

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: 140 Binary is 1110
Octal is 16

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

Test case 2

Input: 15 Expected output: Binary is ~~1001~~ 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 test.

```
import static org.junit.Assert.*;
```

```
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 the number of days:");
```

```
    m = s.nextInt();
```

```
    year = m/365;
```

```
    Assert.assertTrue(2 == year);
```

```
    m = m%365;
```

```

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

```

output

TEST CASE 1

Input : 600

Expected output : 2

Actual output : 2

Output

10

0

100

0

Remarks : Successful.

Test case 2

Input 500

Expected output : 1

Actual output : 1

19

2

19

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.*;

```

```

import java.util.Scanner;

```

```

class factorial

```

```

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

```

```

        int j; jps = 1;

```

```

    }
}

```

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

```
class Factorial
```

```
{
```

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

```
{
```

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

```
try {
```

```
Scanner
```

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

```
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 (j = n; j > 0; j--)
```

```
{
```

```
pr = pr * i;
```

```
}
```

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

```
assert True (120 == pr);
```

```
}
```

```
}
```

```

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

```

Output

TEST CASE 1

Input 15 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 without whitebox testing

Import whitebox testing.

import static org.junit.Assert.*;

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]);
```

```
assert True (x == 2000);
```

```
if (x % 4 == 0)
```

```
{
```

```
System.out.println("It is an leap year");
```

```
}
```

```
}
```

```
}
```

Output

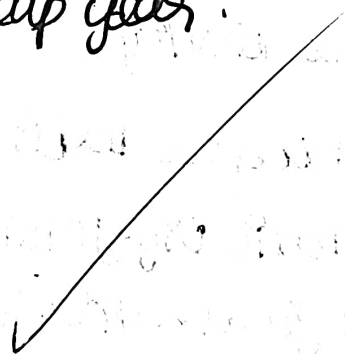
Test case: 1

Input: 12/04/2000

Expected output: Its an leap year

Actual output: Its an 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.*;
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");
        }
    }
    try {
        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