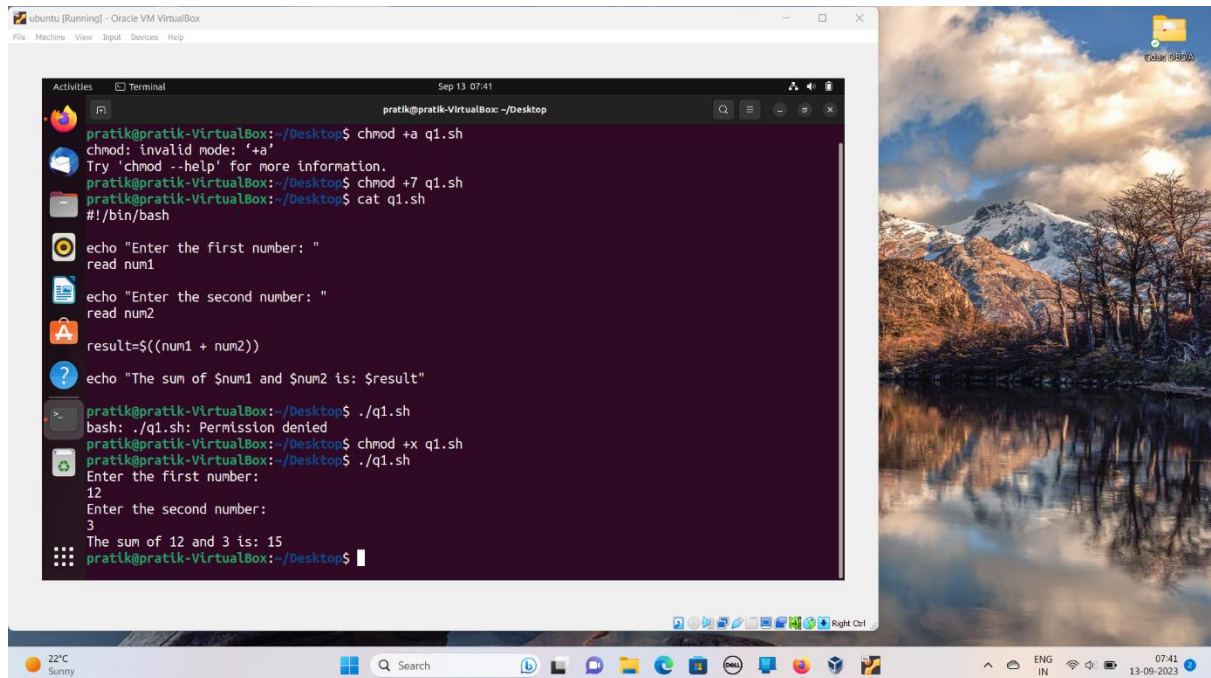


Q1)

Ans=

a) Addition-

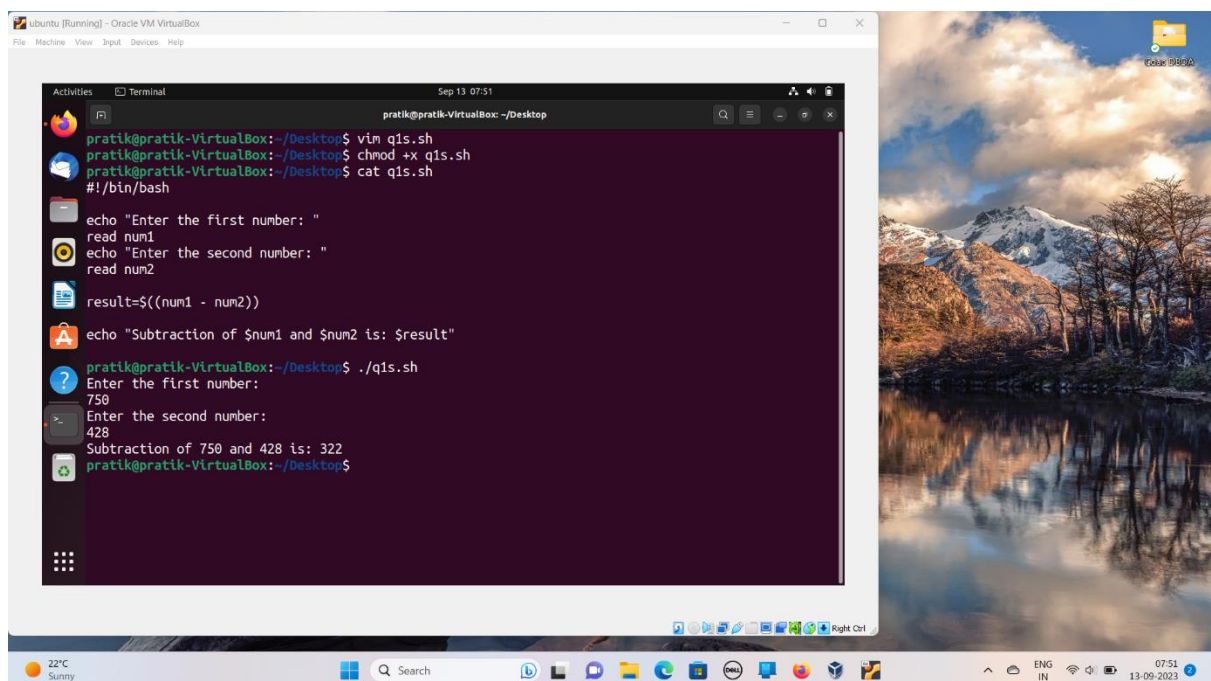


The screenshot shows a terminal window titled "pratik@pratik-VirtualBox: ~/Desktop" with the following commands and output:

```
pratik@pratik-VirtualBox:~/Desktop$ chmod +a q1.sh
chmod: invalid mode: '+a'
Try 'chmod --help' for more information.
pratik@pratik-VirtualBox:~/Desktop$ chmod +7 q1.sh
pratik@pratik-VirtualBox:~/Desktop$ cat q1.sh
#!/bin/bash
echo "Enter the first number: "
read num1
echo "Enter the second number: "
read num2
result=$((num1 + num2))
echo "The sum of $num1 and $num2 is: $result"
pratik@pratik-VirtualBox:~/Desktop$ ./q1.sh
bash: ./q1.sh: Permission denied
pratik@pratik-VirtualBox:~/Desktop$ chmod +x q1.sh
pratik@pratik-VirtualBox:~/Desktop$ ./q1.sh
Enter the first number:
12
Enter the second number:
3
The sum of 12 and 3 is: 15
pratik@pratik-VirtualBox:~/Desktop$
```

The terminal window is part of a desktop environment with a taskbar at the bottom showing the date as 13-09-2023 and time as 07:41.

