

Name – Ayush Mondal

Sec – A , B.Tech (CSE)

Subject – OS

Registration no – 200010170880

Enrollment no – 2011200001017

1. Write a shell script program to emulate the calculator function. Take two numbers from user. Take a choice from user [1-4]. If the choice is 1, then add the numbers and display the result. If the choice is 2, then subtract the numbers and display the result. If 3, then multiply. If 4 then divide.

```
echo "Enter Two numbers : "
```

```
read a
```

```
read b
```

```
echo "Enter Choice :"
```

```
echo "1. Addition"
```

```
echo "2. Subtraction"
```

```
echo "3. Multiplication"
```

```
echo "4. Division"
```

```
read choice
```

```
if [ $choice -eq 1 ]
```

```
then
```

```
result=`expr $a + $b | bc`
```

```
echo "Result :"$result
```

```
elif [ $choice -eq 2 ]
```

```
then
```

```
result=`expr $a - $b | bc`
```

```
echo "Result :"$result
```

```
elif [ $choice -eq 3 ]
```

```

then

result=`expr $a \* $b | bc`

echo "Result :"$result

elif [ $choice -eq 4 ]

then

result=`expr "scale=2; $a / $b" | bc`

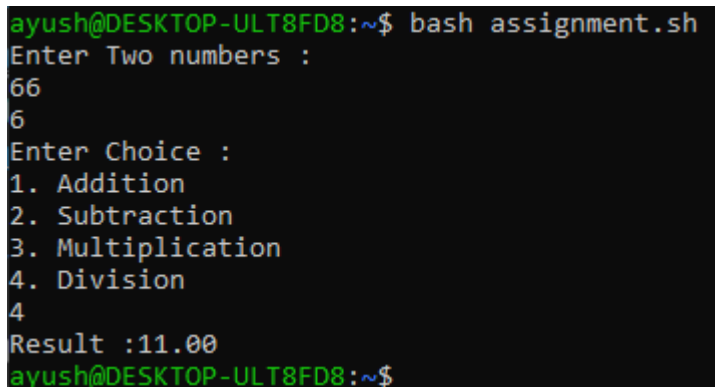
echo "Result :"$result

else

echo Invalid choice...

fi

```



```

ayush@DESKTOP-ULT8FD8:~$ bash assignment.sh
Enter Two numbers :
66
6
Enter Choice :
1. Addition
2. Subtraction
3. Multiplication
4. Division
4
Result :11.00
ayush@DESKTOP-ULT8FD8:~$

```

2 .Write a shell script program to check whether a number is positive, negative or equal to zero and print the output.

```

echo "Enter a number : "

read num

if((num < 0))

then

    echo "$num is a negetive number"

fi

if((num == 0))

```

then

echo "\$num is equal to zero"

fi

if((num > 0))

then

echo "\$num is a positive number"

fi

```
ayush@DESKTOP-ULT8FD8:~$ bash assignment.sh
Enter a number :
1
1 is a positive number
ayush@DESKTOP-ULT8FD8:~$ bash assignment.sh
Enter a number :
0
0 is equal to zero
ayush@DESKTOP-ULT8FD8:~$ bash assignment.sh
Enter a number :
-57
-57 is a negative number
ayush@DESKTOP-ULT8FD8:~$
```

3 . Write a shell script to generate n Fibonacci numbers. Where n is user input.

for((i=1;i<101; i++))

do

if((i % 3 == 0))

then

echo \$i

fi

done

```

3
6
9
12
15
18
21
24
27
30
33
36
39
42
45
48
51
54
57
60
63
66
69
72
75
78
81
84
87
90
93
96
99

```

4. Write a shell scripts to calculate the factorial of an integer no.

```
echo "Enter the number to find the factorial"
```

```
read num
```

```
fact=1
```

```
for ((i=1;i<=num;i++))
```

```
do
```

```
fact=$((fact * i ))
```

```
done
```

```
echo "The factorial of $num is :"$fact
```

```

ayush@DESKTOP-ULT8FD8:~$ bash assignment.sh
Enter the number to find the factorial
5
The factorial of 5 is :120
ayush@DESKTOP-ULT8FD8:~$

```

5. Write a shell scripts that will find the GCD of two given numbers .

```
echo "Enter the two number to Find GCD"
```

```
echo "Enter the 1st number:"
```

```
read num1
```

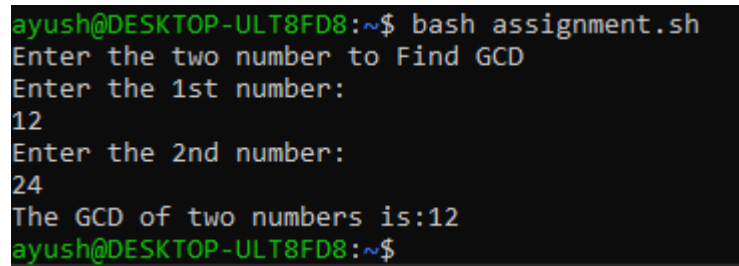
```
echo "Enter the 2nd number:"
```

```
read num2
```

```

while [ $num2 -ne 0 ]
do
rem=$(( num1%num2 )) num1=$num2 num2=$rem
done
echo "The GCD of two numbers is:$num1

```



```

ayush@DESKTOP-ULT8FD8:~$ bash assignment.sh
Enter the two number to Find GCD
Enter the 1st number:
12
Enter the 2nd number:
24
The GCD of two numbers is:12
ayush@DESKTOP-ULT8FD8:~$

```

6. Write a shell script to generate n Fibonacci numbers. Where n is user input.

```

echo "How many number of terms to be generated ?"
read n
x=0
y=1
i=2
echo "Fibonacci Series up to $n terms : "
echo "$x" echo "$y"
while [ $i -lt $n ]
do
i=`expr $i + 1 `
z=`expr $x + $y `
echo "$z" x=$y y=$z
done
r=$n
echo "$r

```

```
ayush@DESKTOP-ULT8FD8:~$ bash assignment.sh
How many number of terms to be generated ?
13
Fibonacci Series up to 13 terms :
0
1
1
2
3
5
8
13
21
34
55
89
144
```