Exp_no: 16 Write a program to convert Decimal number equivalent to Binary number and octal number. The output values should verify using white box testing?

Aim: To convert the decimal number to its equivalent binary number and octal number and the output values verified using Assert code.

program:

```
import java.util.Scanner;
import java.org.junit.Assert.assertTrue;
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(" octal is" + );
        System.out.println(Integer.toOctalString
                                    (decimal));
        assertTrue(H == decimal);
    }
}
```

output:

Binary is 1110
Octal is 16

15
Binary is 1111
Octal is 17

Exp no: 11 write java program to convert given number of days in terms of years, weeks and days. The output values should verify using white box testing.

Aim: To write java program to convert given days in terms of years, weeks and days.

Program:

```
import static org.junit.Assert.assertTrue;
import java.util.Scanner;
Public class year {
    public static void main (String[] args)
    {
        int m, year, week, day;
        Scanner s = new Scanner (System.in);
        System.out.print ("Enter no of days:");
        m = s.nextInt ();
        year = m/365;
        assertTrue (2 == year);
        m = m %365;
        System.out.println ("No of years:" + years);
        week = m/7;
        m = m %7;
        System.out.println ("No. of weeks:" + week
        day = m;
        System.out.println ("No. of days:" + days);
    }
```

output:

Enter no. of days: 800

No. of years: 2

No. of weeks: 10

No. of days: 0

Exp no: 18

Find the factorial of n; The output value should verify using white box testing.

Aim: To find the factorial of n and the output values should verify using white box testing.

Program:

```
import java.util.scanner;
import static org.junit.Assert.assertTrue;
class factorial {
    public static void main (String[] args)
    {
      int i,j, pr=1;
      try {
          scanner s = new scanner (System.in);
          system.out.println (" Enter n: ");
          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--);
          {
              pr = pr* i;
             }
             System.out.println ("The answer
                                  is :" + pr);
             assertTrue (120 == pr);
          }
          }
          catch (Exception e)
          {
            System.out.println (" invalid");
          }
          }}
```

Enter n: 5

The answer is : 120

Exp.no: 19 Find the year of the given date is leap year or not. The output value should verify using white box testing

Aim: To find year of a given date is leap year or not and result is verified using white box testing.

Program:

```
import static org.junit.Assert.assertTrue;
    import java.util.Scanner;
    class leapyear {
        public static void main (String[] args)
        { int i=0;
        System.out.println("Enter date: ");
        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 leap
                year");
        }
        else {
            System.out.println("It is not
                leap year");
        }
    }
}
```

output:

Enter the number to find the factorial

5

The answer is : 120

Exp no: 20 Write a program to find a square, cube of the given decimal number the output value should verify using white box testing

Aim: To write a program to find the square, cube of the given decimal number.

Program:

```
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 a number:");
            double n = s.nextDouble ();
            double a = 0, b = 0;
            a = n * n;
            b = n * n * n;
            System.out.println ("The square : " + a);
            System.out.println ("The cube : " + b);
        } catch (Exception e) {
            System.out.println ("Invalid");
        }
        assertTrue (expected output == a);
        assertTrue (expected output == b);
    }
```

output:

```
Enter an number : 5
The square of number : 25.0
The cube : 125.0
```