b) Subtraction-

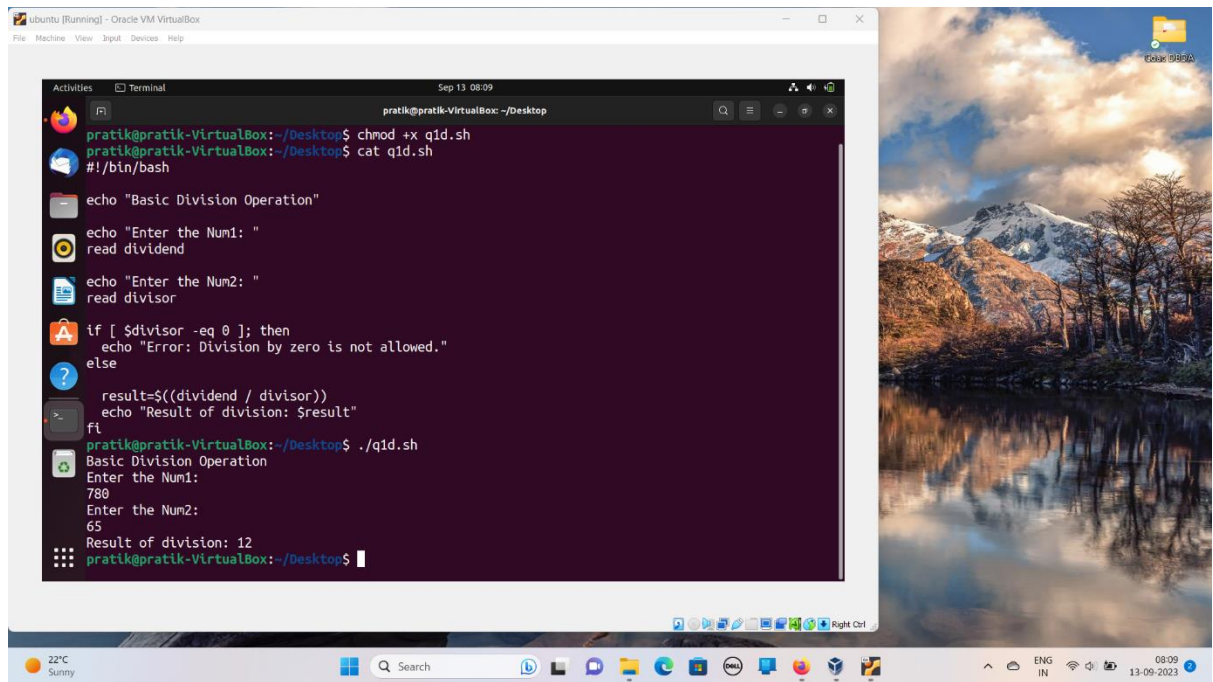


The screenshot shows a terminal window titled "pratik@pratik-VirtualBox: ~/Desktop" with the following commands and output:

```
pratik@pratik-VirtualBox:~/Desktop$ vim q1s.sh
pratik@pratik-VirtualBox:~/Desktop$ chmod +x q1s.sh
pratik@pratik-VirtualBox:~/Desktop$ cat q1s.sh
#!/bin/bash
echo "Enter the first number: "
read num1
echo "Enter the second number: "
read num2
result=$((num1 - num2))
echo "Subtraction of $num1 and $num2 is: $result"
pratik@pratik-VirtualBox:~/Desktop$ ./q1s.sh
Enter the first number:
750
Enter the second number:
428
Subtraction of 750 and 428 is: 322
pratik@pratik-VirtualBox:~/Desktop$
```

The terminal window is part of a desktop environment with a taskbar at the bottom showing the date as 13-09-2023 and time as 07:51.

### c) Multiplication-



```
pratik@pratik-VirtualBox: ~/Desktop
pratik@pratik-VirtualBox:~/Desktop$ chmod +x q1d.sh
pratik@pratik-VirtualBox:~/Desktop$ cat q1d.sh
#!/bin/bash

echo "Basic Division Operation"

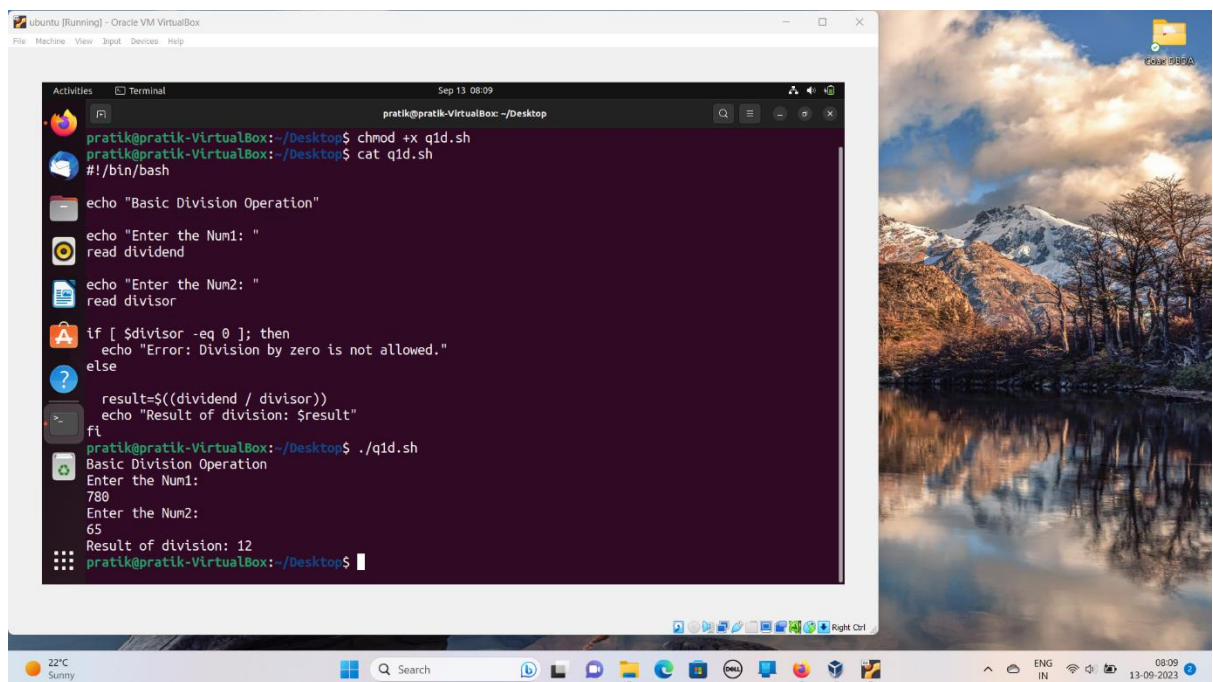
echo "Enter the Num1: "
read dividend

echo "Enter the Num2: "
read divisor

if [ $divisor -eq 0 ]; then
    echo "Error: Division by zero is not allowed."
else
    result=$((dividend / divisor))
    echo "Result of division: $result"
fi

pratik@pratik-VirtualBox:~/Desktop$ ./q1d.sh
Basic Division Operation
Enter the Num1:
780
Enter the Num2:
65
Result of division: 12
pratik@pratik-VirtualBox:~/Desktop$
```

