Question-1

1.

- use a command to show the current working directory

root@LAPTOP-5GHL4L4F:/# mkdir assi

root@LAPTOP-5GHL4L4F:/# cd assi

root@LAPTOP-5GHL4L4F:/assi # pwd

/assi

root@LAPTOP-5GHL4L4F:/# mkdir assi

root@LAPTOP-5GHL4L4F:/# cd assi

root@LAPTOP-5GHL4L4F:/assi # echo $PWD

/assi

- list the directory contents in the short and long format (with file permissions,owner,size etc.).

Explore attributes given in long format e.g., file type, file permissions, file size, file owner etc.

root@LAPTOP-5GHL4L4F:/assi# ls

root@LAPTOP-5GHL4L4F:/assi# cd /

root@LAPTOP-5GHL4L4F:/# ls

xyz.txt  boot  dev       home  lib32   media  abc.txt o1  root1   abc1.txt  srv  today.txt      var

assign1  cdac  etc       init  lib64   mnt    proc     o2  run     sbin    sys  umaskdemo.txt  xyz.txt

bin      data  file.txt  lib   libx32  opt   assi    root  pqr.txt  snap    tmp  usr

root@LAPTOP-5GHL4L4F:/# ls -l

total 420

-rwx--x-wx  1 root root      0 Mar 9 15:05 xyz.txt

drwxr-xr-x  1 root root   4096 Mar 9 17:56 assign1

lrwxrwxrwx  1 root root      7 Feb 16 06:02 bin -> usr/bin

drwxr-xr-x  1 root root   4096 Feb 16 06:16 boot

drwxr-xr-x  1 root root   4096 Mar 9 16:39 cdac

drwxr-xr-x  1 root root   4096 Mar 9 11:47 data

drwxr-xr-x  1 root root   4096 Mar 9 09:25 dev

drwxr-xr-x  1 root root   4096 Mar 9 11:04 etc

-rw-r--r--  1 root root      0 Mar 9 10:55 file.txt

drwxr-xr-x  1 root root   4096 Mar 9 17:02 home

-rwxr-xr-x  1 root root 722096 Feb 19 13:18 init

lrwxrwxrwx  1 root root      7 Feb 16 06:02 lib -> usr/lib

lrwxrwxrwx  1 root root      9 Feb 16 06:02 lib32 -> usr/lib32

lrwxrwxrwx  1 root root      9 Feb 16 06:02 lib64 -> usr/lib64

lrwxrwxrwx  1 root root     10 Feb 16 06:02 libx32 -> usr/libx32

drwxr-xr-x  1 root root   4096 Feb 16 06:02 media

drwxr-xr-x  1 root root   4096 Mar  9 16:42 mnt

drwxr-xr-x  1 root root   4096 Feb 16 06:02 opt

-rw-r--r--  1 root root      0 Mar 9 15:28 pqr.txt

dr-xr-xr-x 21 root root      0 Mar 9 09:25 proc

drwxr-xr-x  1 root root   4096 Mar 9 19:44 assi

drwxr-xr-x  1 root root   4096 Mar 9 18:08 o1

drwxr-xr-x  1 root root   4096 Mar 9 18:13 o2

drwx------  1 root root   4096 Mar 9

12:15 root

drwxr-xr-x  1 root root   4096 Mar 9 19:34 root1

drwxr-xr-x  1 root root   4096 Mar 9 11:04 run

-rw-r--r--  1 root root     21 Mar  9 19:32 abc1.txt

-rwx------  1 root root     21 Mar  9 18:56 abc2.txt

lrwxrwxrwx  1 root root      19 Feb 18 07:02 sbin -> usr/sbin

drwxr-xr-x  1 root root   4096 Feb 18 07:07 snap

drwxr-xr-x  1 root root   4096 Feb 18 07:02 srv

dr-xr-xr-x 12 root root      0 Mar 9 09:25 sys

drwxrwxrwt  1 root root   4096 Mar 9 10:24 tmp

-rw-r--r--  1 root root      0 Mar 9 16:05 today.txt

-rw-r--r--  1 root root      0 Mar 9 17:34 umaskdemo.txt

drwxr-xr-x  1 root root   4096 Feb 16 05:05 usr

drwxr-xr-x  1 root root   4096 Feb 16 05:07 var

-rw-r--r--  1 root root      0 Mar 9 17:41 xyz.txt

- list all files along with hidden files in the current working directory.

root@LAPTOP-5GHL4L4F:/# ls -a

.        assign1  cdac  etc       init   lib64   mnt      proc  o2   run     sbin  sys        umaskdemo.txt  xyz.txt

..       bin      data  file.txt  lib    libx32  opt     assi root   abc1.txt  snap  tmp        usr

abc.txt  boot     dev   home      lib32  media   pqr.txt  roo1  root1  abc2.txt  srv   today.txt  var

- list only hidden files in the directory

root@LAPTOP-5GHL4L4F:/# ls -ld .?\*

drwxr-xr-x 1 root root 4096 Mar 9 20:44 ..

