

1. How do you use the "cp" command to copy a file named "file.txt" from the current directory to a directory named "backup"?

Syntax – source\_file destination\_file

```
vk@vk-VirtualBox:~$ cp file2.txt file3.txt
vk@vk-VirtualBox:~$
```

2. What is the difference between the "rm" and "rm -r" commands in Linux?

'rm' command is used to remove / delete file or directory.

'rm -r' command is used to remove directory forcefully.

```
vaibhav@VK:~$ sudo ls
[sudo] password for vaibhav:
vk123
vaibhav@VK:~$ rm -r vk123
```

```
vk@vk-VirtualBox:~$ rm new2.txt
vk@vk-VirtualBox:~$
```

3. How do you use the "mv" command to rename a file named "oldname.txt" to "newname.txt"?

'mv' command is used to rename a file.

Syntax - mv file1.txt file2.txt

```
vk@vk-VirtualBox:~$ mv file2.txt file6.txt
vk@vk-VirtualBox:~$
```

4. What does the "pwd" command do in Linux?

'pwd' command stands for print working directory. It will print full path of your current directory. This command is useful for navigating through your system file structure.

```
vaibhav@VK:~$ pwd
/home/vaibhav
```

5. How do you create a new empty file named "newfile.txt" in the current directory using the command line?

You can use cat method to create empty file.

Syntax – cat > file\_name.txt

```
vk@vk-VirtualBox:~$ cat > file.txt
vk@vk-VirtualBox:~$
```

6. How do you rename a file named "oldname.txt" to "newname.txt" using the command line?

We can use mv command to rename any kind of file.

```
vk@vk-VirtualBox:~$ mv file2.txt file6.txt
vk@vk-VirtualBox:~$
```

7. How do you remove a file named "file.txt" from the current directory using the command line?

We can use 'rm' command to remove particular file.

```
vk@vk-VirtualBox:~$ rm file.txt
vk@vk-VirtualBox:~$
```

8. Use a command to show the current working directory

We can use 'pwd' command stands for 'Print Working Directory'.

```
vaibhav@VK:~$ pwd
/home/vaibhav
```

9. List the directory contents in the short and long format.

```
vaibhav@VK:~$ pwd
/home/vaibhav
```

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

We can use 'ls -l' command here. shows files / directories , size , modified date , time, files and folder names , owner of the files and its permission.

```
vk@vk-VirtualBox:~$ ls -l
total 88
drwxr-xr-x 2 vk vk 4096 Mar 17 12:11 Desktop
-rw-rw-r-- 1 vk vk 23 Mar 18 15:08 dest.txt
drwxr-xr-x 2 vk vk 4096 Mar 18 16:00 Documents
drwxr-xr-x 2 vk vk 4096 Mar 17 12:11 Downloads
-rw-rw-r-- 1 vk vk 37 Mar 19 00:05 file3.txt
-rw-rw-r-- 1 vk vk 37 Mar 18 14:30 file5.txt
-rw-rw-r-- 1 vk vk 37 Mar 18 21:58 file6.txt
drwxr-xr-x 2 vk vk 4096 Mar 17 12:11 Music
-rw-rw-r-- 1 vk vk 22 Mar 18 15:51 new3.tct
-rw-rw-r-- 1 vk vk 30 Mar 18 15:50 new.txt
drwxr-xr-x 2 vk vk 4096 Mar 17 12:11 Pictures
drwxr-xr-x 2 vk vk 4096 Mar 17 12:11 Public
-rw-rw-r-- 1 vk vk 23 Mar 18 15:08 source.txt
drwxr-xr-x 2 root root 4096 Mar 18 11:36 t1
drwxrwxr-x 3 vk vk 4096 Mar 18 21:41 t10
drwxrwxr-x 3 vk vk 4096 Mar 18 21:46 t15a
drwxrwxr-x 3 vk vk 4096 Mar 18 21:46 t15b
drwxrwxr-x 3 vk vk 4096 Mar 18 11:52 t5
drwxrwxr-x 3 vk vk 4096 Mar 18 11:55 t8
drwxrwxr-x 3 vk vk 4096 Mar 18 11:55 t9
drwxr-xr-x 2 vk vk 4096 Mar 17 12:11 Templates
drwxr-xr-x 2 vk vk 4096 Mar 17 12:11 Videos
vk@vk-VirtualBox:~$
```

