1. Write a shell script to find greatest amongst three numbers.

```
Clear
echo "Enter three numbers: "
read a b c
if [ $a -ge $b ] && [ $a -ge $c ]; then
echo "$a is the greatest"
elif [ $b -ge $a ] && [ $b -ge $c ]; then
echo "$b is the greatest"
else
echo "$c is the greatest"
fi
```

```
Enter three numbers:
12 67 45
67 is the greatest

13 03/09/2024

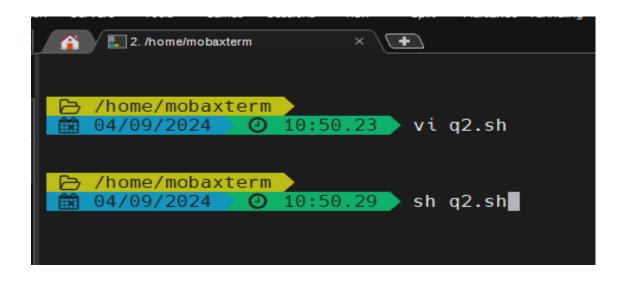
21:03.29

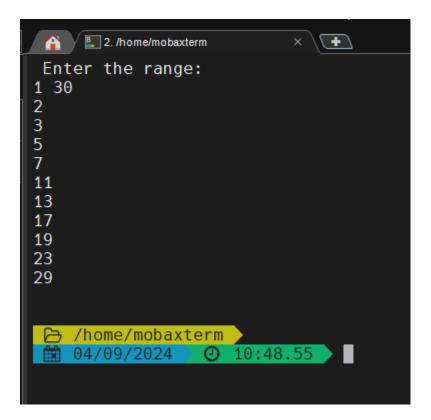
home/mobaxterm
```

2. Write a shell script to find all prime numbers in given range.



```
👔 🖳 2. /home/mobaxterm
                           × / 🛨
clear
echo " Enter the range: "
read start end
for ((num=$start; num<=$end; num++))</pre>
  if [ $num -le 1 ]; then
        continue
  is prime=1
  for((i=2; i<=num/2;i++))
    if [ $((num % i)) -eq 0 ]; then
        is prime=0
        break
    fi
  done
  if [ $is_prime -eq 1 ]; then
        echo "$num"
  fi
done
```





3. Write a shell script to draw following pattern.

*

* *

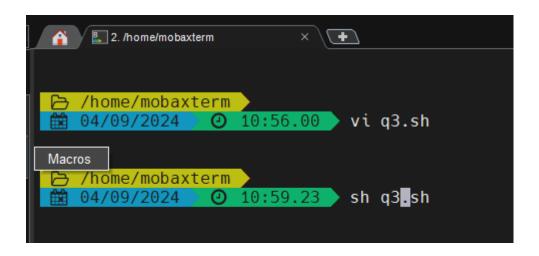
* * *

* * * *

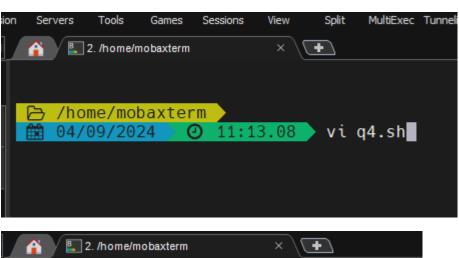
* * * * *



```
Clear
for ((i=1; i<=5; i++))
do
for ((j=2; j<=i; j++))
do
echo -n "* "
done
echo
done
```



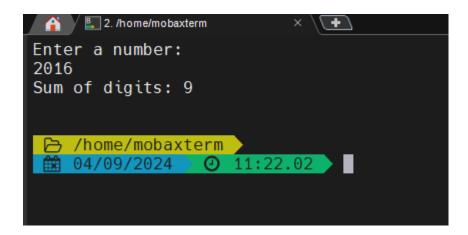
4. Write a shell script to find sum of digits of a number.



