



Sagar Institute of Research & Technology, Bhopal
Department of Information Technology
Experiment :8

AIM: Write a shell script to find the factorial of given integer.

THEORY:

Algorithm for factorial of a given number

- Get a number
- Use for loop or while loop to compute the factorial by using the below formula
- $\text{fact}(n) = n * n-1 * n-2 * \dots 1$
- Display the result.

SYNTAX:

```
#!/bin/bash
for VARIABLE in 1 2 3 4 5 .. N
do
    command1
    command2
    commandN
done
```

CODE:

```
mkdir SHELL
ls
cd SHELL
touch factorial.sh
sudo nano factorial.sh
fact=1
echo " Enter any number : "
read num
for((i=1; i<=num; i=i++ ))
do
    fact=`expr $fact \* $i`
done
echo " Factorial of a Number is $fact "
```



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COMPILE:

```
sudo chmod +x factorial.sh  
./ factorial.sh
```

OUTPUT :

```
harish@harish-Inspiron-3537: ~/shell  
harish@harish-Inspiron-3537:~/shell$ ./factorial.sh  
bash: ./factorial.sh: Permission denied  
harish@harish-Inspiron-3537:~/shell$ chmod +x factorial.sh  
harish@harish-Inspiron-3537:~/shell$ ./factorial.sh  
Enter any number :  
5  
Factorial of a Number is 1  
harish@harish-Inspiron-3537:~/shell$ ./factorial.sh  
Enter any number :  
5  
Factorial of a Number is 1  
harish@harish-Inspiron-3537:~/shell$ ./factorial.sh  
Enter any number :  
5  
Factorial of a Number is 120  
harish@harish-Inspiron-3537:~/shell$
```