates.

Last login: Tue Jan 14 13:26:12 2020 from 192.168.99.125
s1860@administrator-rusa:~$
```

3.4 Command 4 : scp

Purpose

SCP (secure copy) is a command-line utility that allows you to securely copy files and directories between two locations.

With scp, you can copy a file or directory:

- From your local system to a remote system.
- From a remote system to your local system.
- Between two remote systems from your local system.

Usage

scp [*OPTION*] [*user@*]*SRC_HOST* :]*file1* [*user@*]*DEST_HOST* :]*file2*

- *OPTION* - scp options such as cipher, ssh configuration, ssh port, limit, recursive copy ... etc.
- [*user@*]*SRC_HOST* :]*file1* - Source file.
- [*user@*]*DEST_HOST* :]*file2* - Destination file

Sample i/p and o/p

```
s1860@administrator-rusa:~$ scp file s1858@192.168.99.6:/home/us/s18/s1858
s1858@192.168.99.6's password:
file
s1860@administrator-rusa:~$
```

100% 0 0.0KB/s 00:00

3.5 Command 5 : ftp

Purpose

ftp command is used to connect to a remote server.

FTP (File Transfer Protocol) is a standard network protocol used to transfer files to and from a remote network.

Usage

ftp *IP address/domain_name*

Sample i/p and o/p

```
s1860@administrator-rusa:~$ ftp 192.168.99.6
ftp: connect: Connection refused
ftp>
```

3.6 Command 6 : grep

Purpose

Examines each line of data it receives from standard input and outputs all lines that contain a specific pattern of characters

Usage

grep *options "string" filename*

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ cat file1.txt
Desktop
dir1
dir2
Documents
Documents
Downloads
Downloads
file1.txt
file2
Music
Pictures
Public
Templates
Videos
s1860@abhin-Vostro-15-3568:~$ grep "Do" file1.txt
Documents
Documents
Downloads
Downloads
s1860@abhin-Vostro-15-3568:~$
```

Result

The advanced linux commands ftp, ssh, wget, grep, and curl were run and studied

4 Some other commands

4.1 Command 1 : alias

Purpose

It lets the user to give names of his/her choice to a command or sequence of commands

Usage

alias alternatename=command

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ alias list="grep "Do" < "  
s1860@abhin-Vostro-15-3568:~$ list file1.txt  
Documents  
Documents  
Downloads  
Downloads  
s1860@abhin-Vostro-15-3568:~$
```

4.2 Command 2 : df

Purpose

The df command shows the size used space and available space on the mounted file system of your computer.

Two of the most useful options are the -h (human readable) and -x (exclude) options. The human-readable option displays the sizes in Mb or Gb instead of in bytes.

The exclude option allows you to tell df to discount filesystems you are not interested in.

Usage

df options filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ df -h file2
Filesystem      Size  Used Avail Use% Mounted on
/dev/sda8        97G  7.2G  85G   8% /
s1860@abhin-Vostro-15-3568:~$ df -x file2
Filesystem      1K-blocks    Used Available Use% Mounted on
udev             1919392         0    1919392   0% /dev
tmpfs            389312      1672     387640   1% /run
/dev/sda8       101151760 7533396   88437028   8% /
tmpfs           1946544    32880    1913664   2% /dev/shm
tmpfs            5120         4        5116   1% /run/lock
tmpfs           1946544         0    1946544   0% /sys/fs/cgroup
/dev/loop1        4352      4352         0 100% /snap/gnome-calculator/544
/dev/loop0        91264    91264         0 100% /snap/core/7917
/dev/loop2        45312    45312         0 100% /snap/gtk-common-themes/1353
/dev/loop4        46080    46080         0 100% /snap/gtk-common-themes/1440
/dev/loop3       160512   160512         0 100% /snap/gnome-3-28-1804/110
/dev/loop8        91264    91264         0 100% /snap/core/8268
/dev/loop5       153600   153600         0 100% /snap/gnome-3-28-1804/71
/dev/loop7        56064    56064         0 100% /snap/core18/1650
/dev/loop6        1024      1024         0 100% /snap/gnome-logs/81
/dev/loop10       4352      4352         0 100% /snap/gnome-calculator/501
/dev/loop12       15104    15104         0 100% /snap/gnome-characters/375
/dev/loop9        55936    55936         0 100% /snap/core18/1223
/dev/loop11       15104    15104         0 100% /snap/gnome-characters/317
/dev/sda1         661504   65956    595548  10% /boot/efi
tmpfs            389308         40     389268   1% /run/user/1001
s1860@abhin-Vostro-15-3568:~$ df -h -x file2
Filesystem      Size  Used Avail Use% Mounted on
udev            1.9G     0  1.9G   0% /dev
tmpfs           381M   1.7M  379M   1% /run
/dev/sda8        97G  7.2G  85G   8% /
tmpfs           1.9G   33M   1.9G   2% /dev/shm
tmpfs           5.0M   4.0K   5.0M   1% /run/lock
tmpfs           1.9G     0  1.9G   0% /sys/fs/cgroup
/dev/loop1       4.3M   4.3M     0 100% /snap/gnome-calculator/544
/dev/loop0        90M    90M     0 100% /snap/core/7917
/dev/loop2        45M   45M     0 100% /snap/gtk-common-themes/1353
/dev/loop4        45M   45M     0 100% /snap/gtk-common-themes/1440
/dev/loop3       157M  157M     0 100% /snap/gnome-3-28-1804/110
/dev/loop8        90M   90M     0 100% /snap/core/8268
/dev/loop5       150M  150M     0 100% /snap/gnome-3-28-1804/71
/dev/loop7        55M   55M     0 100% /snap/core18/1650
/dev/loop6        1.0M   1.0M     0 100% /snap/gnome-logs/81
/dev/loop10       4.3M   4.3M     0 100% /snap/gnome-calculator/501
/dev/loop12       15M   15M     0 100% /snap/gnome-characters/375
/dev/loop9        55M   55M     0 100% /snap/core18/1223
/dev/loop11       15M   15M     0 100% /snap/gnome-characters/317
/dev/sda1         646M   65M   582M  10% /boot/efi
tmpfs            381M   40K   381M   1% /run/user/1001
s1860@abhin-Vostro-15-3568:~$
```