(Hint : use pwd, ls, echo commands)

2. Make a directory and name it as cdac-dir and change the current working directory to the new directory.(Hint : use mkdir,cd commands).

root@LAPTOP-5GHL4L4F:/# mkdir cdac-dir

root@LAPTOP-5GHL4L4F:/# cd cdac-dir

root@LAPTOP-5GHL4L4F:/cdac-dir# ls

3. Create following nested directories inside the current directory by invoking a single command for only one time.

Note : here root\_dir is the current directory.

**Directory Structure 1**

root@LAPTOP-5GHL4L4F:/# mkdir root1

root@LAPTOP-5GHL4L4F:/# cd root1

root@LAPTOP-5GHL4L4F:/root1# mkdir -p p1/q1 p1/q2 p2/r1 p2/r2

root@LAPTOP-5GHL4L4F:/root1# cd ..

root@LAPTOP-5GHL4L4F:/# tree root1

root1

├── p1

│   ├── q1

│   └── q2

└── p2

    ├── r1

    └── r2

6 directories, 0 files

**Directory Structure 2**

root@LAPTOP-5GHL4L4F:/# mkdir root2

root@LAPTOP-5GHL4L4F:/# cd root2

root@LAPTOP-5GHL4L4F:/root2# mkdir -p p1/q1/r1 p2/q2/r2

root@LAPTOP-5GHL4L4F:/root2# cd ..

root@LAPTOP-5GHL4L4F:/# tree root2

root2

├── p1

│   └── q1

│       └── r1

└── p2

    └── q2

        └── r2

6 directories, 0 files

4. List the directories(folders), then remove the cdac-dir directory and list the folders again to show that it is no longer present.(Hint : use rm, ls command).

root@LAPTOP-5GHL4L4F:/home# ls

cdac-dir  cdac\_dbda  dbda

root@LAPTOP-5GHL4L4F:/home# rmdir cdac-dir

root@LAPTOP-5GHL4L4F:/home# ls

cdac\_dbda  dbda

Question-2.

1. Display the man-page for ls, but redirect the output into temp.txt, then use the cat, less, and more commands to display the new file.

root@LAPTOP-5GHL4L4F:/# man ls > temp.txt

root@LAPTOP-5GHL4L4F:/# cat temp.txt

root@LAPTOP-5GHL4L4F:/# less temp.txt

root@LAPTOP-5GHL4L4F:/# more temp.txt

2. Display the initial 10 lines and final 5 lines of temp.txt with the obvious Linux commands.(Hint: use head and tail commands).

root@LAPTOP-5GHL4L4F:/# head -n 10 temp.txt

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 -cftu‐

root@LAPTOP-5GHL4L4F:/# tail -n 5 temp.txt

SEE ALSO

       Full documentation at: <https://www.gnu.org/software/coreutils/ls>

       or available locally via: info '(coreutils) ls invocation'

GNU coreutils 8.30                                    September 2019                                                 LS(1)

3. Copy temp.txt to another directory and rename it there. (Hint: use cp to copy and mv command to rename).

root@LAPTOP-5GHL4L4F:/# cp temp.txt /home/dbda

root@LAPTOP-5GHL4L4F:/# ls

abc.txt  boot      data  file.txt  lib    libx32  opt      assi o2   run     sbin  sys       t.txt      var

assign1  cdac      dev   home      lib32  media   pqr.txt  ques1  root   s1.txt  snap  temp.txt  umaskdemo.txt  xyz.txt

bin      cdac-dir  etc   init      lib64  mnt     proc     o1   root1  abc2.txt  srv   tmp       usr

root@LAPTOP-5GHL4L4F:/# cd home

root@LAPTOP-5GHL4L4F:/home# ls

cdac\_dbda  dbda

root@LAPTOP-5GHL4L4F:/home# cd dbda

root@LAPTOP-5GHL4L4F:/home/dbda# ls

pri.txt  temp.txt

root@LAPTOP-5GHL4L4F:/home/dbda# mv temp.txt new.txt

root@LAPTOP-5GHL4L4F:/home/dbda# ls

pri.txt  new.txt

4. Display the number of lines, words and characters in the file using Linux command (Hint: use wc command).

root@LAPTOP-5GHL4L4F:/home/dbda# wc new.txt

 221  947 7940 new.txt

root@LAPTOP-5GHL4L4F:/home/dbda# wc -m new.txt

7927 new.txt

root@LAPTOP-5GHL4L4F:/home/dbda# wc -l new.txt

221 new.txt

root@LAPTOP-5GHL4L4F:/home/dbda# wc -w new.txt

947 new.txt

5. Use history command to display the last 10 commands used. (Hint: use history command).

root@LAPTOP-5GHL4L4F:/home/dbda# wc new.txt

 221  617 7940 new.txt

root@LAPTOP-5GHL4L4F:/home/dbda# wc -m new.txt

7927 new.txt

root@LAPTOP-5GHL4L4F:/home/dbda# wc -l new.txt

221 new.txt

root@LAPTOP-5GHL4L4F:/home/dbda# wc -w new.txt

617 new.txt

Question-3.

