ASSIGNMENT 5

1) Write a shell program to calculate the factorial of a number.

```
echo "Enter a number"
read num

fact=1

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

echo $fact
```

OUTPUT:

```
bash test2.sh
Enter a number
3
6
```

2) Write a shell menu driven program to do the following:
   1. Display the current working directory.
   2. Check whether an input number is even or odd.
   3. Display the number of counts of all the files in the directory.
   4. Print the long listing of all the files.

```
while
do
read choice
case $choice in
1)  echo “You have selected the option 1”
      pwd;;
2)  echo -n “Enter a number:”
    read n
    echo -n “RESULT: “

    if [ `expr $n % 2` == 0 ]
    then
            echo "$n is even"
    else
            echo "$n is Odd"
    fi;;
3)  echo “You have selected the option 3”
    ls -l | wc -l;;
4)  echo “You have selected the option 4”
    ls;;
5)  echo “Quitting ….”
    exit;;

 *) echo “Invalid option”;;

    esac

 echo -n “Enter your menu choice [1-5]: “

 done
```

OUTPUT :

Enter your menu choice [1-5]: 2

Enter a number: 44

RESULT: 44 is Odd

3) Write a shell program to display all the prime numbers between 1 to 100 using while loop.

```
i=1
while [ $i -le 100 ]
do
echo $i
i=`expr $i + 1`
done
```

OUTPUT :

```
1
2
3
4
5
6
7
8
9
10
.
.
.
.
.
```

4) Write a menu program to find out whether a given letter is vowel or not.

```
echo "Enter any character: "
read ch
case $ch in
"a") echo "It is a vowel.";;
"e") echo "It is a vowel.";;
"i") echo "It is a vowel.";;
"o") echo "It is a vowel.";;
```

```
"u") echo "It is a vowel.";;
*) echo "It is not a vowel."
esac
```

OUTPUT:

Enter any character:

s

It is not a vowel.

5) Write a shell script which will generate the output pattern

```
rows=4
for((i=1; i<=rows; i++))
do
for((j=1; j<=i; j++))
do
echo -n "* "
done
echo
done
```

OUTPUT :

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

6) Write a shell script that computes the gross salary of a employee according to the following rules:
i)If basic salary is < 1500 then HRA =10% of the basic and DA =90% of the basic.
ii)If basic salary is >=1500 then HRA =Rs500 and DA=98% of the basic.
The basic salary is entered interactively through the key board.

```
echo  "enter the basic salary:"
read  bsal
if [  $bsal-lt  1500 ]
then
gsal=$((bsal+((bsal/100)*10)+(bsal/100)*90))
echo  "The gross salary : $gsal"
fi
if [ $bsal-ge  1500 ]
then
gsal=$(((bsal+500)+(bsal/100)*98))
echo  "the gross salary : $gsal"
fi
```

Output :
enter the basic salary: 1200
The gross salary : 2400