

ASSIGNMENT LINUX

Q1 1) use a command to show the current working directory - list the directory contents in the short and long format. Explore attributes given in long format. List all files along with hidden files in current working directory. - list only hidden files in the directory

```
cdac_kh@LAPTOP-T0AOSNDJ:~$ pwd
```

```
/home/cdac_kh
```

```
cdac_kh@LAPTOP-T0AOSNDJ:~$ ls
```

```
1  2 3 c1 dbda.txt dbda1.txt dbda2.txt tom5
```

```
cdac_kh@LAPTOP-T0AOSNDJ:~$ ls -l
```

```
total 24
```

```
drwxr-xr-x 2 root root 4096 Mar  9 16:31 1
```

```
drwxr-xr-x 2 root root 4096 Mar  9 16:31 2
```

```
drwxr-xr-x 2 root root 4096 Mar  9 16:31 3
```

```
drwxr-xr-x 3 root root 4096 Mar  9 16:28 c1
```

```
-rwx----- 1 root root  0 Mar 10 16:07 dbda.txt
```

```
-rw-rw---- 1 root root  0 Mar 10 16:10 dbda1.txt
```

```
----- 1 root root 92 Mar 10 16:24 dbda2.txt
```

```
drw-rw---- 2 root root 4096 Mar  9 16:36 tom5
```

```
cdac_kh@LAPTOP-T0AOSNDJ:~$ ls -a
```

```
.          .bash_logout .local    .sudo_as_admin_successful 2  dbda.txt  tom5
```

```
..         .bashrc     .motd_shown .viminfo          3  dbda1.txt
```

```
.bash_history .landscape .profile  1          c1  dbda2.txt
```

```
cdac_kh@LAPTOP-T0AOSNDJ:~$
```

2) Make a directory and name it as cdac-dir and change the current working directory to the new directory.

```
cdac_kh@LAPTOP-T0AOSNDJ:~$ ls
1 2 3 c1 dbda.txt dbda1.txt dbda2.txt tom5
cdac_kh@LAPTOP-T0AOSNDJ:~$ mkdir cdac-dir
cdac_kh@LAPTOP-T0AOSNDJ:~$ ls
1 2 3 c1 cdac-dir dbda.txt dbda1.txt dbda2.txt tom5
cdac_kh@LAPTOP-T0AOSNDJ:~$ cd cdac-dir
cdac_kh@LAPTOP-T0AOSNDJ:~/cdac-dir$ pwd
/home/cdac_kh/cdac-dir
cdac_kh@LAPTOP-T0AOSNDJ:~/cdac-dir$ cd
cdac_kh@LAPTOP-T0AOSNDJ:~$ cd ..
cdac_kh@LAPTOP-T0AOSNDJ:/home$
```

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

```
cdac_kh@LAPTOP-T0AOSNDJ:/$ sudo mkdir root1
[sudo] password for cdac_kh:
cdac_kh@LAPTOP-T0AOSNDJ:/$ cd root1
cdac_kh@LAPTOP-T0AOSNDJ:/root1$ sudo su
root@LAPTOP-T0AOSNDJ:/root1# mkdir -p a1/b1 a1/b2 a2/c1 a2/c2
root@LAPTOP-T0AOSNDJ:/root1# cd ..
root@LAPTOP-T0AOSNDJ:/# tree root1
root1
root1
├─ a1
│   ├── b1
│   └─ b2
└─ a2
    ├── c1
    └─ c2
```

```

root@LAPTOP-T0AOSNDJ:/# mkdir root2
root@LAPTOP-T0AOSNDJ:/# cd root2
root@LAPTOP-T0AOSNDJ:/root2# mkdir -p a1/b1/c1 a2/b2/c2
root@LAPTOP-T0AOSNDJ:/root2# cd ..
root@LAPTOP-T0AOSNDJ:/# tree root2
root2
├── a1
│   ├── b1
│   │   └── c1
└── a2
    ├── b2
    └── c2

```

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.

```

root@LAPTOP-T0AOSNDJ:/# cd home
root@LAPTOP-T0AOSNDJ:/home# ls
cdac_kh f1 folder1 folder2 mon tom2
root@LAPTOP-T0AOSNDJ:/home# mkdir cdac-dir
root@LAPTOP-T0AOSNDJ:/home# ls
cdac-dir cdac_kh f1 folder1 folder2 mon tom2
root@LAPTOP-T0AOSNDJ:/home# rmdir cdac-dir
root@LAPTOP-T0AOSNDJ:/home# ls
cdac_kh f1 folder1 folder2 mon tom2

```

Q2 1) 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-T0AOSNDJ:/home# man ls

```

```
root@LAPTOP-T0AOSNDJ:/home# cat > temp.txt
```

```
xscd
```

```
root@LAPTOP-T0AOSNDJ:/home# man ls
```

```
root@LAPTOP-T0AOSNDJ:/home# cat > 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 -cftuvSUX nor --sort is specified.
```

```
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

-d, --directory

list directories themselves, not their contents

root@LAPTOP-T0AOSNDJ:/home# less temp.txt

root@LAPTOP-T0AOSNDJ:/home# more 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 -cftuvSUX nor --sort is specified.

