

Exp No: 16

To convert the Decimal numbers to equivalent Binary numbers and Octal numbers

Code :-

```
import static org.junit.Assert.assertTrue;
class Binary {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int decimal = sc.nextInt();
        String binary = Integer.toBinaryString(decimal);
        System.out.println("Binary is " + binary);
        System.out.println("Octal is " + Integer.toOctalString(decimal));
        Assert.assertTrue(binary.equals("1110") & & decimal == 14);
    }
}
```

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Output: 14  
Binary is 1110  
Octal is 15

Input: 14

Expected output: Binary is 1110  
Octal is 15

Remark: Successful

## Exp NO : 17

Write a Java Program to convert a Given Number of Days in terms of Years Weeks & Days. The o/p values should verify using White Box Testing.

Aim

```
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.println("Enter the number of days");
        m = s.nextInt();
        year = m / 365;
        assert True(z == year);
        m = m % 365;
        System.out.println("No. of years " + year);
        week = m / 7;
        m = m % 7;
        System.out.println("No. of weeks ; " + week);
        day = m;
        System.out.println("No. of days ; " + day);
    }
}
```

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Exp - 18

Find the Factorial of N?

Aim

```
import static org.junit.Assert.assertEquals  
import java.util.Scanner
```

Class factorial

{

```
    public static void main(String[] args)
```

```
    {
```

```
        int i, j, p = 1;
```

```
        try {
```

```
            Scanner S = new Scanner(System.in);
```

System.out.println("Enter the number to find  
the factorial");

```
        int n = S.nextInt();
```

```
        if (n <= 0)
```

```
        {
```

```
            System.out.println("Invalid");
```

```
        }
```

```
        else (n == 0)
```

```
        {
```

```
            System.out.println("1");
```

```
        }
```

```
        else
```

```
        {
```

```
            for (i = n; i > 0; i--)
```

```
            {
```

```
                p = p * i;
```

```
            }
```

```
        }
```

```
        System.out.println("The answer is " + p);
```

```
        assertEquals(120, p);
```

```
    }
```

```
    catch (Exception e)
```

```
    {
```

## Exp-12

Find Given date is leap year or not?

aim : To find the year of the given date is leap year or not and the result is verified using white box testing

```
import static org.junit.Assert.assertEquals;
import java.util.Scanner;

class LeapYear {
    public static void main(String[] args) {
        int i = 0;
        System.out.print("Enter the date/month/year");
        Scanner s = new Scanner(System.in);
        String re = s.next();
        int x = Integer.parseInt(re);
        assertEquals(2000, x);
        if (x % 4 == 0) {
            System.out.println("It is a leap year");
        } else {
            System.out.println("It is not a leap year");
        }
    }
}
```

## Exp - 20

Aim : To write a program to find the Square, Cube of the given decimal number.

```
import static org.junit.Assert.assertTrue;
import java.util.Scanner;
```

```
public class Cube_Square
```

```
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 of number is = " + a);
```

```
System.out.println ("The cube of number is = " + b);
```

```
} catch (Exception e) {
```

```
}
```

```
System.out.println ("Invalid");
```

```
}
```

```
}
```

```
assert True (expected output == a);
```

```
assert True (expected output == b);
```

```
}
```