### d) Division-



```
pratik@pratik-VirtualBox: ~/Desktop
pratik@pratik-VirtualBox:~/Desktop$ chmod +x q1d.sh
pratik@pratik-VirtualBox:~/Desktop$ cat q1d.sh
#!/bin/bash

echo "Basic Division Operation"

echo "Enter the Num1: "
read dividend

echo "Enter the Num2: "
read divisor

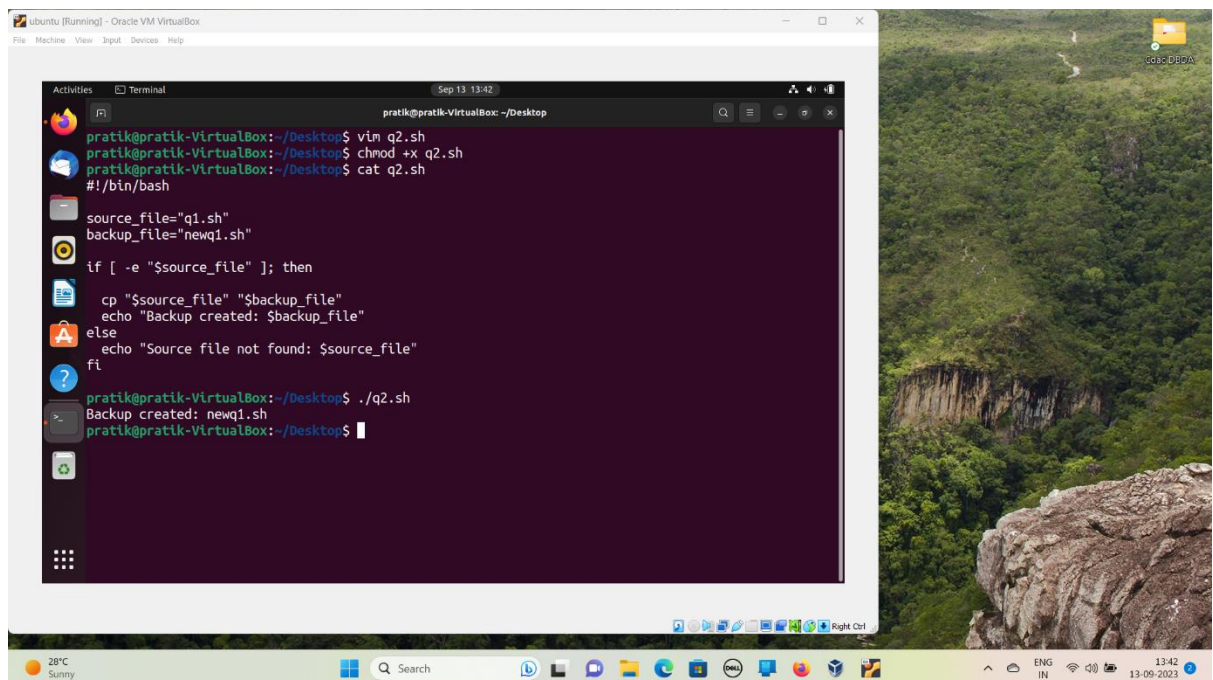
if [ $divisor -eq 0 ]; then
    echo "Error: Division by zero is not allowed."
else
    result=$((dividend / divisor))
    echo "Result of division: $result"
fi

pratik@pratik-VirtualBox:~/Desktop$ ./q1d.sh
Basic Division Operation
Enter the Num1:
780
Enter the Num2:
65
Result of division: 12
pratik@pratik-VirtualBox:~/Desktop$
```



Q2)

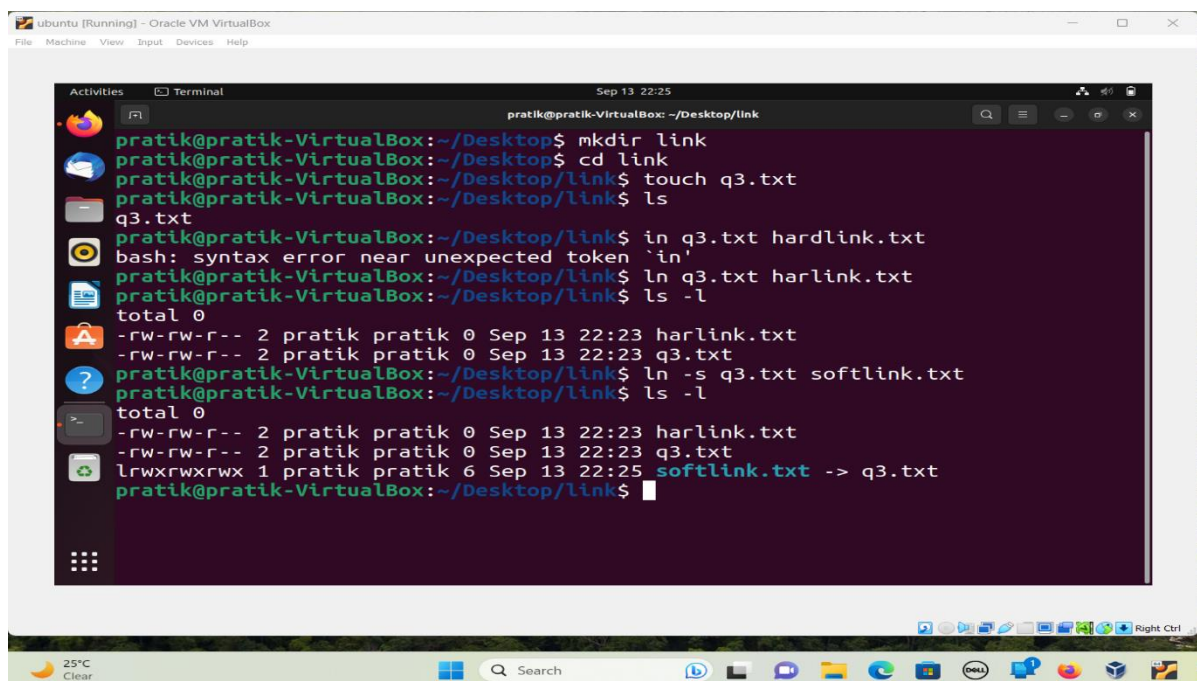
Ans=



```
pratik@pratik-VirtualBox: ~/Desktop
pratik@pratik-VirtualBox:~/Desktop$ vim q2.sh
pratik@pratik-VirtualBox:~/Desktop$ chmod +x q2.sh
pratik@pratik-VirtualBox:~/Desktop$ cat q2.sh
#!/bin/bash
source_file="q1.sh"
backup_file="newq1.sh"
if [ -e "$source_file" ]; then
cp "$source_file" "$backup_file"
echo "Backup created: $backup_file"
else
echo "Source file not found: $source_file"
fi
pratik@pratik-VirtualBox:~/Desktop$ ./q2.sh
Backup created: newq1.sh
pratik@pratik-VirtualBox:~/Desktop$
```