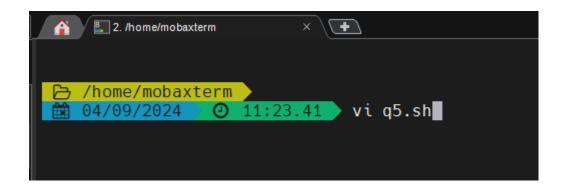
```
clear

echo "Enter a number: "
read num
sum=0
while [ $num -gt 0 ]
do
    digit=$((num % 10))
    sum=$((sum + digit))
    num=$((num / 10))
done
echo "Sum of digits: $sum"
~
```

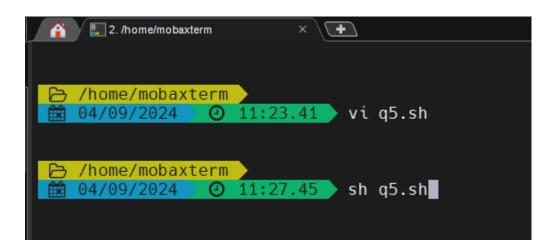




5. Write a shell script to print fibonacci series upto entered value N.



```
👔 🖳 2. /home/mobaxterm
                           × / 🛨
clear
echo "Enter a value of N: "
read N
a=0
b=1
echo "Fibonacci Series: "
echo "$a"
echo "$b"
for ((i=2; i<=N; i++))
  fib=$((a+b))
  echo "$fib"
 a=$b
 b=$fib
done
```

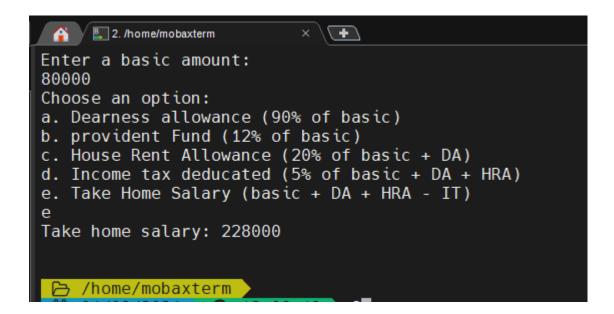


```
2. /home/mobaxterm
                               × \+
Enter a value of N:
20
Fibonacci Series:
1
1
2
3
5
8
13
21
34
55
89
144
233
377
610
987
1597
2584
4181
6765
```

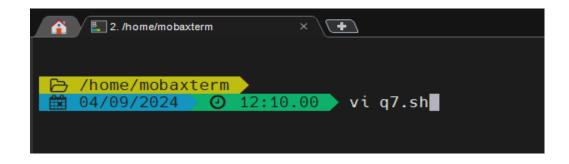
- 6. Write a menu driven shell script which accepts basic amount as an input and displays following options.
- a. Dearness allowance (90% of basic)
- b. Provident Fund F (12% of basic)
- c. House Rent Allowance (20% of basic + DA)
- d. Income tax deducted (5% of basic + DA + HRA)
- e. Take home salary (basic + DA + HRA IT)

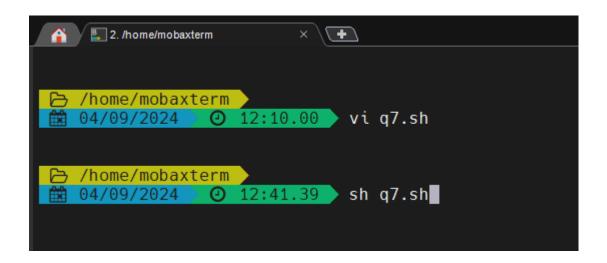
```
👔 🗸 🛂 2. /home/mobaxterm
                             (+)
clear
echo "Enter a basic amount: "
read basic
echo "Choose an option:"
echo "a. Dearness allowance (90% of basic)"
echo "b. provident Fund (12% of basic)"
echo "c. House Rent Allowance (20% of basic + DA)"
echo "d. Income tax deducated (5% of basic + DA + HRA)"
echo "e. Take Home Salary (basic + DA + HRA - IT)"
read choice
da=$((basic * 90 / 100))
pf=$((basic * 12 / 100))
hra=$((basic * 20 / 100 + da))
it=$((basic * 5 / 100 + da * 5 / 100 + hra * 5/ 100))
take home=$((basic + da + hra - it))
case $choice in
        a|a\)) echo "Dearness allowance: $da";;
        b|b\)) echo "Provident Fund: $pf";;
        c|c\)) echo "House Rent Allowance: $hra";;
        d|d\)) echo "Income tax: $it";;
        e|e\)) echo "Take home salary: $take home";;
        *): echo "Invalid choice";;
esac
```

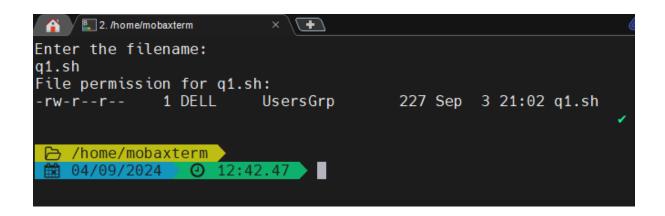




7. Write a shell script to find file permissions of user, group and others.

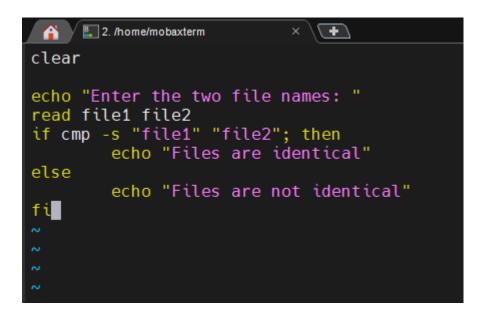


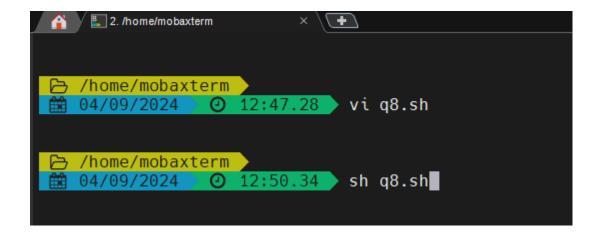


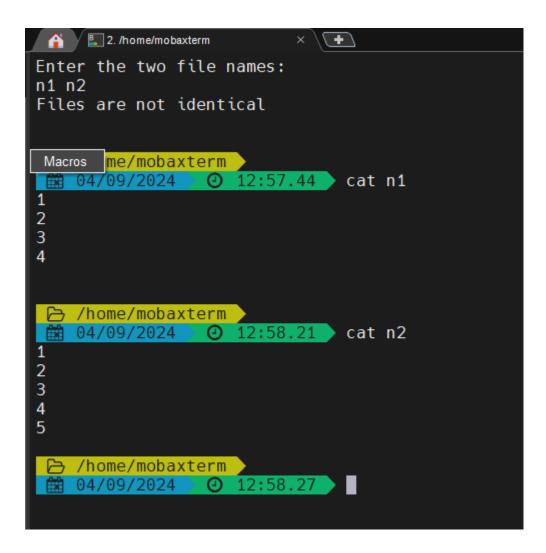


8. Write a shell script that accepts two files are identical or not.

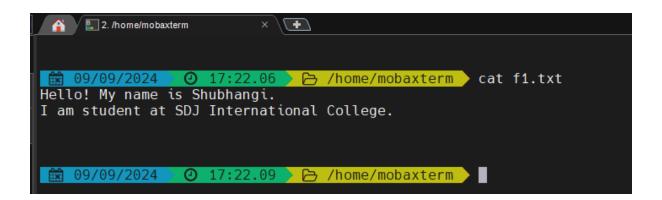








9. Write a shell script to display all the words, having length <4 characters, of a file f1.txt.



```
Enter filename:

f1.txt
My
is
I
am
at
SDJ

/home/mobaxterm

109/09/2024
2017:31.54
```

10.Write a shell script to find total number of files and total number of directories in current working directory.