11. List all files along with hidden files in the current working directory.

We can use 'ls -a' used to print all the list of files including hidden files.

```
vk@vk-VirtualBox:~$ ls -a
.      .bashrc  dest.txt  file5.txt  .mozilla  Pictures  .ssh      t15a  t9
..     .cache   Documents file6.txt  Music     .profile  .sudo_as_admin_successful t15b  Templates
.bash_history .config  Downloads .gnupg     new3.tct  Public    t1        t5    Videos
.bash_logout  Desktop  file3.txt .local     new.txt   source.txt t10       t8
vk@vk-VirtualBox:~$
```

12. list only hidden files in the directory.

We can use 'ls -a' used to print all the list of files including hidden files.

```

vk@vk-VirtualBox:~$ ls -a
.          .bashrc  dest.txt  file5.txt  .mozilla  Pictures  .ssh          t15a  t9
..         .cache  Documents file6.txt  Music     .profile  .sudo_as_admin_successful t15b  Templates
.bash_history .config Downloads .gnupg    new3.tct  Public    t1          t5     Videos
.bash_logout Desktop  file3.txt .local    new.txt   source.txt t10         t8
vk@vk-VirtualBox:~$

```

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

```

vk@vk-VirtualBox:~$ sudo -i
[sudo] password for vk:
root@vk-VirtualBox:~# sudo ls
snap  t1  t10
root@vk-VirtualBox:~# mkdir cdac-dir
root@vk-VirtualBox:~# 123
123: command not found
root@vk-VirtualBox:~# sudo ls
cdac-dir  snap  t1  t10
root@vk-VirtualBox:~# cd cdac-dir
root@vk-VirtualBox:~/cdac-dir#
root@vk-VirtualBox:~/cdac-dir#

```

### 13.3.1

```

vaibhav@VK:~$ mkdir -p a1/b1 b2 a2/c1 c2
vaibhav@VK:~$ tree -p
[drwxr-x---] .
├── [drwxr-xr-x] a1
│   └── [drwxr-xr-x] b1
├── [drwxr-xr-x] a2
│   └── [drwxr-xr-x] c1
├── [drwxr-xr-x] b2
└── [drwxr-xr-x] c2

6 directories, 0 files

```

### 13.3.2

```

vaibhav@VK:~$ mkdir -p a1/b1/c1 , a2/b2/c2
vaibhav@VK:~$ tree -p
[drwxr-x---] .
├── [drwxr-xr-x] ,
├── [drwxr-xr-x] a1
│   └── [drwxr-xr-x] b1
│       └── [drwxr-xr-x] c1
├── [drwxr-xr-x] a2
│   └── [drwxr-xr-x] b2
│       └── [drwxr-xr-x] c2
└── [drwxr-xr-x] b2
    └── [drwxr-xr-x] c2

7 directories, 0 files

```

14. Explore the man page of **mkdir**.

## NAME

`mkdir - make directories`

## SYNOPSIS

`mkdir [OPTION]... DIRECTORY...`

## DESCRIPTION

Create the DIRECTORY(ies), if they do not already exist.

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

`-m, --mode=MODE`

set file mode (as in `chmod`), not `a=rwx -umask`

`-p, --parents`

no error if existing, make parent directories as needed

`-v, --verbose`

print a message for each created directory

`-Z`

set SELinux security context of each created directory to the default type

15. List the directories(folders), then remove the **cdac-dir** directory and list the folders again to show that it is no longer present.

```
vk@vk-VirtualBox:/root$ sudo ls
[sudo] password for vk:
a1 cdac-dir snap t1 t10
vk@vk-VirtualBox:/root$ sudo rmdir cdac-dir
vk@vk-VirtualBox:/root$ sudo ls
a1 snap t1 t10
vk@vk-VirtualBox:/root$
```

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17. 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.

