



CSE - 310

LAB REPORT-08

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Experiment No:08

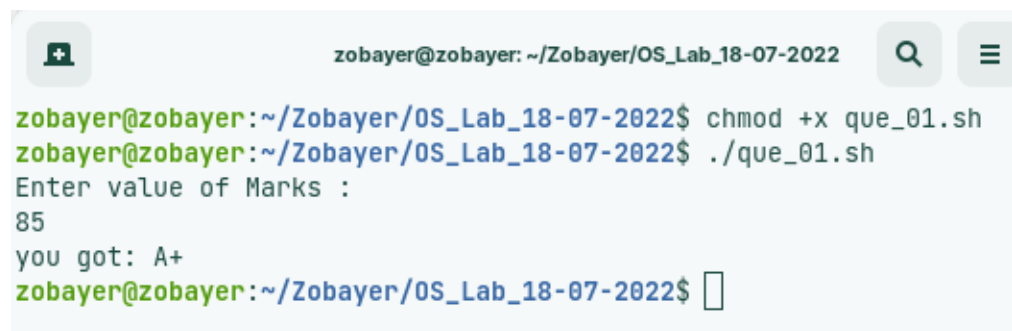
Experiment Title: Programming with Bash Script.

Theory: - Bash is a shell program written by Brian Fox as an upgraded version of Bourne Shell program 'sh'. It is an open-source GNU project. It provides functional improvements over Bourne Shell for both programming and interactive uses. It includes command line editing, key bindings, command history with unlimited size, etc. In basic terms, Bash is a command line interpreter that typically runs in a text window where user can interpret commands to carry out various actions. The combination of these commands as a series within a file is known as a Shell Script. Bash can read and execute the commands from a Shell Script.

Question 01: Write a bash to file letter grade of given Marksheet?

Code:

```
#!/bin/bash
echo "Enter value of Marks : "
read a
if [ $a -le 39 ]
then
    echo "you got: F"
elif [ $a -le 49 ]
then
    echo "you got: D"
elif [ $a -le 59 ]
then
    echo "you got: C"
elif [ $a -le 64 ]
then
    echo "you got: B"
elif [ $a -le 69 ]
then
    echo "you got: A-"
elif [ $a -le 79 ]
then
    echo "you got: A"
elif [ $a -le 100 ]
then
    echo "you got: A+"
elif [ $a -gt 100 ]
then
    echo "Please enter a number between 0 and 100, Thank You"
fi
```

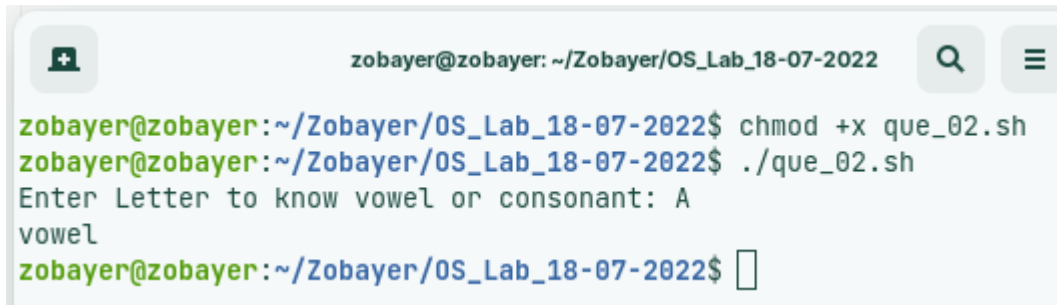


```
zobayer@zobayer: ~/Zobayer/OS_Lab_18-07-2022
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$ chmod +x que_01.sh
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$ ./que_01.sh
Enter value of Marks :
85
you got: A+
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$
```

Question_02: Write a bash file to determine vowel and consonant?

Code:

```
#!/bin/bash
read -p "Enter Letter to know vowel or consonant: " char
if [[ "$char" == *[AEIOUaeiou]* ]]; then
    echo "vowel"
else
    echo "consonant"
fi
```

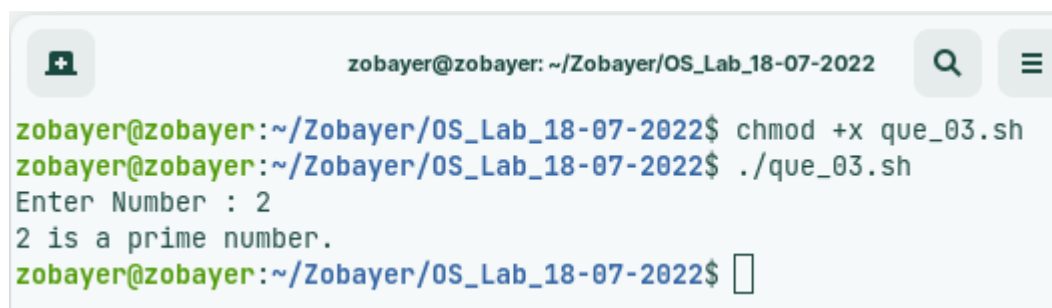
A terminal window with a title bar showing 'zobayer@zobayer: ~/Zobayer/OS_Lab_18-07-2022'. The terminal content shows the user making the script executable with 'chmod +x que_02.sh', running it with './que_02.sh', entering 'A' as input, and receiving the output 'vowel'.

```
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$ chmod +x que_02.sh
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$ ./que_02.sh
Enter Letter to know vowel or consonant: A
vowel
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$
```

Question_03: Write a bash to file Check Prime number and non-prime Number?

Code:

```
#!/bin/bash
echo -e "Enter Number : \c"
read n
for((i=2; i<=$n/2; i++))
do
    ans=$(( n%i ))
    if [ $ans -eq 0 ]
    then
        echo "$n is not a prime number."
        exit 0
    fi
done
echo "$n is a prime number."
```

A terminal window with a title bar showing 'zobayer@zobayer: ~/Zobayer/OS_Lab_18-07-2022'. The terminal content shows the user making the script executable with 'chmod +x que_03.sh', running it with './que_03.sh', entering '2' as input, and receiving the output '2 is a prime number.'.

```
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$ chmod +x que_03.sh
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$ ./que_03.sh
Enter Number : 2
2 is a prime number.
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$
```

Question 04: Write a bash to file to show Fibonacci Series?

Code:

```
#!/bin/bash
n=10
a=0
b=1
echo "Fibonacci Series is here: "
for (( i=0; i<n; i++ ))
do
    echo -e "$a"
    c=$((a+b))
    a=$b
    b=$c
done
```

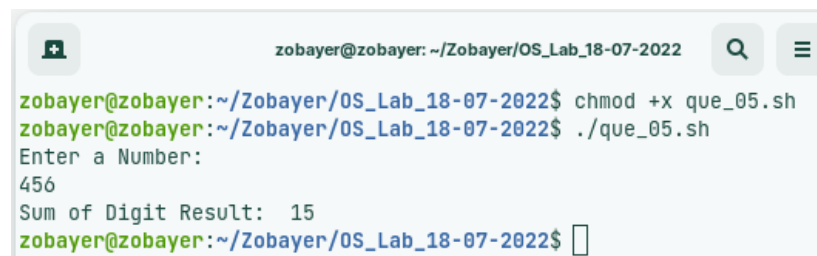
A terminal window with the title 'zobayer@zobayer: ~/Zobayer/OS_Lab_18-07-2022'. The prompt is 'zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022\$'. The user enters 'chmod +x que_04.sh'. The prompt changes to 'zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022\$'. The user enters './que_04.sh'. The output is 'Fibonacci Series is here:' followed by the numbers 0, 1, 1, 2, 3, 5, 8, 13, 21, 34 on separate lines. The prompt returns to 'zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022\$' with a cursor.

```
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$ chmod +x que_04.sh
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$ ./que_04.sh
Fibonacci Series is here:
0
1
1
2
3
5
8
13
21
34
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$
```

Question 05: Write a bash to file Find the sum of Digit given number?

Code:

```
#!/bin/bash
echo "Enter a Number: "
read num
sum=0
while [ $num -gt 0 ]
do
    mod=$((num % 10))
    sum=$((sum + mod))
    num=$((num / 10 ))
done
echo "Sum of Digit Result: " $sum
```

A terminal window with the title 'zobayer@zobayer: ~/Zobayer/OS_Lab_18-07-2022'. The prompt is 'zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022\$'. The user enters 'chmod +x que_05.sh'. The prompt changes to 'zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022\$'. The user enters './que_05.sh'. The output is 'Enter a Number:' followed by the user input '456'. The next line of output is 'Sum of Digit Result: 15'. The prompt returns to 'zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022\$' with a cursor.

```
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$ chmod +x que_05.sh
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$ ./que_05.sh
Enter a Number:
456
Sum of Digit Result: 15
zobayer@zobayer:~/Zobayer/OS_Lab_18-07-2022$
```