Q3)

Ans=

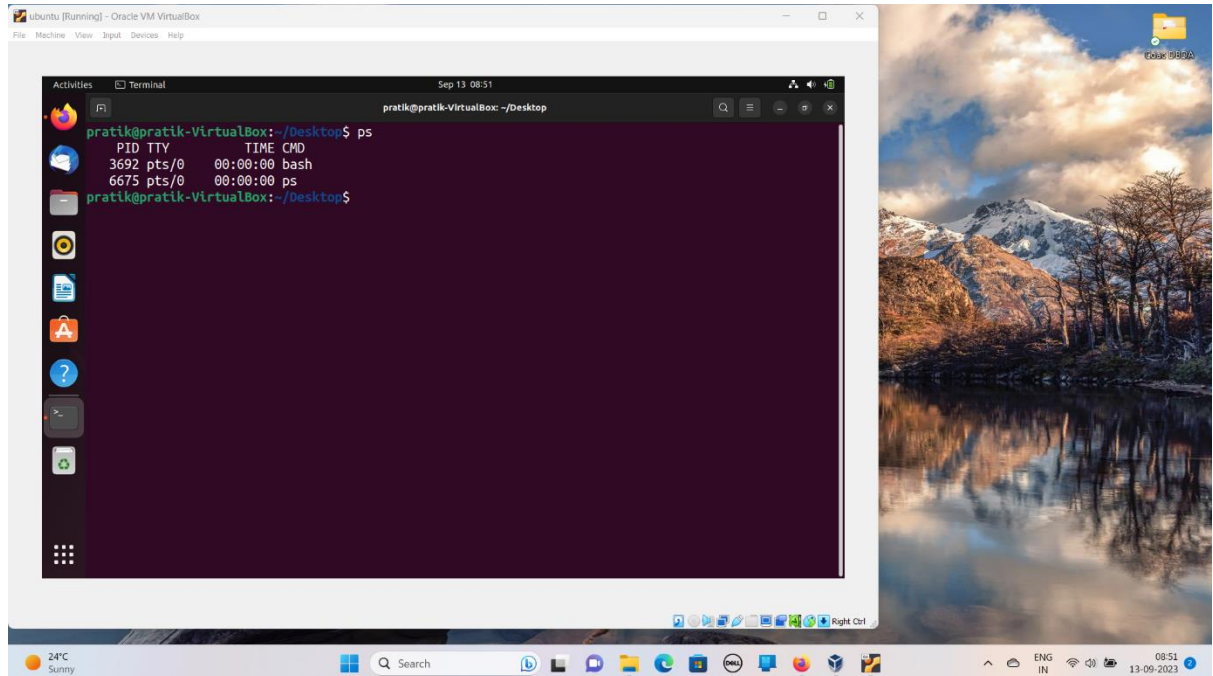


```
pratik@pratik-VirtualBox: ~/Desktop/link
pratik@pratik-VirtualBox:~/Desktop$ mkdir link
pratik@pratik-VirtualBox:~/Desktop$ cd link
pratik@pratik-VirtualBox:~/Desktop/link$ touch q3.txt
pratik@pratik-VirtualBox:~/Desktop/link$ ls
q3.txt
pratik@pratik-VirtualBox:~/Desktop/link$ ln q3.txt hardlink.txt
bash: syntax error near unexpected token `ln'
pratik@pratik-VirtualBox:~/Desktop/link$ ln q3.txt harlink.txt
pratik@pratik-VirtualBox:~/Desktop/link$ ls -l
total 0
-rw-rw-r-- 2 pratik pratik 0 Sep 13 22:23 harlink.txt
-rw-rw-r-- 2 pratik pratik 0 Sep 13 22:23 q3.txt
pratik@pratik-VirtualBox:~/Desktop/link$ ln -s q3.txt softlink.txt
pratik@pratik-VirtualBox:~/Desktop/link$ ls -l
total 0
-rw-rw-r-- 2 pratik pratik 0 Sep 13 22:23 harlink.txt
-rw-rw-r-- 2 pratik pratik 0 Sep 13 22:23 q3.txt
lrwxrwxrwx 1 pratik pratik 6 Sep 13 22:25 softlink.txt -> q3.txt
pratik@pratik-VirtualBox:~/Desktop/link$
```

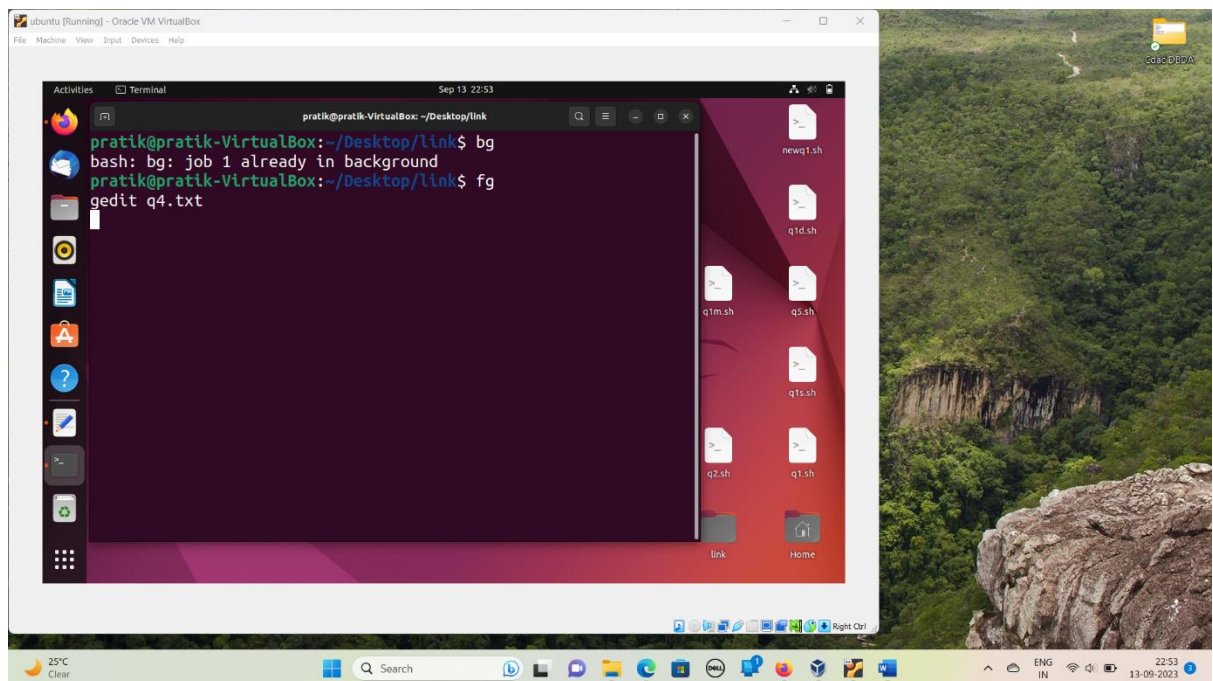
Q4)