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 ~

--More--(66%)

Q2 2) Display the initial 10 lines and final 5 lines of temp.txt with the obvious Linux commands

```
root@LAPTOP-T0AOSNDJ:/home# 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).

```
root@LAPTOP-T0AOSNDJ:/home# tail -n 5 temp.txt
```

ted), 'auto', or 'never'; more info below

-d, --directory

list directories themselves, not their contents

Q2 3) Copy temp.txt to another directory and rename it there

```
root@LAPTOP-T0AOSNDJ:/home# ls
```

```
cdac_kh f1 folder1 folder2 mon temp.txt tom2
```

```
root@LAPTOP-T0AOSNDJ:/home# cp temp.txt tom2
```

```
root@LAPTOP-T0AOSNDJ:/home# cd tom2
```

```
root@LAPTOP-T0AOSNDJ:/home/tom2# ls
```

```
temp.txt
```

```
root@LAPTOP-T0AOSNDJ:/home/tom2# mv temp.txt text.txt
```

```
root@LAPTOP-T0AOSNDJ:/home/tom2# ls
```

```
text.txt
```

Q2 4) . Display the number of lines, words and characters in file using Linux command.

```
root@LAPTOP-T0AOSNDJ:/home# cat > zxc.txt
```

```
hi
```

```
hiiii
```

```
mumbai
```

```
kh
```

```
dbda
```

```
dac
```

```
cdac kh
```

```
satpute
```

```
prathamesh
```

```
by
```

```
bye bye
```

```
asd
```

```
zxc
```

```
zxcvb
```

```
mnv
```

```
qwe
```

```
root@LAPTOP-T0AOSNDJ:/home# wc -l zxc.txt
```

```
16 zxc.txt
```

```
root@LAPTOP-T0AOSNDJ:/home# wc -w zxc.txt
```

```
18 zxc.txt
```

```
root@LAPTOP-T0AOSNDJ:/home# wc -m zxc.txt
```

```
89 zxc.txt
```

Q2 5) Use history command to display last 10 commands used.

```
root@LAPTOP-T0AOSNDJ:/home# history 10
```

```
176 cd ..
```

```
177 wc -l text.txt
```

```
178 mkdir asd.txt
```

```
179 ls
```

```
180 cat > asd.txt
```

```
181 cat > zxc.txt
```

```
182 wc -l zxc.txt
```

```
183 wc -w zxc.txt
```

```
184 wc -m zxc.txt
```

```
185 history 10
```

Q3 1) Create tar archive file of any directory present in your home directory. - list the contents of the archive file without extracting

```
root@LAPTOP-T0AOSNDJ:/home# tar -cf archive.tar temp.txt
```

```
root@LAPTOP-T0AOSNDJ:/home# ls
```

```
archive.tar asd.txt cdac_kh f1 folder1 folder2 mon temp.txt tom2 zxc.txt
```

Q3 2) Create zip file of another directory. - list the contents of the zip file without extracting.

```
root@LAPTOP-T0AOSNDJ:/home# gzip zxc.txt
```

```
root@LAPTOP-T0AOSNDJ:/home# ls
```

```
archive.tar asd.txt cdac_kh f1 folder1 folder2 mon temp.txt tom2 zxc.txt.gz
```

Q3 3) Give read, write & execute permissions to your file.

```
root@LAPTOP-T0AOSNDJ:/home# ls -l
```

```
total 48
```

```
-rw-r--r-- 1 root root 10240 Mar 10 20:46 archive.tar
```



```

drwxr-xr-x 2 root  root  4096 Mar 10 20:18 asd.txt
drwxr-xr-x 10 cdac_kh cdac_kh 4096 Mar 10 17:59 cdac_kh
drwxr-xr-x 2 root  root  4096 Mar  9 11:05 f1
drwxr-xr-x 2 root  root  4096 Mar  9 15:32 folder1
drwxr-xr-x 2 root  root  4096 Mar  9 15:33 folder2
drwxr-xr-x 2 root  root  4096 Mar 10 15:50 mon
-rw-r--r-- 1 root  root  1457 Mar 10 18:52 temp.txt
drwxr-xr-x 2 root  root  4096 Mar 10 19:08 tom2
-rw-r--r-- 1 root  root   96 Mar 10 20:21 zxc.txt.gz

```

```

root@LAPTOP-T0AOSNDJ:/home# chmod 777 temp.txt

```

```

root@LAPTOP-T0AOSNDJ:/home# ls -l

```

```

total 48

```

```

-rw-r--r-- 1 root  root  10240 Mar 10 20:46 archive.tar
drwxr-xr-x 2 root  root  4096 Mar 10 20:18 asd.txt
drwxr-xr-x 10 cdac_kh cdac_kh 4096 Mar 10 17:59 cdac_kh
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drwxr-xr-x 2 root  root  4096 Mar  9 15:33 folder2
drwxr-xr-x 2 root  root  4096 Mar 10 15:50 mon
-rwxrwxrwx 1 root  root   1457 Mar 10 18:52 temp.txt
drwxr-xr-x 2 root  root  4096 Mar 10 19:08 tom2
-rw-r--r-- 1 root  root   96 Mar 10 20:21 zxc.txt.gz

```

Q3 4) Change ownership of that file