Use **man ls > temp.txt** to redirect the contents to 'temp.txt'. '**less**' command will open 'temp.txt' file completely. '**more**' command will open the 10% of 'temp.txt' file.

```
vk@vk-VirtualBox:~$ man ls > temp.txt
vk@vk-VirtualBox:~$ 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 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
```

```
vk@vk-VirtualBox:~$ less temp.txt
vk@vk-VirtualBox:~$
```

```
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
```

```

vk@vk-VirtualBox:~$ 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 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

```

18. Display the initial 10 lines and final 5 lines of **temp.txt** with the obvious Linux commands.

```

vaibhav@VK:~$ head temp.txt
hello guys
myself vaibhav khandekar
im from mumbai
im pursuing pg-dbda
from cdac mumbai
in march 2023 batch.
task we have to complete -
assignments
viva
module-end exam
vaibhav@VK:~$ tail -n 5 temp.txt
assignments
viva
module-end exam
ccee exam
placements

```

19. Copy **temp.txt** to another directory and rename it there.

```

vk@vk-VirtualBox:~$ cat > temp.txt
hello guys myself vkvk@vk-VirtualBox:~$
vk@vk-VirtualBox:~$ cp temp.txt t5
vk@vk-VirtualBox:~$ cd t5
vk@vk-VirtualBox:~/t5$ ls
t6 temp.txt
vk@vk-VirtualBox:~/t5$ mv temp.txt final.txt
vk@vk-VirtualBox:~/t5$ ls
final.txt t6
vk@vk-VirtualBox:~/t5$ cat final.txt
hello guys myself vkvk@vk-VirtualBox:~/t5$

```

20. Display the number of lines, words and characters in file using Linux command.

```

131 history
vk@vk-VirtualBox:~/t5$ wc final.txt
0 4 20 final.txt

```

21. Use history command to display the last 10 commands used.

```

vaibhav@VK:~$ history 10
111 osname
112 uname
113 whoami
114 sudo apt install rename
115 cal
116 pwd
117 ls /mnt
118 ls
119 pwd
120 history 10

```

22. Create a tar archive file of any directory present in your home directory.

```

vaibhav@VK:~$ tar -cvf demo.tar temp.txt
temp.txt
vaibhav@VK:~$ ls
Assignment2  even.sh  files          newfile.txt  numbers.sh  shell-script  zipfile.zip
demo.tar    file.txt  hardlink.txt  number.sh    odd.sh      temp.txt
vaibhav@VK:~$

```

23. Create a zip file of another directory and list the contents of the zip file without extracting.

```

vk@vk-VirtualBox:~$ zip zipfile temp.txt
adding: temp.txt (stored 0%)
vk@vk-VirtualBox:~$ unzip -lzipfile
error: -fn or any combination of -c, -l, -p, -t, -u and -v options invalid
600
vk@vk-VirtualBox:~$ unzip -l zipfile
Archive: zipfile.zip
Length Date Time Name
-----
20 2023-03-19 14:54 temp.txt
-----
20 1 file
vk@vk-VirtualBox:~$

```

24. Give read, write & execute permissions to your file.

```
vk@vk-VirtualBox:~$ chmod +rwx new.txt
vk@vk-VirtualBox:~$ ls -l
```

```
-rwxrwxr-x 1 vk vk 30 Mar 18 15:50 new.txt
```

25. Change ownership of that file.

```
vk@vk-VirtualBox:~$ sudo chown vaibhav new.txt
[sudo] password for vk:
vk@vk-VirtualBox:~$
```

```
-rwxrwxr-x 1 vaibhav vk 30 Mar 18 15:50 new.txt
```

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

```
vaibhav@VK:~$ ps
  PID TTY          TIME CMD
   10 pts/0    00:00:00 bash
  230 pts/0    00:00:00 ps
vaibhav@VK:~$ top
top - 09:47:15 up 53 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 :  7799.7 total,  7505.0 free,   104.2 used,   190.5 buff/cache
MiB Swap:  2048.0 total,  2048.0 free,    0.0 used.  7473.9 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM     TIME+ COMMAND
   1 root        20   0   1816   1188  1108  S   0.0   0.0   0:00.05 init
   8 root        20   0   2164    364    0  S   0.0   0.0   0:00.00 init
   9 root        20   0   2172    364    0  S   0.0   0.0   0:00.27 init
  10 vaibhav    20   0  6204   5352  3520  S   0.0   0.1   0:00.39 bash
 231 vaibhav    20   0  7788   3732  3140  R   0.0   0.0   0:00.01 top
```

27. Display current time and calendar and change the current date and time of the system to following 14th March 2024, 10:10 AM.

```
vk@vk-VirtualBox:~$ date
Sunday 19 March 2023 03:53:25 PM IST
vk@vk-VirtualBox:~$
```

```
vk@vk-VirtualBox:~$ sudo -i
root@vk-VirtualBox:~# date --set "14 MAR 2024 10:10:00"
Thursday 14 March 2024 10:10:00 AM IST
```

```
root@vk-VirtualBox:~# date
Thursday 14 March 2024 10:10:17 AM IST
root@vk-VirtualBox:~#
```

28.