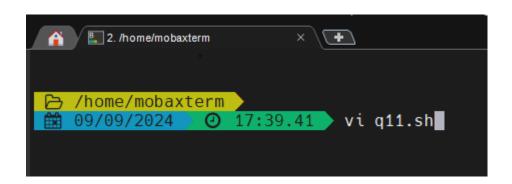


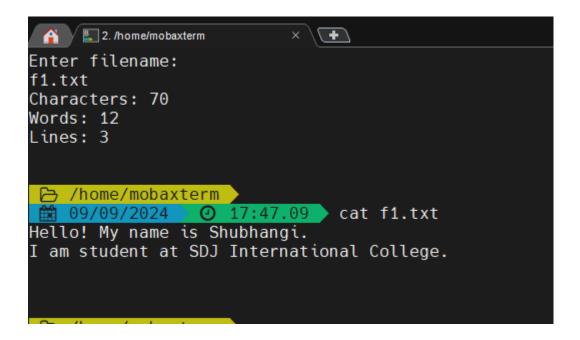
```
clear

files=$(ls -l | grep "^-" | wc -l)
directories=$(ls -l | grep "^d" | wc -l)
echo "Total files: $files"
echo "Total directories: $directories"
```

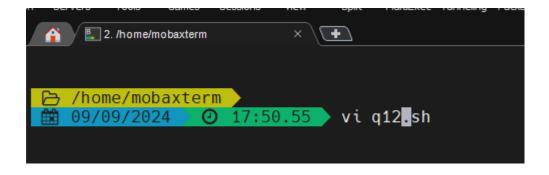
```
2. /home/mobaxterm
                          × \+
Total files: 11
Total directories: 1
   /home/mobaxterm
1 09/09/2024
                ① 17:39.12
Desktop
                project
                                q3.sh
                                                q7.sh
LauncherFolder
                q1.sh
                                q4.sh
                                                q8.sh
MyDocuments
                                                q9.sh
                q10.sh
                                q5.sh
f1.txt
                q2.sh
                                q6.sh
 ├── /home/mobaxterm
```

11.Write a shell script to find total number of characters, words and lines of a file. (Do not use wc command.)





12.Write a shell script which accepts a username and check the entered user is currently logged in or not.

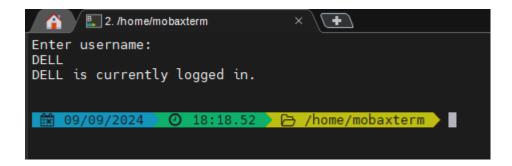


```
clear

echo "Enter username: "
read username
if whoami | grep -q "$username"; then
    echo "$username is currently logged in."
else
    echo "$username is not logged in."

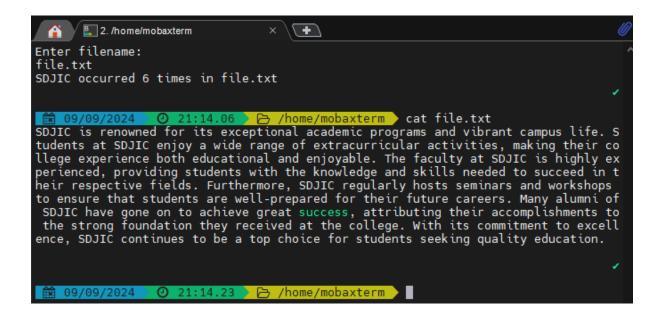
fi

...
```



13.Write a shell script to find total number of occurrences of SDJIC in given file. (Please provide necessary validations.)





14.Write a shell script which accepts filename as input and reverse individual words from it. (Please provide necessary validations)

```
clear

clear

echo "Enter filename: "
read filename

if [ -f $filename ]; then
    while IFS= read -r line
    do
        for word in $line
        do
            echo -n "$(echo $word | rev)"

        done
        echo
        done < $filename

else
    echo "File does not exist."
```

```
Enter filename:
f1.txt
!olleHyMemansi.ignahbuhS
ImatnedutstaJDSlanoitanretnI.egelloC
```