4.3 Command 3 : diff

Purpose

Compares two text files and shows the difference between them

The -y (side by side) option shows the line differences side by side.

The -w (width) option lets you specify the maximum line width to use to avoid wraparound lines.

The -suppress-common-lines prevents diff from listing the matching lines, letting you focus on the lines

which have differences.

Usage

wget [*option*] [*URL*]

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ cat file2
def
ejh
ajh
bcd
klm
zmn
opr
s1860@abhin-Vostro-15-3568:~$ cat file3
def
ejh
ajh
bcd
s1860@abhin-Vostro-15-3568:~$ diff -y file2 file3
def
ejh
ajh
bcd
klm
zmn
opr
def
ejh
ajh
bcd
<
<
<
```

4.4 Command 4 : echo

Purpose

echo command prints a string of text to the terminal window

Usage

echo "string of text"

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ echo "Hello world, im new here"
Hello world, im new here
s1860@abhin-Vostro-15-3568:~$
```

4.5 Command 5 : find

Purpose

find command is used to track down files that the user know exists but forgot its path

Usage

find startlocation -name *filename*

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ find . -name *file2*
./file2
./dir1/new/file2
s1860@abhin-Vostro-15-3568:~$
```

4.6 Command 6 : free

Purpose

Gives a summary of the memory usage with the computer.
-h option provides human friendly numbers and units

Usage

free option

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ free
              total        used        free      shared  buff/cache   available
Mem:          3893088      1781092       395980       332456     1716016     1489516
Swap:          2097148           0       2097148
s1860@abhin-Vostro-15-3568:~$ free -h
              total        used        free      shared  buff/cache   available
Mem:           3.7Gi       1.7Gi       400Mi       318Mi       1.6Gi       1.4Gi
Swap:           2.0Gi         0B        2.0Gi
s1860@abhin-Vostro-15-3568:~$
```

4.7 Command 7 : groups

Purpose

The group command tell which group the user is a member of

Usage

groups username

Sample i/p and o/p

```
guest@administrator-HP-Pro-3330-MT:~$ groups guest
guest : guest sudo
guest@administrator-HP-Pro-3330-MT:~$
```

4.8 Command 8 : gzip

Purpose

gzip command compresses files. By default, it removes the original file and leaves you with the compressed version. To retain both the original and the compressed version, use the -k (keep) option.

Usage

gzip option filename

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ ls
Desktop  dir1  dir2  Documents  Downloads  file1.txt  file2  file3  Music  Pictures  Public  Templates  Videos
s1860@abhin-Vostro-15-3568:~$ gzip -k file2
s1860@abhin-Vostro-15-3568:~$ ls
Desktop  dir1  dir2  Documents  Downloads  file1.txt  file2  file2.gz  file3  Music  Pictures  Public  Templates  Videos
s1860@abhin-Vostro-15-3568:~$
```

4.9 Command 9 : history

Purpose

The history command lists the commands you have previously issued on the command line. You can repeat any of the commands from your history by typing an exclamation point ! and the number of the command from the history list.

Usage

history

Sample i/p and o/p

4.10 Command 10 : mv

Purpose

It is used to move files and directories from directory to directory

Usage

mv dir/file dirname (dir/file is the directory or file that is to be moved into dirname)

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~$ ls
Desktop dir1 dir2 Documents Downloads file1.txt file2 file2.gz file3 Music Pictures Public Templates Videos
s1860@abhin-Vostro-15-3568:~$ mv file3 dir2
s1860@abhin-Vostro-15-3568:~$ cd dir2
s1860@abhin-Vostro-15-3568:~/dir2$ ls
dir1 file3
s1860@abhin-Vostro-15-3568:~/dir2$
```

4.11 Command 11 : shutdown

Purpose

Using shutdown with no parameters will shutdown the computer in one minute.shutdown now command will shutdown the computer immediately

Usage

shutdown options

Sample i/p and o/p

```
s1860@abhin-Vostro-15-3568:~/dir2$ shutdown 23:00
Shutdown scheduled for Mon 2020-01-20 23:00:00 IST, use 'shutdown -c' to cancel.
s1860@abhin-Vostro-15-3568:~/dir2$ shutdown -c
s1860@abhin-Vostro-15-3568:~/dir2$
```