



EXPERIMENT - 6

Operating Systems Lab

AIM

To write the following shell programs:

- Shell script to calculate factorial of a number.
- Shell script to print Fibonacci series up to given number.

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EXPERIMENT – 6

Aim:

To write the following shell programs:

- Shell script to calculate factorial of a number.
- Shell script to print Fibonacci series up to given number.

Source Code:

Write a shell script to calculate the factorial of a number:

```
echo "Enter a number"
read n
num=$((n))

fact=1

while [ $num -gt 1 ]
do
    fact=$((fact * num)) #fact = fact * num
    num=$((num - 1))    #num = num - 1
done

echo "Factorial of $n is: $fact"
```

Output:

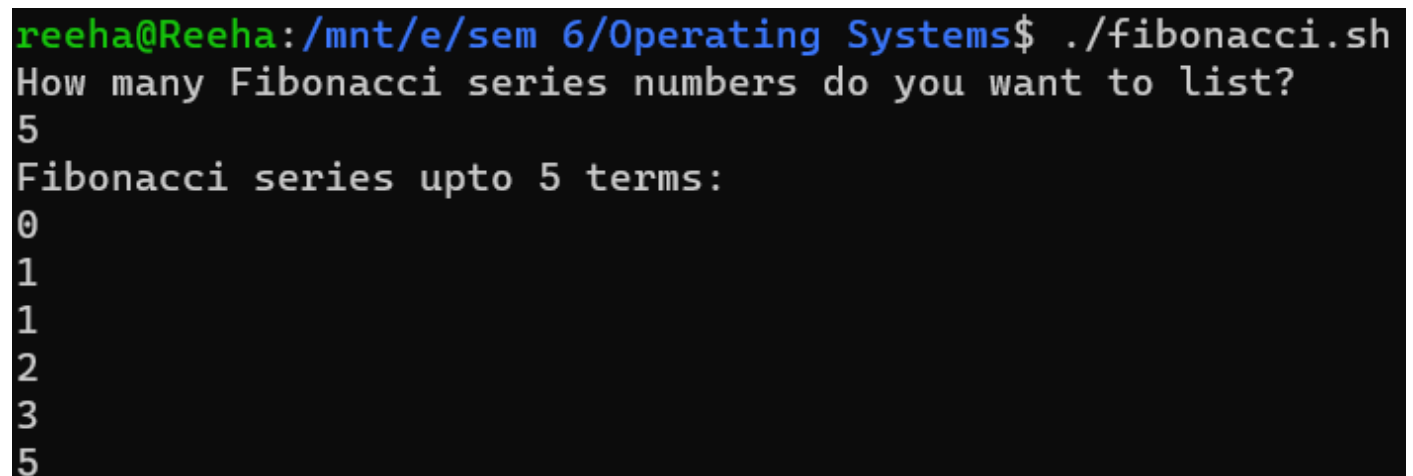
```
reeha@Reeha:/mnt/e/sem 6/Operating Systems$ ./factorial.sh
Enter a number
6
Factorial of 6 is: 720
```

```
reeha@Reeha:/mnt/e/sem 6/Operating Systems$ ./factorial.sh
Enter a number
23
Factorial of 23 is: 8128291617894825984
reeha@Reeha:/mnt/e/sem 6/Operating Systems$ ./factorial.sh
Enter a number
12
Factorial of 12 is: 479001600
reeha@Reeha:/mnt/e/sem 6/Operating Systems$ ./factorial.sh
Enter a number
8
Factorial of 8 is: 40320
```

Write a shell script to print the Fibonacci series up to the given number:

```
echo "How many Fibonacci series numbers do you want to list? "  
read n  
a=0  
b=1  
count=2  
echo "Fibonacci series upto $n terms:"  
echo $a  
echo $b  
while [ $count -le $n ]  
do  
fib=`expr $a + $b`  
a=$b  
b=$fib  
echo $fib  
count=`expr $count + 1`  
done
```

Output:



```
reeha@Reeha:/mnt/e/sem 6/Operating Systems$ ./fibonacci.sh  
How many Fibonacci series numbers do you want to list?  
5  
Fibonacci series upto 5 terms:  
0  
1  
1  
2  
3  
5
```

```
reeha@Reeha:/mnt/e/sem 6/Operating Systems$ ./fibonacci.sh
How many Fibonacci series numbers do you want to list?
20
Fibonacci series upto 20 terms:
0
1
1
2
3
5
8
13
21
34
55
89
144
233
377
610
987
1597
2584
4181
6765
reeha@Reeha:/mnt/e/sem 6/Operating Systems$
```