Ans=

a) ps-

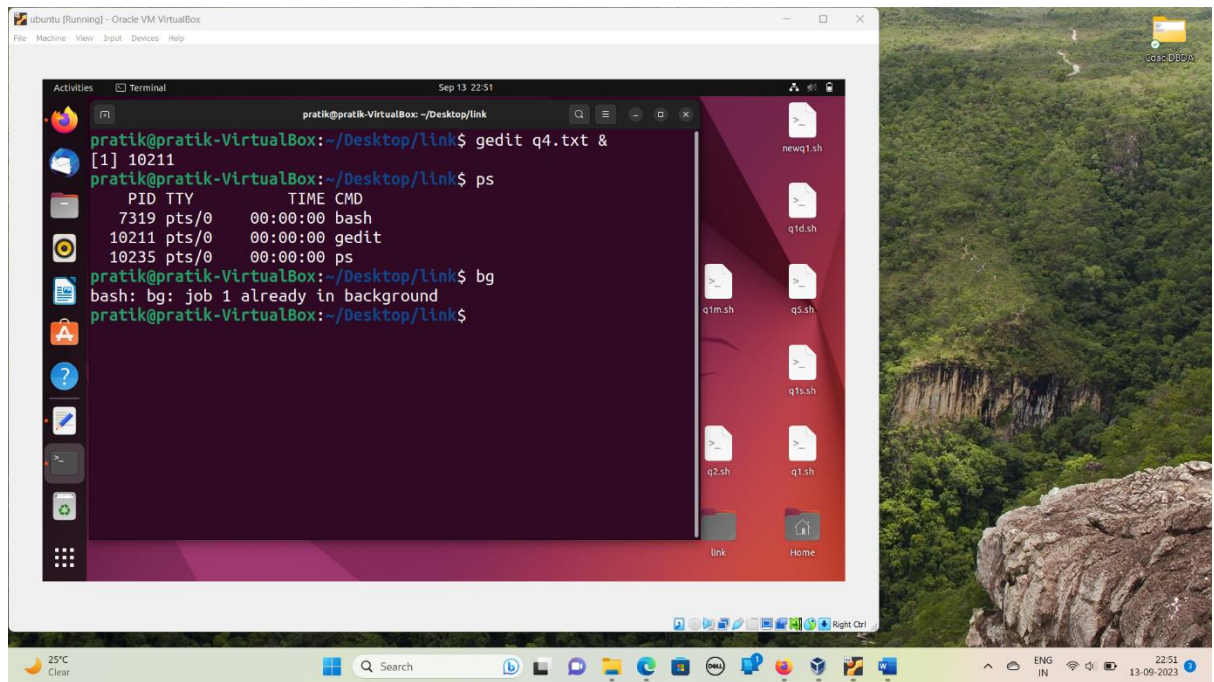


b) fg-

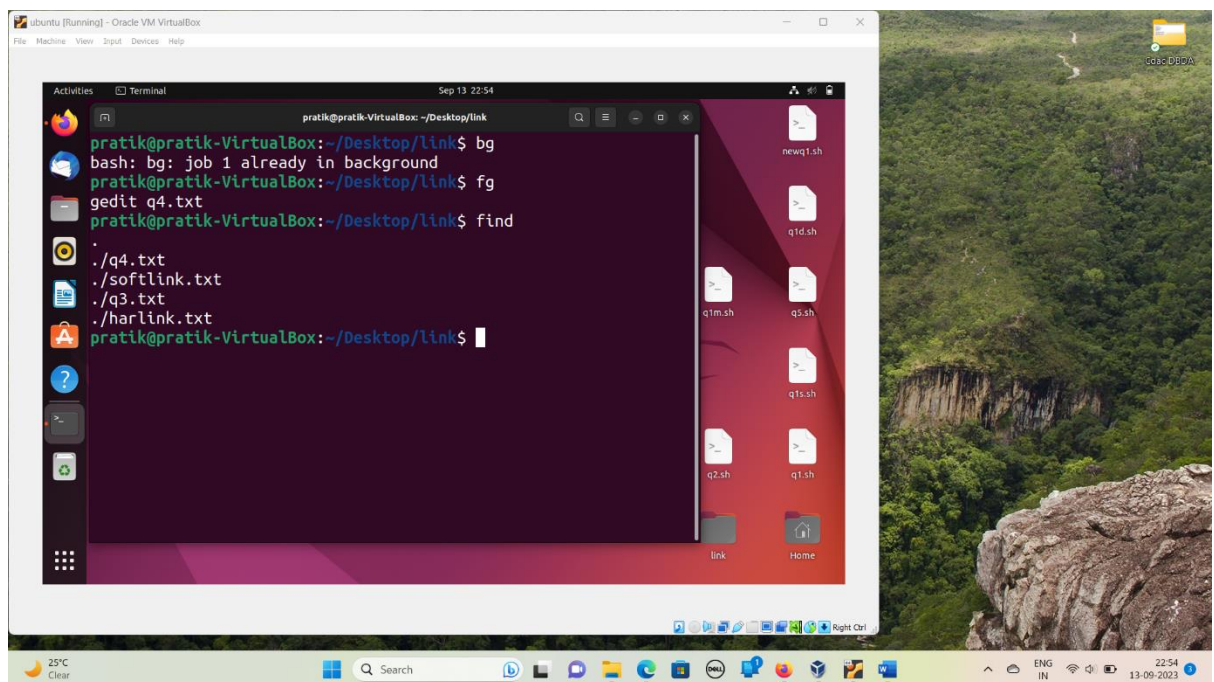




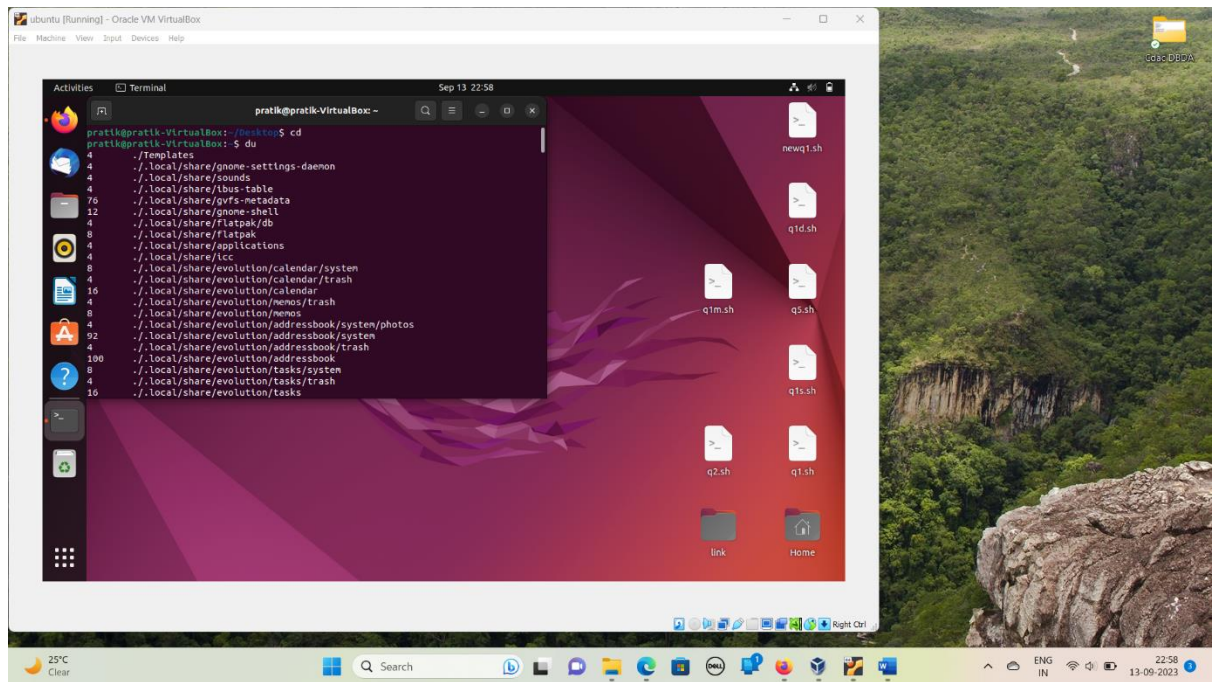
c) bg-



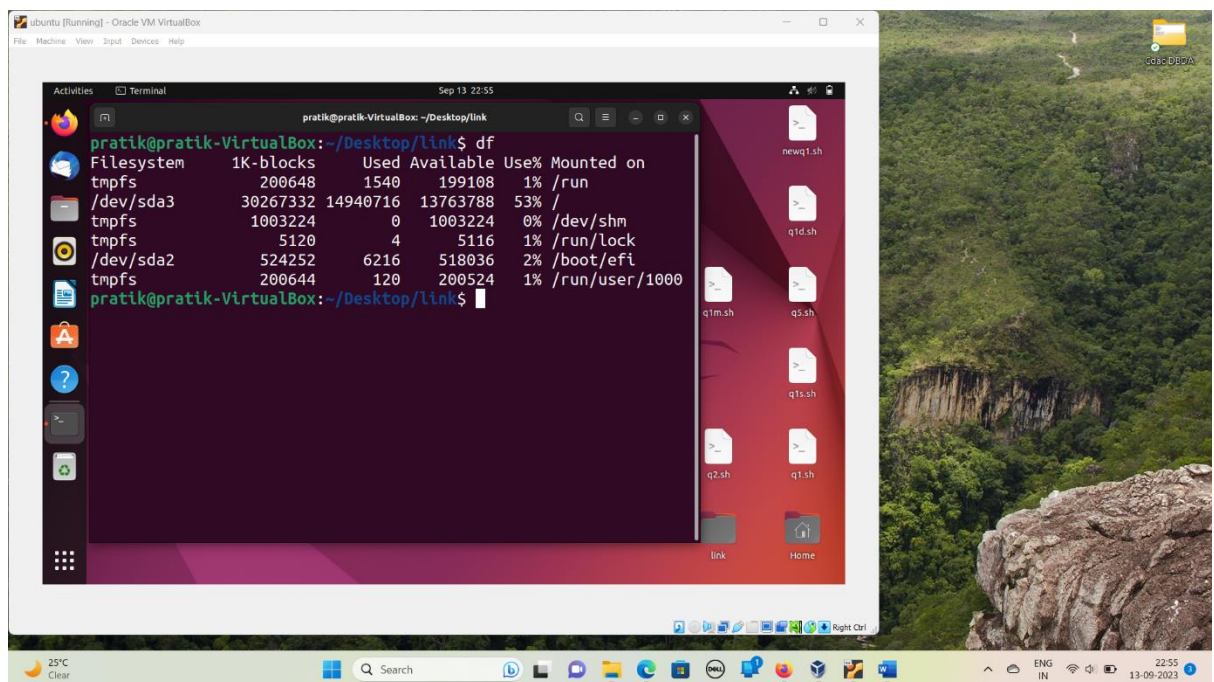
d) find-



e) du-

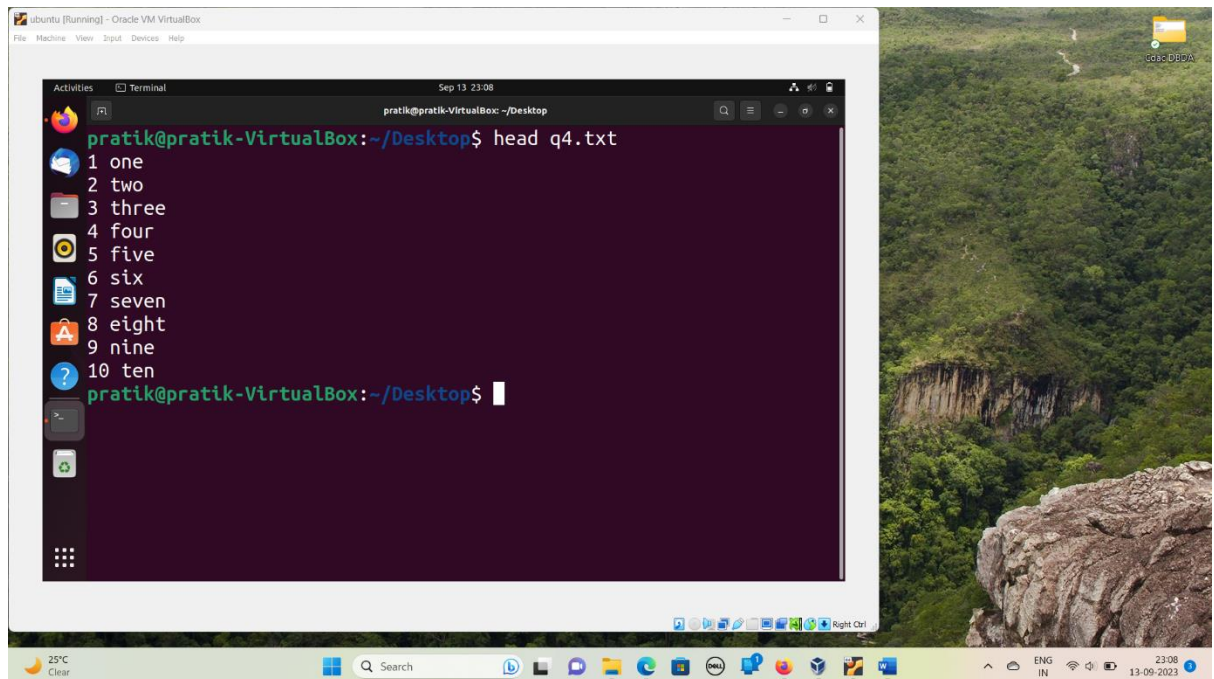


f) df-





