Ex.No:3	SHELL PROGRAM USING LOOPS AND CONDITIONAL STATEMENTS

AIM:

To write shell program using loops and conditional statements.

Write a Shell program to find the factorial of a number

ALGORITHM:

SEPT1: Start the program.
STEP 2: Read the value of n and assign another variable fact =1
STEP3: Repeat the procedure until n greater than 1
- i. fact = fact * n
- ii. n= n-1

STEP5: Print the value of the variable fact
STEP6: Stop the program

PROGRAM:

```
echo" Enter Number"
read n
fact =1
while [$n -ge1]
do
      fact =`expr $fact \* $n `
      n=`expr$n- 1`
done
echo"The Factorial of the given Number is $fact"
```

OUTPUT:

```
Enter a Number
4
The Factorial of the given Number is 24
```

Write a shell program to print Fibonacci series

ALGORITHM:

SEPT1: Start the program.
SEPT2 : Read n from user
SEPT3: Initialize the variables, a=0, b=1, and count =2
SEPT4: Print first two terms of series
SEPT5: Use loop for the following steps until count <= n

i. fib = a+b
ii. a=b
iii. b=fib
iv. print fib
v. count = count+1

STEP6: Stop the program

PROGRAM:

```
echo "How many number of terms to be generated ?"
read n
a=0
b=1
count=2
echo "Fibonacci Series up to $n terms :"
echo "$a"
echo "$b"
while [ $count -le $n ]
do
        fib=`expr $a + $b `
         a=$b
        b=$fib
        echo "$fib"
        count=`expr $count + 1 `
done
```

OUTPUT:

```
How many number of terms to be generated ?
6
Fibonacci Series up to 6 terms :
0
1
1
2
3
5
```

Write a Shell program to check the given number is even or odd

ALGORITHM:

SEPT 1: Start the program.
STEP2: Read the value of n.
STEP3: Calculate ‘r=expr$n%2’.
STEP 4: If the value of r equals 0 then print the number is even

STEP5: If the value of r not equal to 0 then print the number is odd.

PROGRAM:

```
echo “Enter the Number"
read n
r=`expr$n%2`
if [ $r -eq 0 ]then
echo"$n is Even number"
else
echo"$n is Odd number"
fi
```

OUTPUT:

```
Enter the Number
10
10 is Even number
```

Write a Shell program to check the given year is leap year or not

ALGORITHM:

SEPT 1: Start the program.
STEP2: Read the value of year.
STEP3: Calculate,,b=expr$y%4‟.
STEP4: If the value of b equals 0 then print the year is a leap year
STEP5: If the values of b not equal to 0 then print the year is not a leap year.

PROGRAM:

```
echo "Enter the year"
read y
b=`expr $y % 4`
if[$b -eq 0 ]then
echo"$y is a leap year"
else
echo"$y is not a leap year"
fi
```

OUTPUT:

```
Enter the year
2022
2022 is not a leap year
```