

Institute of Engineering & Management
Department of Computer Science & Engineering
Operating System Lab for 3rd year 6th semester 2019
Code: CS 693

Date: 27/02/19

WEEK-4

Assignment-1

Problem Statement: Write a shell program to calculate the factorial of a number.

Script:

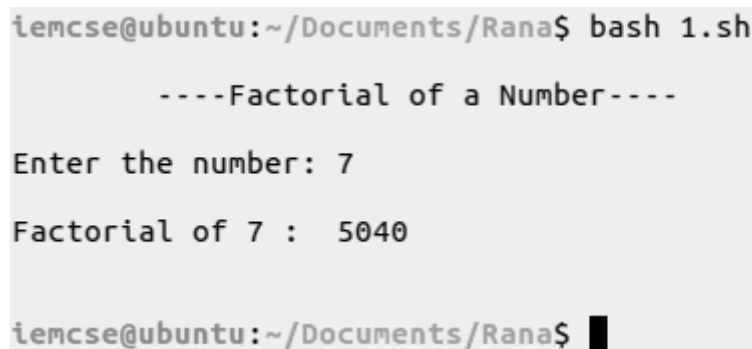
```
echo -e "\n\t----Factorial of a Number----\n"
read -p "Enter the number: " n

res=1

for x in `seq 1 $n`
do
    res=`expr $res \* $x`
done

echo -e "\nFactorial of $n :  $res\n\n"
```

Screen-Shot:



```
iemcse@ubuntu:~/Documents/Rana$ bash 1.sh

    ----Factorial of a Number----

Enter the number: 7

Factorial of 7 :  5040

iemcse@ubuntu:~/Documents/Rana$
```

Assignment-2

Problem Statement: Write a shell menu driven program to do the following:

- a) Display the current working directory.
- b) Check whether an input number is even or odd.
- c) Display the number of counts of all the files in the directory.
- d) Print the long listing of all the files.

Script:

```
echo -e "\nPresent Working Directory: `pwd`\n\n"

read -p "Enter the number: " n
a=`expr $n % 2`
if [ n == 0 ]
then
```

```

        echo -e "$a is Even\n\n"
    else
        echo -e "$a is Odd\n\n"
    fi

    a=`ls -p | grep -v "/"$" | wc -w`
    echo -e "Count of All the files: $a\n\n"

    echo -e "Long listing of all files in current directory:"
    ls -l -p | grep -v "/"$"
    echo -e "\n"

```

Screen-Shot:

```

iemcse@ubuntu:~/Documents/Rana$ bash 2.sh

Present Working Directory: /home/iemcse/Documents/Rana

Enter the number: 7
1 is Odd

Count of All the files: 10

Long listing of all files in current directory:
total 116
-rw-rw-r-- 1 iemcse iemcse 15374 Feb 27 12:14 1.png
-rw-rw-r-- 1 iemcse iemcse  179 Feb 27 11:07 1.sh
-rw-rw-r-- 1 iemcse iemcse  351 Feb 27 11:23 2.sh
-rw-rw-r-- 1 iemcse iemcse  353 Feb 27 12:06 3.sh
-rw-rw-r-- 1 iemcse iemcse  255 Feb 27 11:57 4.sh
-rw-rw-r-- 1 iemcse iemcse  157 Feb 27 12:01 5.sh
-rw-rw-r-- 1 iemcse iemcse 70840 Feb 27 09:54 Lab4 manual and assignment.pdf

iemcse@ubuntu:~/Documents/Rana$ █

```

Assignment-3

Problem Statement: Write a shell program to display all the prime numbers between 1 to 100 using while loop.

Script:

```

echo -e "\n\t---Prime Numbers between 1 to 100---\n"

for x in `seq 2 100`
do
    count=0
    u=`echo "sqrt($x)" | bc`
    for y in `seq 1 $u`
    do
        mod=`expr $x % $y`
        if [ $mod == 0 ]
        then

```

```

        count=`expr $count + 1`
    fi
done
if [ $count -lt 2 ]
then
    echo -n "$x, "
fi
done
echo -e "\n"

```

Screen-Shot:

```

iemcse@ubuntu:~/Documents/Rana$ bash 3.sh

----Prime Numbers between 1 to 100----

2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73,
79, 83, 89, 97,

iemcse@ubuntu:~/Documents/Rana$ █

```

Assignment-4

Problem Statement: Write a menu program to find out whether a given letter is vowel or not.

Script:

```

echo -e "\n\t---Chencking Vowel---\n"

read -p "Enter a letter: " letter

vowels="a e i o u A E I O U"
con=`echo $vowels | grep -c $letter`

if [ $con == 1 ]
then
    echo -e "\n$letter is a Vowel\n\n"
else
    echo -e "\n$letter is a Consonent\n\n"
fi

```

Screen-Shot:

```

iemcse@ubuntu:~/Documents/Rana$ bash 4.sh

----Chencking Vowel----

Enter a letter: U

U is a Vowel

iemcse@ubuntu:~/Documents/Rana$ █

```

Assignment-5

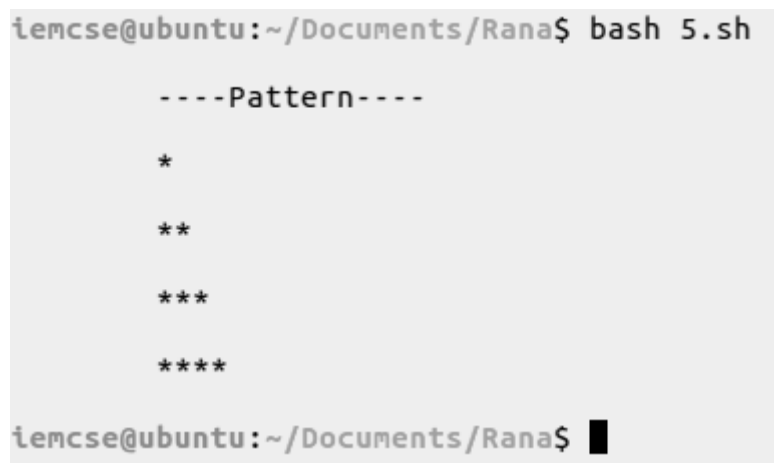
Problem Statement: Write a shell script which will generate the output as follows:

```
*  
* *  
* * *  
* * * *
```

Script:

```
echo -e "\n\t----Pattern----\n"  
  
for i in `seq 1 4`  
do  
    echo -ne "\t"  
    for j in `seq 1 $i`  
    do  
        echo -n "*"   
    done  
    echo -e "\n"  
done
```

Screen-Shot:



```
iemcse@ubuntu:~/Documents/Rana$ bash 5.sh  
  
----Pattern----  
  
*  
  
**  
  
***  
  
****  
  
iemcse@ubuntu:~/Documents/Rana$
```