29. A. **who** – who command is used to get current user details with login information.

```
vk@vk-VirtualBox:/root$ who
vk          :0                2023-03-19 13:52 (:0)
```

B. **whoami** – whoami command is used to print username of the current user.

```
vk@vk-VirtualBox:/root$ whoami
vk
```

C. **whatis** – whatis command is used to print one line description about particular command.



```
vk@vk-VirtualBox:/root$ whatis whoami
whoami (1)          - print effective userid
vk@vk-VirtualBox:/root$ whatis whatis
whatis (1)          - display one-line manual page descriptions
vk@vk-VirtualBox:/root$
```

D. whereis – whereis command is used to locate binary, source and manual page files.

```
vk@vk-VirtualBox:/root$ whereis new.txt
new:
```

30. Create one directory named linux. cd to that directory and create one file named **testperms.txt**. Check permissions of that file. Check value of **umask**. Change the value of umask and create one new file **newtestperms.txt** and check its permissions. Note down the difference.

```
vaibhav@VK:~$ mkdir linux && cd linux
vaibhav@VK:~/linux$ touch testpermission.txt
vaibhav@VK:~/linux$ ls -l
total 0
-rw-r--r-- 1 vaibhav vaibhav 0 Mar 24 09:50 testpermission.txt
vaibhav@VK:~/linux$ umask
0022
```

```
vaibhav@VK:~/linux$ umask -S
u=rwx,g=rx,o=rx
vaibhav@VK:~/linux$ umask 0002
vaibhav@VK:~/linux$ touch newpermission.txt
vaibhav@VK:~/linux$ ls -l
total 0
-rw-rw-r-- 1 vaibhav vaibhav 0 Mar 24 10:20 newpermission.txt
-rw-r--r-- 1 vaibhav vaibhav 0 Mar 24 09:50 testpermission.txt
vaibhav@VK:~/linux$
```

31. Create a file and name it as file1.txt and create a hardlink to this file.

```
vaibhav@VK:~$ vim newfile.txt
vaibhav@VK:~$ ln newfile.txt hardlink.txt
vaibhav@VK:~$ ls
Assignment2  even.sh  file.txt  files  hardlink.txt  newfile.txt
vaibhav@VK:~$ cat hardlink.txt
hello guys, good morning all!
vaibhav@VK:~$
```

- 32.

```
vaibhav@VK:~$ ln -s temp.txt sl.txt
vaibhav@VK:~$ ls
Assignment2  even.sh  files  hl.txt  newfile.txt  numbers.sh  shell-script  temp.txt
demo.tar    file.txt  hardlink.txt  linux  number.sh  odd.sh      sl.txt        zipfile.zip
```

- 33.

- 34.

- 35.

36.

37.

38. How do you remove a directory named "mydir" and all of its contents using the command line?

```
vk@vk-VirtualBox:~$ ls
Desktop  Documents  Downloads  file.txt  Music  mydir  Pictures  Public  Templates  temp.txt  Videos
vk@vk-VirtualBox:~$ rm -r mydir
vk@vk-VirtualBox:~$ ls
Desktop  Documents  Downloads  file.txt  Music  Pictures  Public  Templates  temp.txt  Videos
vk@vk-VirtualBox:~$
```

39. How do you use the "ls" command to list all files and directories in the current directory?

```
vk@vk-VirtualBox:~$ ls
Desktop  Documents  Downloads  file.txt  Music  mydir  Pictures  Public  Templates  temp.txt  Videos
```

40. How do you create a new file named "myfile.txt" in the directory "/home/user/documents" using the command line?

```
vk@vk-VirtualBox:~/Documents$ cd /home/vk/Documents && touch myfile.txt
vk@vk-VirtualBox:~/Documents$ cd home && cd vk && cd Documents && ls
bash: cd: home: No such file or directory
vk@vk-VirtualBox:~/Documents$ ls
myfile.txt
vk@vk-VirtualBox:~/Documents$
```

