LAB # 9

JUnit Testing

OBJECTIVE: Study the concept of Test-Driven Development under the framework of JUnit Testing.

Lab Task:

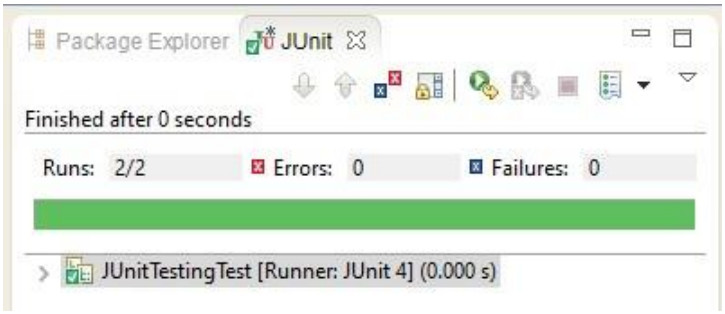
- Add another test case for countA function (which is given in code).

*JUnitTesting.java | JUnitTestingTest.java | NumberCheck.java | NumberCheckT

```
public class JUnitTesting {
    public int square(int x) {
        return x * x;
    }
    public int countA(String word) {
        int count = 0;
        for (int i = 0; i < word.length(); i++) {
            if (word.charAt(i) == 'a' || word.charAt(i) == 'A') {
                count++;
            }
        }
        return count;
    }
    public static void main(String[] args) {
        JUnitTesting obj = new JUnitTesting();
        System.out.println(obj.square(5));
        System.out.println(obj.countA("Apple and banana"));
    }
}
```

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

public class JUnitTestingTest {
    @Test
    public void testSquare() {
        JUnitTesting obj = new JUnitTesting();
        assertEquals(25, obj.square(5));
    }
    @Test
    public void testCountA() {
        JUnitTesting obj = new JUnitTesting();
        assertEquals(5, obj.countA("Apple and banana"));
    }
}
```

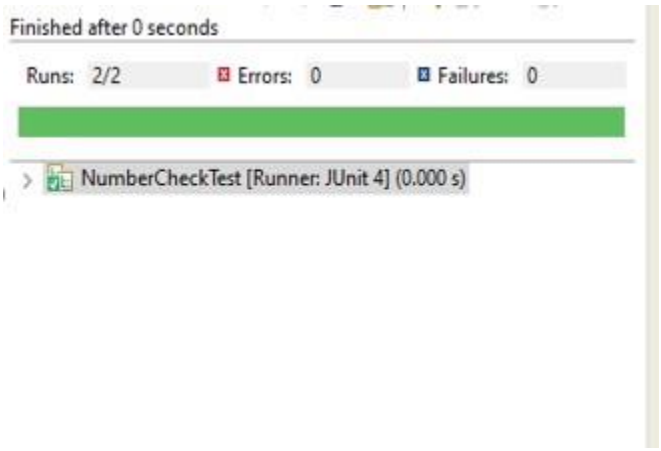


Make new project, make a class. Add 2 methods in it. One method will find the max integer present in the input integer array. The other method will find the min integer. Now create test cases for both these methods and test your code. Follow all the steps as mentioned above in the manual.

*JUnitTesting.java *JUnitTestingTest.java *NumberCheck.java

```
public class NumberCheck {
    public int max(int[] arr) {
        int max = arr[0];
        for (int i : arr) {
            if (i > max) {
                max = i;
            }
        }
        return max;
    }
    public int min(int[] arr) {
        int min = arr[0];
        for (int i : arr) {
            if (i < min) {
                min = i;
            }
        }
        return min;
    }
    public static void main(String[] args) {
        NumberCheck obj = new NumberCheck();
        int[] arr = {5, 1, 9, 3};
        System.out.println("Max: " + obj.max(arr));
        System.out.println("Min: " + obj.min(arr));
    }
}
```

```
import static org.junit.Assert.*;
import org.junit.Test;
public class NumberCheckTest {
    @Test
    public void testMax() {
        NumberCheck obj = new NumberCheck();
        int[] arr = {5, 1, 9, 3};
        assertEquals(9, obj.max(arr));
    }
    @Test
    public void testMin() {
        NumberCheck obj = new NumberCheck();
        int[] arr = {5, 1, 9, 3};
        assertEquals(1, obj.min(arr));
    }
}
```



GitHub Screenshot: