

LAB # 10**Introduction to Test Suite**

OBJECTIVE: Grouping the multiple JUnit test cases and constructing a Test Suite program.

Lab Task:

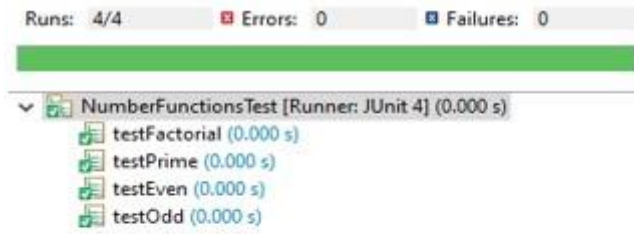
Make a class having four functions for determining,

- Whether the input integer is odd.
- Whether the input integer is even.
- Whether the input integer is prime.
- For calculating the factorial of that input integer.

Write their test cases and execute them in a single test suite class. Follow all the steps mentioned above in the manual.

```
public class NumberFunctions {
    public boolean isOdd(int num) {
        return num % 2 != 0;
    }
    public boolean isEven(int num) {
        return num % 2 == 0;
    }
    public boolean isPrime(int num) {
        if (num <= 1) return false;
        for (int i = 2; i <= num / 2; i++) {
            if (num % i == 0) return false;
        }
        return true;
    }
    public int factorial(int num) {
        int fact = 1;
        for (int i = 1; i <= num; i++) {
            fact *= i;
        }
        return fact;
    }
    public static void main(String[] args) {
        NumberFunctions obj = new NumberFunctions();
        System.out.println("Odd: " + obj.isOdd(5));
        System.out.println("Even: " + obj.isEven(10));
        System.out.println("Prime: " + obj.isPrime(7));
        System.out.println("Factorial: " + obj.factorial(5));
    }
}
```

```
import static org.junit.Assert.*;
import org.junit.Test;
public class NumberFunctionsTest {
    NumberFunctions obj = new NumberFunctions();
    @Test
    public void testOdd() {
        assertTrue(obj.isOdd(5));
        assertFalse(obj.isOdd(10));
    }
    @Test
    public void testEven() {
        assertTrue(obj.isEven(10));
        assertFalse(obj.isEven(5));
    }
    @Test
    public void testPrime() {
        assertTrue(obj.isPrime(7));
        assertFalse(obj.isPrime(8));
    }
    @Test
    public void testFactorial() {
        assertEquals(120, obj.factorial(5));
        assertEquals(6, obj.factorial(3));
    }
}
```



GitHub Screenshot: