

2) Write down Linux commands for following statements:

i. Redirect the output of ls command to a file named outfile. Use this as an input file

for remaining commands. ii. To select the lines in a file which has digit as one of the character in that

line and redirect the output to the file named list

`ls > outfile.txt`

`ls >> outfile.txt` for writing contents of terminal to file without deletion

. ii. To select the lines in a file which has digit as one of the character in that line and redirect the output to the file named list.

`grep '[0-9]' file >> list.txt`

. iii. Assign execute permission to owner and remove read permission from other for an ordinary file named test by relative way.

`ls -l`

displays permissions of files.

`chmod [ugoa][[+|=][mode]] file`

- The first optional parameter indicates who – this can be (u)ser, (g)roup, (o)thers or (a)ll
- The second optional parameter indicates opcode – this can be for adding (+), removing (-) or assigning (=) permission.
- The third optional parameter indicates the mode – this can be (r)ead, (w)rite, or e(x)ecute.

iv. Create an alias named rm that always deletes file interactively.

`alias rm='rm -i'`

v. Count the currently login users to the system.

3)

Write down Linux commands for following statements: i. Redirect the output of cat command to a file named outfile. Use this as an input file for remaining commands

```
yash@DELL:~/ESE$ cat list.txt
```

```
Sun Dec 11 09:05:58 AM IST 2022
```

```
yash@DELL:~/ESE$ cat list.txt >> outfile.txt
```

```
yash@DELL:~/ESE$
```

List all hidden files under current directory and store in “hidden” file

```
yash@DELL:~/ESE$ ls -a
```

```
. .. 1.Yash 3.check.doc list.txt outfile.txt outputfile.txt test.txt
```

```
yash@DELL:~/ESE$ ls -a >> hidden.doc
```

```
yash@DELL:~/ESE$ ls -a >> hidden.txt
```

```
yash@DELL:~/ESE$
```

Assign write permission to owner and remove execute permission from other for an ordinary file named test by

```
chmod ugo+rw file name
```

```
4      read
```

```
2      write
```

```
1      execute
```

To create soft and hard

A **symbolic** or **soft link** is an actual link to the original file, whereas a **hard link** is a mirror copy of the original file. If you delete the original file, the soft link has no value, because it points to a non-existent file.

Hard link

```
$ ln source.file hardlink.file
```

Soft link

```
ln -s source.file softlink.file
```

to convert lowercase to upper case of a given file

```
yash@DELL:~/ESE$ cat hidden.txt | tr [:lower:] [:upper:]
```

.

..

1.YASH

3.CHECK.DOC

HIDDEN.DOC

HIDDEN.TXT

LIST.TXT

OUTFILE.TXT

OUTPUTFILE.TXT

TEST.TXT

To extract 1st and 10th character of a given file

```
yash@DELL:~/ESE$ cat list.txt
```

Sun Dec 11 09:05:58 AM IST 2022

```
yash@DELL:~/ESE$ cat list.txt | cut -c1,10
```

S1

To display how many times lines are repeated in a given file

```
yash@DELL:~/ESE$ cat outputfile.txt
```

outputfile.txt

YASH HERE

Sun Dec 11 09:05:58 AM IST 2022

My name is yash

I am from nashik

YASH HERE

```
yash@DELL:~/ESE$ sort outputfile.txt | uniq -c
```

```
1 I am from nashik
1 My name is yash
1 outputfile.txt
1 Sun Dec 11 09:05:58 AM IST 2022
2 YASH HERE
```

18. Write down Linux commands for following statements: i. To redirect the output of cp command to a file named outfile. Use this as an input file for remaining commands.

1. cp **<existing file name>** **<new file name>**

ii. To select the lines in a file which has 4 letter words in that line and redirect the output to the file named list.

```
yash@DELL:~/ESE$ grep -w '....' out.txt
```

```
Hello This is yash
from vit college pune
nice to meet you
yash@DELL:~/ESE$
```

iii. Assign write permission to owner and remove read permission from group user for an ordinary file named test by relative way.

```
yash@DELL:~/ESE$ chmod 200 test.txt
```

```
yash@DELL:~/ESE$ ls -l
```

```
total 8
-rw-r--r-- 1 yash yash 59 Dec 11 12:19 output.txt
-rw-r--r-- 1 yash yash 59 Dec 11 12:20 out.txt
--w----- 1 yash yash  0 Dec 11 12:33 test.txt
```

iv. Create an alias named ls that always lists all the files including hidden files.

```
yash@DELL:~/ESE$ alias ls="ls -a"
```

```
yash@DELL:~/ESE$ ls
```

```
. .. output.txt out.txt test.txt
```

```
yash@DELL:~/ESE$
```

v. Count the number of words in the list fi

```
yash@DELL:~/ESE$ wc -w out.txt
```

```
12 out.txt
```

```
yash@DELL:~/ESE$
```

19. Write down Linux commands for following statements: a. Redirect the output of mv command to a file named outfile. Use this as an input file for remaining commands.

```
cp out.txt output14.txt
```

b. List all hidden files under current directory and store in “hidden” file

```
ls > hidden.txt
```

c. Assign write permission to group user and remove execute permission from owner for an ordinary file named test by absolute way

```
ls -l
```

```
total 24
```

```
drwxr-xr-x 2 yash yash 4096 Dec 11 12:55 .
```

```
drwxr-x--- 10 yash yash 4096 Dec 11 09:57 ..
```

```
-rw-r--r-- 1 yash yash 57 Dec 11 12:55 hidden.txt
```

```
-rw-r--r-- 1 yash yash 59 Dec 11 12:53 output14.txt
```

```
-rw-r--r-- 1 yash yash 59 Dec 11 12:19 output.txt
```

```
-rw-r--r-- 1 yash yash 59 Dec 11 12:20 out.txt
```

```
--w----- 1 yash yash 0 Dec 11 12:33 test.txt
```

```
yash@DELL:~/ESE$ chmod 266 test.txt
```

```
yash@DELL:~/ESE$ ls -l
```

total 24

drwxr-xr-x 2 yash yash 4096 Dec 11 12:55 .

drwxr-x--- 10 yash yash 4096 Dec 11 09:57 ..

-rw-r--r-- 1 yash yash 57 Dec 11 12:55 hidden.txt

-rw-r--r-- 1 yash yash 59 Dec 11 12:53 output14.txt

-rw-r--r-- 1 yash yash 59 Dec 11 12:19 output.txt

-rw-r--r-- 1 yash yash 59 Dec 11 12:20 out.txt

--w-rw-rw- 1 yash yash 0 Dec 11 12:33 test.txt

d. To create soft and hard link for given file

yash@DELL:~/ESE\$ ln -s out.txt softlink.txt

total 24

drwxr-xr-x 2 yash yash 4096 Dec 11 13:00 .

drwxr-x--- 10 yash yash 4096 Dec 11 09:57 ..

-rw-r--r-- 1 yash yash 57 Dec 11 12:55 hidden.txt

-rw-r--r-- 1 yash yash 59 Dec 11 12:53 output14.txt

-rw-r--r-- 1 yash yash 59 Dec 11 12:19 output.txt

-rw-r--r-- 1 yash yash 59 Dec 11 12:20 out.txt

lrwxrwxrwx 1 yash yash 7 Dec 11 13:00 softlink.txt -> out.txt

--w-rw-rw- 1 yash yash 0 Dec 11 12:33 test.txt

yash@DELL:~/ESE\$ cat softlink.txt

Hello This is yash

from vit college pune

nice to meet you

e. To convert lowercase to upper case of a given file f. To extract 2 nd and 3 rd character of a given file

cat out.txt | cut -c1,3

Hi

fo

nc

g. To display how many times lines are repeated in a given file

```
sort out.txt | uniq -c
```

```
1 from vit college pune
```

```
1 Hello This is yash
```

```
1 nice to meet you
```

Bash

-eq is equal to if ["\$a" -eq "\$b"]

-gt is greater than if ["\$a" -gt "\$b"]

-ge is greater than or equal to if ["\$a" -ge "\$b"]

-lt is less than if ["\$a" -lt "\$b"]

-le is less than or equal to if ["\$a" -le "\$b"]

-le

Recursive factorial

```
#!/bin/bash
```

```
factorial()
{
    if (( $1 <= 1 )); then
        echo 1
    else
        last=$(factorial $(( $1 - 1 )))
        echo $(( $1 * last ))
    fi
}
factorial 5
```