41. How do you use the "grep" command to search for a specific word or phrase in multiple files at once?

```
vk@vk-VirtualBox:~$ vi file.txt
vk@vk-VirtualBox:~$ grep "hello" file.txt
hello guys myself vk
```

42. How do you create a new directory named "mydir" and set its permissions to read, write, and execute for the owner and read and execute for everyone else?

```
vaibhav@VK:~$ mkdir dir
vaibhav@VK:~$ ls -l
total 72
drwxrwxr-x 2 vaibhav vaibhav 4096 Mar 23 23:21 Assignment2
-rw-r--r-- 1 vaibhav vaibhav 10240 Mar 24 09:45 demo.tar
drwxr-xr-x 2 vaibhav vaibhav 4096 Mar 24 10:43 dir
vaibhav@VK:~$ chmod 777 dir
vaibhav@VK:~$ ls -l
total 72
drwxrwxr-x 2 vaibhav vaibhav 4096 Mar 23 23:21 Assignment2
-rw-r--r-- 1 vaibhav vaibhav 10240 Mar 24 09:45 demo.tar
drwxrwxrwx 2 vaibhav vaibhav 4096 Mar 24 10:43 dir
```

43. How do you use the "tar" command to create a compressed archive of all files in the current directory and its subdirectories?

```

vaibhav@VK:~$ ls
Assignment2  data.txt  file.txt  hl.txt  newfile.txt  odd.sh  shell-script  trial.txt
Assignment3  files     link.txt  number.sh  one          sl.txt      zipfile.zip
ass2.zip     even.sh  hardlink.txt  linux    numbers.sh  robots.txt  temp.txt
vaibhav@VK:~$ tar -cvf files.tar files
files/
files/file.txt
files/new.txt
files/testpermission.txt
files/new
vaibhav@VK:~$ ls
Assignment2  data.txt  file.txt  hardlink.txt  linux    numbers.sh  robots.txt  temp.txt
Assignment3  files     hl.txt    newfile.txt  odd.sh   shell-script  trial.txt
ass2.zip     even.sh  files.tar  link.txt     number.sh  one          sl.txt      zipfile.zip
vaibhav@VK:~$ |

```

44. How do you use the "chmod" command to give read and write permissions to the owner and group for a file named "file.txt"?

```

vaibhav@VK:~$ chmod 660 hl.txt
vaibhav@VK:~$ ls -l hl.txt
-rw-rw---- 2 vaibhav vaibhav 191 Mar 24 07:17 hl.txt
vaibhav@VK:~$ |

```

45. How do you find the size of a file named "file.txt" in bytes, kilobytes, and megabytes using the command line?

```

vaibhav@VK:~$ du files
12      files
vaibhav@VK:~$ stat -c "%s" files
4096
vaibhav@VK:~$ du -k files
12      files
vaibhav@VK:~$ du -m files
1       files
vaibhav@VK:~$ |

```

46. How do you use the "awk" command to extract a specific column from a comma-separated value (CSV) file and sort it in reverse order?

```

vaibhav@VK:~/Assignment1$ cat > awkdemo.csv
v,a,i,b,h,a,v
s,a,y,a,l,i
vaibhav@VK:~/Assignment1$ awk -F',' '{print $3}' awkdemo.csv | sort -r
y
i
vaibhav@VK:~/Assignment1$ |

```

47. How do you use the "sed" command to replace all occurrences of a word or phrase in a file with a different word or phrase?

```

vaibhav@VK:~$ cat file.txt
hello guys
good morning, myself vk
im persuing pg-dbda at cdac mumbai
its solved.
vaibhav@VK:~$ sed 's/guys/everyone/g' file.txt
hello everyone
good morning, myself vk
im persuing pg-dbda at cdac mumbai
its solved.
vaibhav@VK:~$ |