1. Create a tar archive file of any directory present in your home directory.(Hint: use tar command)

- list the contents of the archive file without extracting.

root@LAPTOP-5GHL4L4F:/home/dbda# ls

pri.txt  new.txt

root@LAPTOP-5GHL4L4F:/home/dbda# cat >filetar.txt

hello

root@LAPTOP-5GHL4L4F:/home/dbda# ls

filetar.txt  pri.txt  new.txt

root@LAPTOP-5GHL4L4F:/home/dbda# tar cf filetar.tar filetar.txt

root@LAPTOP-5GHL4L4F:/home/dbda# ls

filetar.tar  filetar.txt  pri.txt  new.txt

root@LAPTOP-5GHL4L4F:/home/dbda# tar tf filetar.tar

filetar.txt

2. Create a zip file of another directory. (Hint: use zip command)

-list the contents of the zip file without extracting.

root@LAPTOP-5GHL4L4F:/home/dbda# gzip filetar.txt

root@LAPTOP-5GHL4L4F:/home/dbda# ls

filetar.tar  filetar.txt.gz  pri.txt  new.txt

root@LAPTOP-5GHL4L4F:/home/dbda# zcat filetar.txt

Hi

3. Give read, write & execute permissions to your file. (Hint: use chmod command)

root@LAPTOP-5GHL4L4F:/home# touch y.txt

root@LAPTOP-5GHL4L4F:/home# ls

cdac\_dbda  dbda  file1 y.txt

root@LAPTOP-5GHL4L4F:/home# chmod 777 y.txt

root@LAPTOP-5GHL4L4F:/home# ls

cdac\_dbda  dbda  file1  y.txt

root@LAPTOP-5GHL4L4F:/home# ls -l

total 0

drwxr-xr-x 1 cdac\_dbda 4096 Mar 9 16:03 cdac\_dbda

d----w-r-x 1 root      root      4096 Mar 9 19:25 dbda

-rw-r--r-- 1 root      root        6 Mar 9 19:55 file1

-rwxrwxrwx 1 root      root         0 Mar 9 19:36 y.txt

4. Change ownership of that file.(Hint: use chown command)

root@LAPTOP-5GHL4L4F:/home# ls

cdac\_dbda  dbda  file1  y.txt

root@LAPTOP-5GHL4L4F:/home# chown cdac\_dbda y.txt

root@LAPTOP-5GHL4L4F:/home# ls -l

total 0

drwxr-xr-x 1 cdac\_dbda cdac\_dbda 4096 Mar 9 15:03 cdac\_dbda

d----w-r-x 1 root      root      4096 Mar 9 23:25 dbda

-rw-r--r-- 1 root      root        36 Mar 9 22:55 file1

-rwxrwxrwx 1 cdac\_dbda root         0 Mar 9 23:36 y.txt

5. List processes running in shell, all running processes(Hint: use man page of ps command) and show top processes in decreasing order of their resource utilization.(Hint: use top command).

root@LAPTOP-5GHL4L4F:/home# ps

  PID TTY          TIME CMD

  342 tty1     00:00:00 init

  440 tty1     00:00:00 sudo

  441 tty1     00:00:00 su

  442 tty1     00:00:00 bash

  499 tty1     00:00:06 find

  500 tty1     00:00:00 sudo

  501 tty1     00:00:12 find

  506 tty1     00:00:00 sudo

  507 tty1     00:00:00 su

  508 tty1     00:00:00 bash

  555 tty1     00:00:00 sudo

  556 tty1     00:00:00 su

  557 tty1     00:00:00 bash

  758 tty1     00:00:00 cat

  784 tty1     00:00:00 top

  785 tty1     00:00:00 ps

Question-4.

1. Display current time and calendar (Hint: use date, cal commands)

root@LAPTOP-5GHL4L4F:/# date

Thu Mar 9 19:40:47 IST 2022

root@LAPTOP-5GHL4L4F:/# cal

     March 2022

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

2. Change the current date and time of the system to following 14th March 2017, 10:10 AM

cdac\_dbda@LAPTOP-5GHL4L4F:~$ date -s"14 MARCH 2017 10:10:00"

Tue Mar 14 10:10:00 IST 2017

cdac\_dbda@LAPTOP-5GHL4L4F:~$ date

Tue Mar 14 10:10:00 IST 2017

3. Explore following commands who, whoami, whatis, whereis, (Hint: use man pages).

cdac\_dbda@LAPTOP-5GHL4L4F:~$ whoami

cdac\_dbda

cdac\_dbda@LAPTOP-5GHL4L4F:~$ whatis ls

ls (1)               - list directory contents

cdac\_dbda@LAPTOP-5GHL4L4F:~$ ls

file.text  file.txt  file.txt~

cdac\_dbda@LAPTOP-5GHL4L4F:~$ whereis file.txt

file: /usr/bin/file /usr/lib/file /usr/share/file /usr/share/man/man1/file.1.gz