Assignment 7 | Lab Assignments

Operating Systems Laboratory
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Third year
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1. Write a shell Script to print half pyramid using *.

```
# Pattern : Half pyramid
echo "Enter the no. of rows : "
read n
echo
echo "Printing the pattern..."
i=0
j=0
while [ $i -le `expr $n - 1` ]
do
        j=0
        while [ $j -le `expr $n - 1` ]
        do
                if [ `expr $n - 1` -le `expr $i + $j` ]
                then
                        echo -ne "*"
                else
                        echo -ne " "
                fi
                j=`expr $j + 1`
        done
        echo
        i=`expr $i + 1`
done
```

Output :

```
abhisheks008@LAPTOP-9RGGUF05:~$ ./a7l1.sh
Enter the no. of rows :
8

Printing the pattern...
       *
      **
     ***
    ****
   *****
  ******
 *******
********
```

2. Write a shell script to display full pyramid using * with 8 rows.

```
# Printing the pattern full pyramid
p=8
for((m=1;m<=p;m++))
do
        for((a=m;a<=p;a++))
        do
                echo -ne " "
        done
        for((n=1;n<=m;n++))
        do
                echo -ne "*"
        done
        for((i=1;i<m;i++))
        do
                echo -ne "*"
        done
        echo;
done
```

Output :

```
abhisheks008@LAPTOP-9RGGUF05:~$ vim a7l2.sh
abhisheks008@LAPTOP-9RGGUF05:~$ ./a7l2.sh
        *
       ***
      *****
     *******
    *********
   ***********
  *************
 ***************
```

3. Write a shell script that displays half pyramid using numbers.

```
echo "Enter the number of rows : "
read n
for((i=1;i<=n;i++))
do
        for((j=1;j<=i;j++))
        do
                echo -e "$i \c"
        done
        echo " "
done
```

Output :

```
abhisheks008@LAPTOP-9RGGUF05:~$ vim a7l3.sh
abhisheks008@LAPTOP-9RGGUF05:~$ chmod +x a7l3.sh
abhisheks008@LAPTOP-9RGGUF05:~$ ./a7l3.sh
Enter the number of rows :
5
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```

4. Write a shell Script to print full pyramid using numbers.

```
# Printing the pattern full pyramid
p=8
for((m=1;m<=p;m++))
do
        for((a=m;a<=p;a++))
        do
                echo -ne " "
        done
        for((n=1;n<=m;n++))
        do
                echo -ne "$m"
        done
        for((i=1;i<m;i++))
        do
                echo -ne "$m"
        done
        echo;
done
```

Output :

```
abhisheks008@LAPTOP-9RGGUF05:~$ vim a7l2.sh
abhisheks008@LAPTOP-9RGGUF05:~$ chmod +x a7l2.sh
abhisheks008@LAPTOP-9RGGUF05:~$ ./a7l2.sh
        1
       222
      33333
     4444444
    555555555
   66666666666
  7777777777777
 88888888888888
```

5. Write a shell Script to print inverted half pyramid using numbers.

```
# Pattern : Half pyramid
echo "Enter the no. of rows : "
read n
echo
echo "Printing the pattern..."
i=0
j=0
while [ $i -le `expr $n - 1` ]
do
        j=0
        while [ $j -le `expr $n - 1` ]
        do
                if [ `expr $n - 1` -le `expr $i + $j` ]
                then
                        echo -ne "$i"
                else
                        echo -ne " "
                fi
                j=`expr $j + 1`
        done
        echo
        i=`expr $i + 1`
done
```

Output :

```
abhisheks008@LAPTOP-9RGGUF05:~$ vim a7l1.sh
abhisheks008@LAPTOP-9RGGUF05:~$ ./a7l1.sh
Enter the no. of rows :
5

Printing the pattern...
    0
   11
  222
 3333
44444
```

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