EXP NO 16

AIM: To convert the Decimal number to its equivalent binary number and octal number and the output values verified using Assert code;

```
import static org.junit.Assert.True;
class Binary
{ public static void main (String [] args)
  { Scanner in = new Scanner (System.in);
    int decimal = in.nextInt();
    String binary = Integer.toBinaryString(decimal);
    System.out.println("BINARY IS" + binary);
    system.out.println (Integer.toOctalString (decimal));
    assertTrue (14 == decimal);
  }
}
```

Output

Test case 1

Input: 14 Expected output: 14 Binary is 1110
octal is 16

Actual output: Binary 1110 Remark: Success
octal is 16.

Test case 2

Input: 15 Expected output: Binary is ~~1000~~ 1111
octal is 17

Actual output: Binary is 1111
octal is 17

Remarks: Success

Exp no 17

Aim: To write a Java program to convert a given number of days in terms of years, weeks & days. The output values should verify using White Box testing

```
import static org.junit.Assert.assertTrue;
import java.util.Scanner;
public class year
{
    public static void main(String args[])
    {
        int n, year, week, day;
        Scanner s = new Scanner(System.in);
        System.out.println("Enter the number of days:");
        n = s.nextInt();
        year = n/365;
        assertTrue(2 == year);
        n = n%365;
```

System.out.println("No of weeks%7 week);
day=m
System.out.println("No of days" + day); }
}

output

TEST CASE 1

Input : 600 Expected output : 2 Actual output : 2
10 10
0 0

Remarks : successful.

Test case 2

Input 500 Expected output : 1 Actual output : 1
19 19
2 2

Remarks : Successful

Exp No : 18

Aim : To find the Factorial of n The values should verify using white box testing?

Aim import static org.junit.Assert.assertTrue;
import java.util.Scanner;
class Factorial
{
public static void main(String[]args)
{int j; j=1;
try{

```
Scanner s=new Scanner(System.in);
class Factorial
{
public static void main(String[]args)
{
int i,f,pr=1;
try{
Scanner
System.out.println("Enter the number to find the Factori
int n=s.nextInt();
if(n<0)
{
System.out.println("Invalid")
}
else if(n==0)
{
System.out.println("1")
}
else
{
for(i=n;i>0;i--)
{
for(i=n;i>0;i--)
{
pr=pr*i;
}
System.out.println("The answer is"+pr);
assertTrue(120==pr);
}
}
```

```
catch (Exception e)
{
System.out.println("Invalid");
}
}
}
```

Output

TEST CASE 1

Input 5 Expected output: 120 Actual output: 120

Remarks: Success

TEST CASE 2.

Input 6 Expected output: 720 Actual output: 720

Remarks: success

EXP NO: 19

Aim: To find the year of the given date is leap year or not and the result is verified using ~~whitebox~~ whitebox testing

```
import whitebox testing.
import static org.junit.Assert.assertTrue;
import java.util.Scanner;
class leap year.
{
public static void main(String[] args)
{
int i=0;
System.out.println("Enter the date/month/year");
Scanner s = new Scanner(System.in);
```

```
String re = s.next();
String[] r = re.split("/", 3);
int x = Integer.parseInt(r[2]);
assertTrue(x == 2000);
if (x%.4=0)
 {
 System.out.println("It is an leap year");
 }
 }

}
```

Output

Test case: 1

Input: 12/04/2000

Expected output: Its an leap year.

Actual output: Its ans leap year.

Remarks: Successful.

Exp NO: 20

Aim: To write a program to find the square, cube of the given decimal number. The output values should verify using whiteBox testing

```
import static org.junit.Assert.assertTrue;
import java.util.Scanner;
public class cubeSquare{
public static void main(String[] args)
{
try{
Scanner s=new Scanner (System.in);
System.out.println("Enter an Number");
double n=s.nextDouble();
double a=0, b=0;
a=n*n;
b=n*n*n;
System.out.println("The square of number:"+a);
System.out.println("The square of number:"+b);
}
catch (Exception e)
{
System.out.println("Invalid");
}
}
assertTrue(expected output==a);
assertTrue(expected output==b);
}
```

Output

Test case 1:

Input : 5

Expected output = 25.0
= 125.0

Actual output = 25.0
= 125.0

Remarks = Success