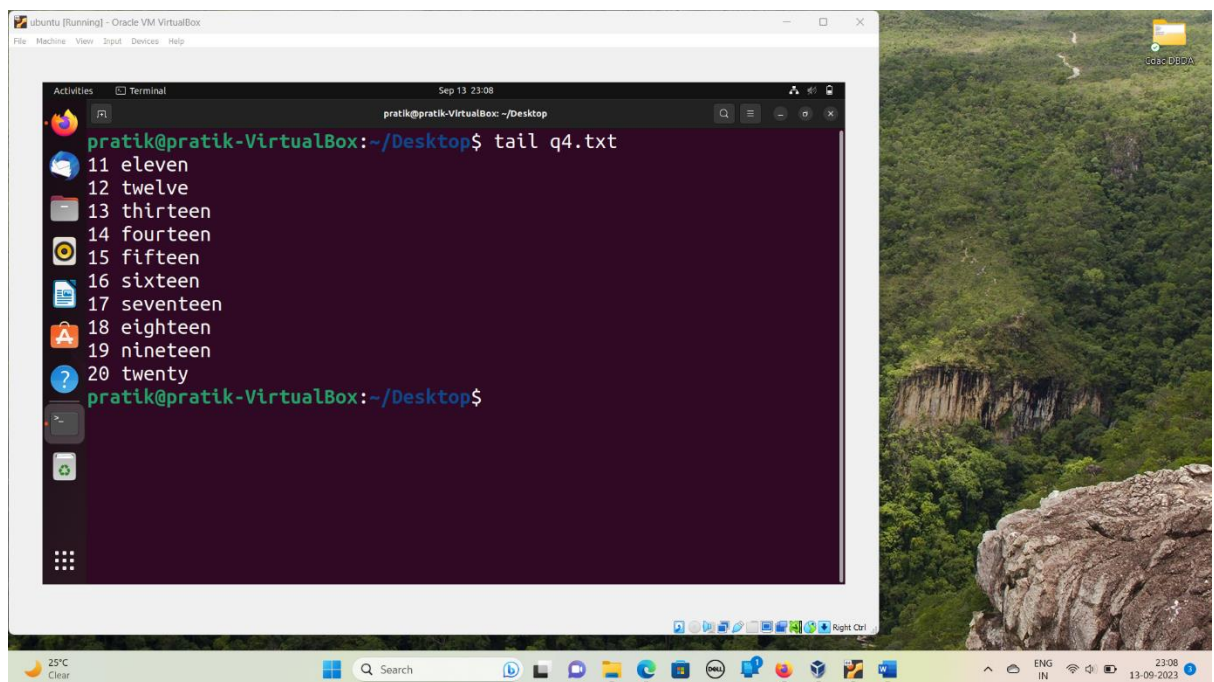
g) head-



The screenshot shows a terminal window titled "pratik@pratik-VirtualBox: ~/Desktop" with the command `head q4.txt` executed. The output lists the first ten lines of the file, which are numbers 1 through 10 followed by the words "one" through "ten". The terminal window is part of an Ubuntu desktop environment, with a taskbar at the bottom showing the date as 13-09-2023 and the time as 23:08.

```
pratik@pratik-VirtualBox:~/Desktop$ head q4.txt
1 one
2 two
3 three
4 four
5 five
6 six
7 seven
8 eight
9 nine
10 ten
pratik@pratik-VirtualBox:~/Desktop$
```