```

48. How do you use the "find" command to search for all files in a directory and its subdirectories that were modified within the last 24 hours?

```

vaibhav@VK:~$ find -newermt "-24 hours" -ls
 474      4 drwxr-x--- 11 vaibhav vaibhav    4096 Mar 28 12:52 .
11566    4 drwxr-xr-x  4 vaibhav vaibhav    4096 Mar 28 12:18 ./Assignment3
11743    4 -rw-r--r--  1 vaibhav vaibhav      99 Mar 27 14:58 ./Assignment3/49.sh
11726    0 -rw-r--r--  1 vaibhav vaibhav       0 Mar 27 14:48 ./Assignment3/2.txt
11730    4 -rw-r--r--  1 vaibhav vaibhav    227 Mar 27 15:13 ./Assignment3/30.sh
11567    4 drwxr-xr-x  2 vaibhav vaibhav    4096 Mar 28 12:18 ./Assignment3/A1
11742    4 -rw-r--r--  1 vaibhav vaibhav    123 Mar 27 14:51 ./Assignment3/47.sh
11736    0 -rw-r--r--  1 vaibhav vaibhav       0 Mar 27 14:48 ./Assignment3/5.txt
11733    4 -rw-r--r--  1 vaibhav vaibhav    306 Mar 28 12:09 ./Assignment3/29.sh
11709    4 -rw-r--r--  1 vaibhav vaibhav     60 Mar 27 14:30 ./Assignment3/36.sh
11693    4 drwxr-xr-x  2 vaibhav vaibhav    4096 Mar 27 14:48 ./Assignment3/ABC
11738    0 -rw-r--r--  1 vaibhav vaibhav       0 Mar 27 14:48 ./Assignment3/ABC/2.txt
11741    0 -rw-r--r--  1 vaibhav vaibhav       0 Mar 27 14:48 ./Assignment3/ABC/5.txt
11740    0 -rw-r--r--  1 vaibhav vaibhav       0 Mar 27 14:48 ./Assignment3/ABC/4.txt
11737    0 -rw-r--r--  1 vaibhav vaibhav       0 Mar 27 14:48 ./Assignment3/ABC/1.txt
11739    0 -rw-r--r--  1 vaibhav vaibhav       0 Mar 27 14:48 ./Assignment3/ABC/3.txt
11735    0 -rw-r--r--  1 vaibhav vaibhav       0 Mar 27 14:48 ./Assignment3/4.txt
11724    4 -rw-r--r--  1 vaibhav vaibhav    168 Mar 27 14:15 ./Assignment3/31.sh
11734    0 -rw-r--r--  1 vaibhav vaibhav       0 Mar 27 14:48 ./Assignment3/3.txt
29353    0 -rw-r--r--  1 vaibhav vaibhav       0 Mar 28 11:37 ./motd_shown
 5490    4 drwxrwxr-x  5 vaibhav vaibhav    4096 Mar 28 12:37 ./Assignment2
11646    4 -rw-r--r--  1 vaibhav vaibhav    315 Mar 28 11:57 ./Assignment2/6.sh
11694    4 -rw-r--r--  1 vaibhav vaibhav    152 Mar 28 12:36 ./Assignment2/11.sh
 1108    12 -rw-r--r--  1 vaibhav vaibhav   10240 Mar 28 12:29 ./files.tar
11652    20 -rw-----  1 vaibhav vaibhav   16814 Mar 28 12:37 ./vminfo
11600    4 drwxr-xr-x  2 vaibhav vaibhav    4096 Mar 28 12:52 ./Assignment1
11744    4 -rw-r--r--  1 vaibhav vaibhav     26 Mar 28 12:53 ./Assignment1/awkdemo.csv
11705    4 -rw-----  1 vaibhav vaibhav     20 Mar 28 12:25 ./lessht
11649    4 -rw-r--r--  1 vaibhav vaibhav     61 Dec 12 2023 ./files/new.txt

```

49. How do you use the "diff" command to compare two files and show only the lines that are different between them?

```

vaibhav@VK:~/Assignment1$ cat file1.txt
hello guys
good morning all!
vaibhav@VK:~/Assignment1$ cat file2.txt
hello guys
good afternoon all!
vaibhav@VK:~/Assignment1$ diff file1.txt file2.txt
2c2
< good morning all!
---
> good afternoon all!
vaibhav@VK:~/Assignment1$ |

```

50. How do you use the "rsync" command to synchronize the contents of two directories, including all subdirectories and files, while preserving file permissions and ownerships?
51. How do you use the "cut" command to extract a specific range of characters or bytes from a file?

```

vaibhav@VK:~/Assignment1$ cat file1.txt
hello guys
good morning all!
vaibhav@VK:~/Assignment1$ cut -d' ' -f1-2 file1.txt
hello guys
good morning

```

52. How do you use the "tar" command to extract a specific file or directory from a compressed archive without extracting the entire archive?
53. How do you use the "awk" command to count the number of occurrences of a specific word or phrase in a file?