```

root@LAPTOP-T0AOSNDJ:/home# ls -l

```

```

total 48

```

```

-rw-r--r-- 1 root  root  10240 Mar 10 20:46 archive.tar
drwxr-xr-x 2 root  root  4096 Mar 10 20:18 asd.txt

```

```

drwxr-xr-x 10 cdac_kh cdac_kh 4096 Mar 10 17:59 cdac_kh
drwxr-xr-x 2 root root 4096 Mar 9 11:05 f1
drwxr-xr-x 2 root root 4096 Mar 9 15:32 folder1
drwxr-xr-x 2 root root 4096 Mar 9 15:33 folder2
drwxr-xr-x 2 root root 4096 Mar 10 15:50 mon
-rwxrwxrwx 1 root root 1457 Mar 10 18:52 temp.txt
drwxr-xr-x 2 root root 4096 Mar 10 19:08 tom2
-rw-r--r-- 1 root root 96 Mar 10 20:21 zxc.txt.gz

```

```
root@LAPTOP-T0AOSNDJ:/home# chown cdac_kh temp.txt
```

```
root@LAPTOP-T0AOSNDJ:/home# ls -l
```

```
total 48
```

```

-rw-r--r-- 1 root root 10240 Mar 10 20:46 archive.tar
drwxr-xr-x 2 root root 4096 Mar 10 20:18 asd.txt
drwxr-xr-x 10 cdac_kh cdac_kh 4096 Mar 10 17:59 cdac_kh
drwxr-xr-x 2 root root 4096 Mar 9 11:05 f1
drwxr-xr-x 2 root root 4096 Mar 9 15:32 folder1
drwxr-xr-x 2 root root 4096 Mar 9 15:33 folder2
drwxr-xr-x 2 root root 4096 Mar 10 15:50 mon
-rwxrwxrwx 1 cdac_kh root 1457 Mar 10 18:52 temp.txt
drwxr-xr-x 2 root root 4096 Mar 10 19:08 tom2
-rw-r--r-- 1 root root 96 Mar 10 20:21 zxc.txt.gz

```

Q3 5) List processes running in shell, all running processes and show top processes in decreasing order of their resource utilization.

```
root@LAPTOP-T0AOSNDJ:/home# ps
```

```
PID TTY TIME CMD
```

```
22 pts/0  00:00:00 sudo
23 pts/0  00:00:00 su
24 pts/0  00:00:00 bash
31 pts/0  00:00:00 ps
```

```
cdac_kh@LAPTOP-T0AOSNDJ:~$ cd /
```

```
cdac_kh@LAPTOP-T0AOSNDJ:/$ cd home
```

```
cdac_kh@LAPTOP-T0AOSNDJ:/home$ top
```

```
top - 22:06:25 up 21 min, 0 users, load average: 0.00, 0.00, 0.00
```

```
Tasks: 5 total, 1 running, 4 sleeping, 0 stopped, 0 zombie
```

```
%Cpu(s): 0.0 us, 0.0 sy, 0.0 ni,100.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
```

```
MiB Mem : 3802.5 total, 3681.7 free, 74.8 used, 46.0 buff/cache
```

```
MiB Swap: 1024.0 total, 1024.0 free, 0.0 used. 3624.4 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
1	root	20	0	1744	1080	1016	S	0.0	0.0	0:00.07	init
23	root	20	0	1752	68	0	S	0.0	0.0	0:00.00	init
24	root	20	0	1752	76	0	S	0.0	0.0	0:00.01	init
25	cdac_kh	20	0	10040	5104	3408	S	0.0	0.1	0:00.04	bash
38	cdac_kh	20	0	10876	3688	3176	R	0.0	0.1	0:00.03	top

Q4 1) 1. Display current time and calendar

```
root@LAPTOP-T0AOSNDJ:/# date
```

```
Thu Mar 10 21:04:25 IST 2022
```

```
root@LAPTOP-T0AOSNDJ:/# 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

Q4 2) Change the current date and time of the system to following 14th March 2017, 10:10 AM

```
cdac_kh@LAPTOP-T0AOSNDJ:/home$ sudo date -s '14 March 2017 10:10:00'
[sudo] password for cdac_kh:
Tue Mar 14 10:10:00 IST 2017
cdac_kh@LAPTOP-T0AOSNDJ:/home$ date
Tue Mar 14 10:10:09 IST 2017
cdac_kh@LAPTOP-T0AOSNDJ:/home$
```

Q4 3) Explore following commands who, whoami, whatis, whereis

```
cdac_kh@LAPTOP-T0AOSNDJ:/home$ whoami
cdac_kh
cdac_kh@LAPTOP-T0AOSNDJ:/home$ whatis man
man (1)      - an interface to the system reference manuals
man (7)      - macros to format man pages
cdac_kh@LAPTOP-T0AOSNDJ:/home$ whereis zxc.txt
zxc:
```