15. Write grep command to perform following actions:

a. Count number of blank lines in file f1.txt

```
② 2./home/mobaxterm × ♣

© 9/09/2024 ② 21:34.51 ➢ /home/mobaxterm cat f1.txt

Hello! My name is Shubhangi.

I am student at SDJ International College.

© 09/09/2024 ② 21:34.54 ➢ /home/mobaxterm grep -c '^$' f1.txt
```

b. print all lines containing sdjic.

```
09/09/2024 ② 21:47.44   / /home/mobaxterm grep 'SDJIC' file.txt

SDJIC is renowned for its exceptional academic programs and vibrant campus life.

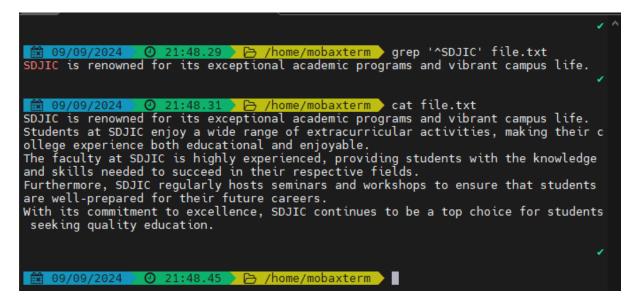
Students at SDJIC enjoy a wide range of extracurricular activities, making their college experience both educational and enjoyable.

The faculty at SDJIC is highly experienced, providing students with the knowledge and skills needed to succeed in their respective fields.

Furthermore, SDJIC regularly hosts seminars and workshops to ensure that students are well-prepared for their future careers.

With its commitment to excellence, SDJIC continues to be a top choice for students seeking quality education.
```

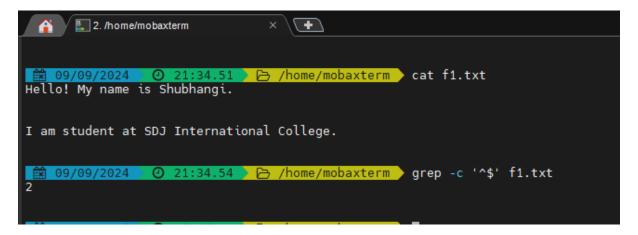
c. print the lines that starts with sdjic.



d. Search the files in CPROGRAMS directory which has the string "include"

e. print lines having exactly 50 characters in file f1.txt

f. Count number of blank lines in file f1.txt



g. Display lines having atleast one characters in file f1.txt

h. Display lines having sdjic text in any case in file f1.txt

```
© 2./home/mobaxterm  

© 2./home/mobaxterm  

© 39/09/2024  

© 22:15.39  

/home/mobaxterm  

© your file.txt  

SDJIC is renowned for its exceptional academic programs and vibrant campus life.  

Students at SDJIC enjoy a wide range of extracurricular activities, making their college experience both educational and enjoyable.  

The faculty at SDJIC is highly experienced, providing students with the knowledge and skills needed to succeed in their respective fields.  

Furthermore, SDJIC regularly hosts seminars and workshops to ensure that students are well-prepared for their future careers.  

With its commitment to excellence, SDJIC continues to be a top choice for student  

s seeking quality education.  

Ø 09/09/2024  

Ø 22:15.57  

/home/mobaxterm
```

i. Display line of file f1.txt having exactly 3 characters

j. Display lines of file f1.txt which begin with any alphabet

k. Display lines whose last word is "UNIX" in file f1.txt

I. Display filenames having last character as digit [0-9]

m. Display list of filenames that only consist digits

```
👔 🗸 🛂 2. /home/mobaxterm
                           \times \lacktree
              1 09/09/2024
123
② 22:58.38 → /home/mobaxterm ls
123
                                        q15a.sh
             f1.txt
                          q1.sh
                                                     q7.sh
CPROGRAMS
             f2.txt
                                        q2.sh
                                                     q8.sh
                          q10.sh
Desktop
             file.txt
                          q11.sh
                                       q3.sh
                                                     q9.sh
LauncherFolder n1
                          q12.sh
                                       q4.sh
MyDocuments
             n2
                          q13.sh
                                       q5.sh
f1,txt
                          q14.sh
                                        q6.sh
```