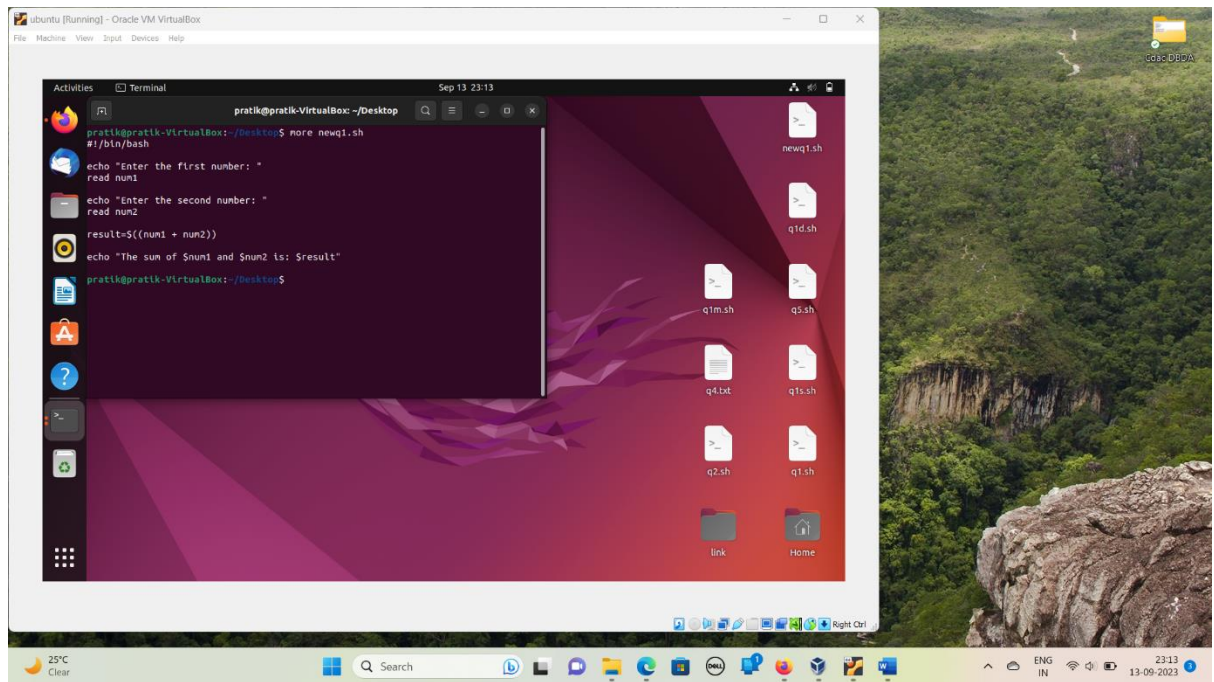
h) tail-



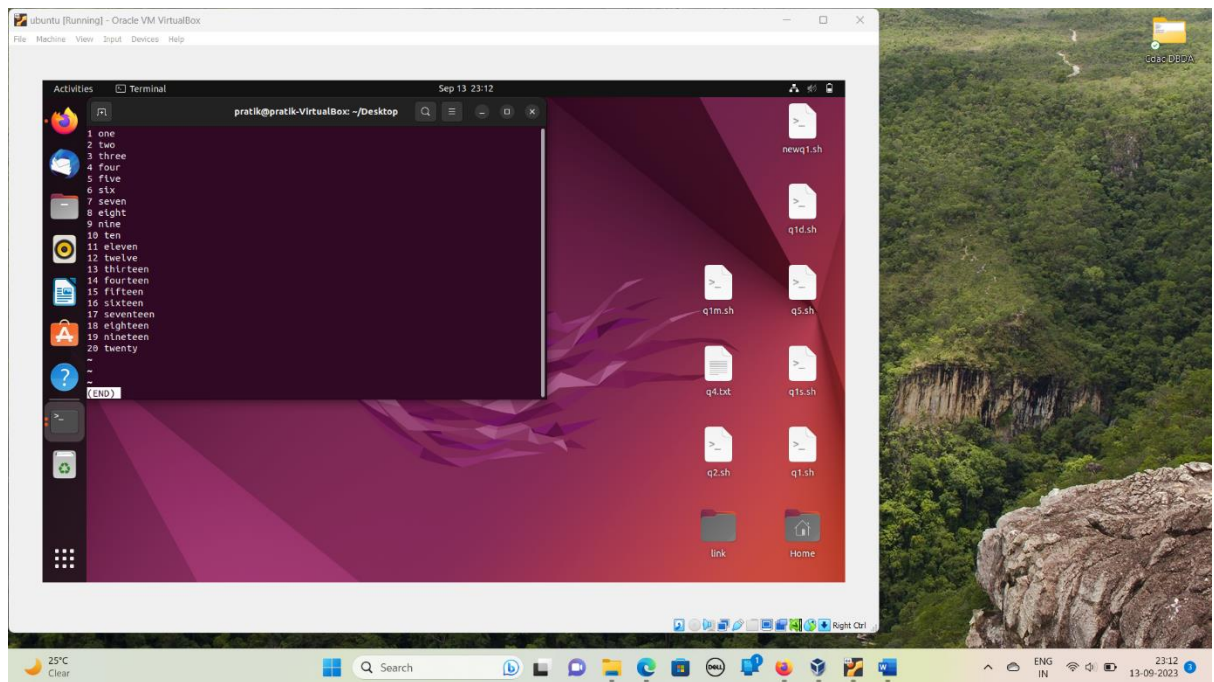
The screenshot shows a terminal window titled "pratik@pratik-VirtualBox: ~/Desktop" with the command `tail q4.txt` executed. The output lists the last ten lines of the file, which are numbers 11 through 20 followed by the words "eleven" through "twenty". The terminal window is part of an Ubuntu desktop environment, with a taskbar at the bottom showing the date as 13-09-2023 and the time as 23:08.

```
pratik@pratik-VirtualBox:~/Desktop$ tail q4.txt
11 eleven
12 twelve
13 thirteen
14 fourteen
15 fifteen
16 sixteen
17 seventeen
18 eighteen
19 nineteen
20 twenty
pratik@pratik-VirtualBox:~/Desktop$
```

i) more-



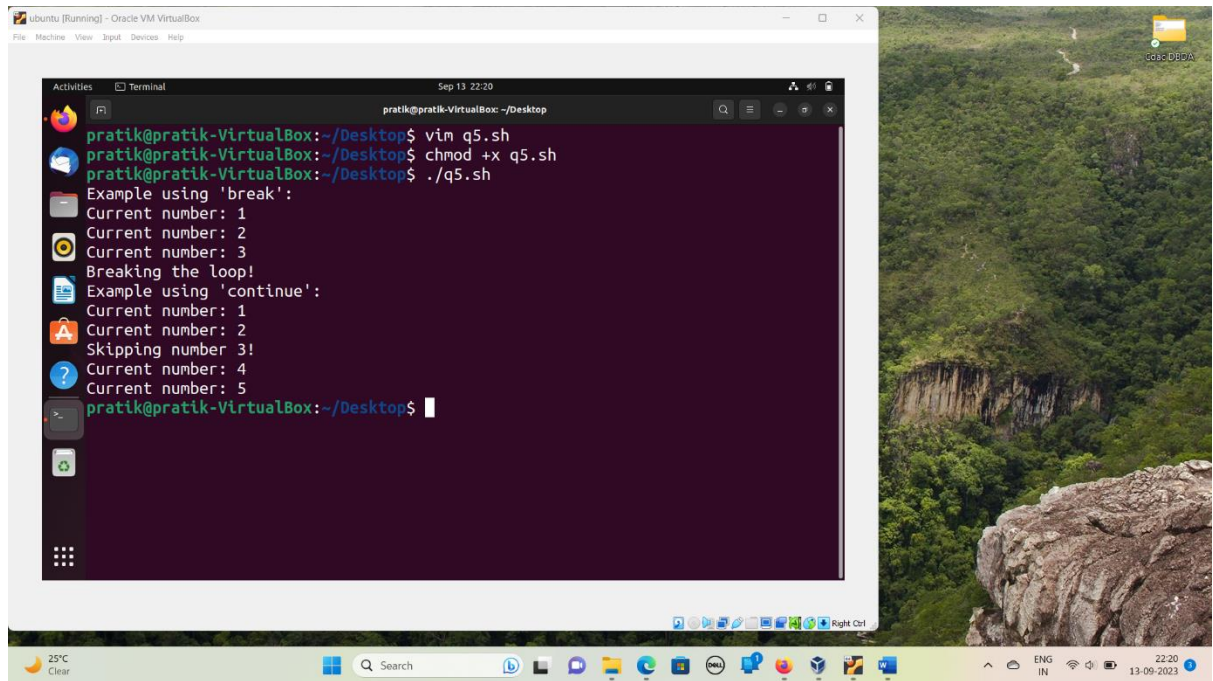
j) less-





Q5)

Ans=



The screenshot shows a terminal window titled "pratik@pratik-VirtualBox: ~/Desktop" running a shell script. The script uses a loop to print numbers 1 through 5. It includes a "break" statement to exit the loop after printing 3, and a "continue" statement to skip the number 3 in a subsequent loop. The terminal output is as follows:

```
pratik@pratik-VirtualBox:~/Desktop$ vim q5.sh
pratik@pratik-VirtualBox:~/Desktop$ chmod +x q5.sh
pratik@pratik-VirtualBox:~/Desktop$ ./q5.sh
Example using 'break':
Current number: 1
Current number: 2
Current number: 3
Breaking the loop!
Example using 'continue':
Current number: 1
Current number: 2
Skipping number 3!
Current number: 4
Current number: 5
pratik@pratik-VirtualBox:~/Desktop$
```

The background of the desktop shows a lush green forest with a rocky cliff. The taskbar at the bottom displays the date and time as 22:20 on 13-09-2023, along with system icons for network, battery, and temperature.