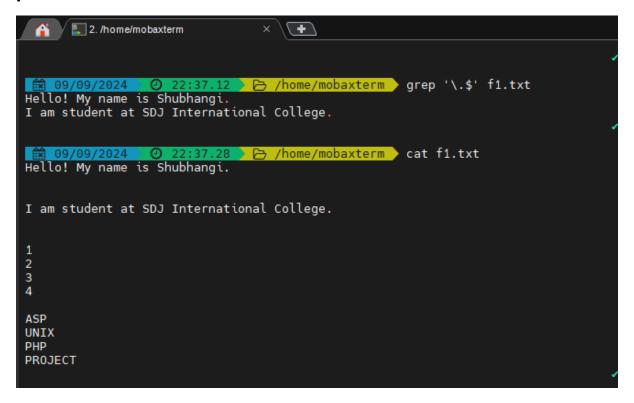
n. Display line of file f1.txt which only consist digits

```
| 1 am student at SDJ International College.

| 1 am student at SDJ International College. | 22:33.01 | home/mobaxterm | grep -x '[0-9*]' f1.txt | 1 2 3 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 |
```

o. Display lines of file f1.txt which only consist capital alphabets

p. Search all lines in file f1.txt which ends with "."



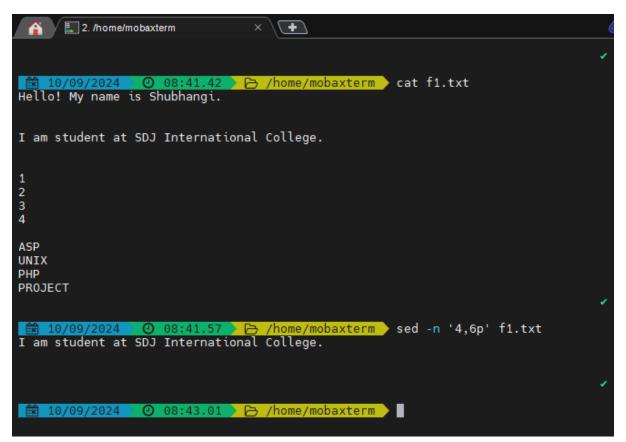
- 16. Write sed command to perform following tasks
- a. To print only last line of f1.txt

```
👔 🗸 🛂 2. /home/mobaxterm
                 × \ (+)
Hello! My name is Shubhangi.
I am student at SDJ International College.
2
3
4
ASP
UNIX
PHP
PROJECT
        m 10/09/2024
PROJECT
m 10/09/2024
```

b. To print line number 1-3, 6-7 and 10 of f1.txt

c. To print lines beginning with SDJIC of f1.txt

d. Print three lines starting from fourth line of f1.txt

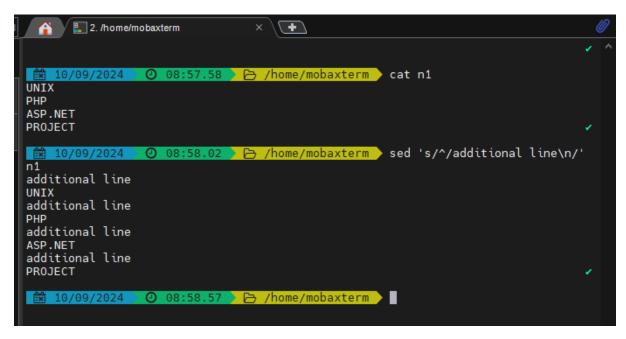


e. Print all blank lines of file f1.txt

- f. Print lines having either of "sdjic" or "sdjyc"
- g. Lines beginning with either alphabet or digit

```
2. /home/mobaxterm
                      × \+
mm 10/09/2024
          Hello! My name is Shubhangi.
I am student at SDJ International College.
1
2
3
4
ASP
UNIX
PHP
PROJECT
(){*&^%}(+^%$#)
Hello! My name is Shubhangi.
I am student at SDJ International College.
2
4
ASP
UNIX
PHP
PROJECT
           10/09/2024
```

h. To insert a line "additional line" before every line



i. To replace every occurrence of | with : of first three lines

j. To replace every occurrence of "|" with ":" of every line

```
Inel|with|pipes line2|also|has|pipes line4|no|replacement|here

10/09/2024 ② 09:03.52 ➢ /home/mobaxterm sed 's/|/:/g' n3 line1:with:pipes line2:also:has:pipes line3:and:so:does:this:line line4:no:replacement:here
```

k. To remove all the lines having word "fail" from file f1.txt (delete command

