

Lab (1): Software Testing



**Program: Computer and
Systems Engineering**

Course Code: CSE337s

Course Name: Software Testing

**Ain Shams University
Faculty of Engineering**



TEAM NUMBER: 7

TEAM MEMBERS:

Name	ID	Level
Mazen Ehab Mohamed Maher	1901120	Senior 2
Ahmed Mahmoud Mohamed Ibrahim	1901143	Senior 2
Mohamed Mostafa Shaban Mohamed	1901650	Senior 2
Mostafa Mohamed Ahmed Abdelaal	1803093	Senior 2
Andrew Samir Kamel Gayed	1900242	Senior 2
AbdAllah Mostafa Mahmoud Alsayed	1900779	Senior 2

The first Function [intMax(int a, int b, int c)]

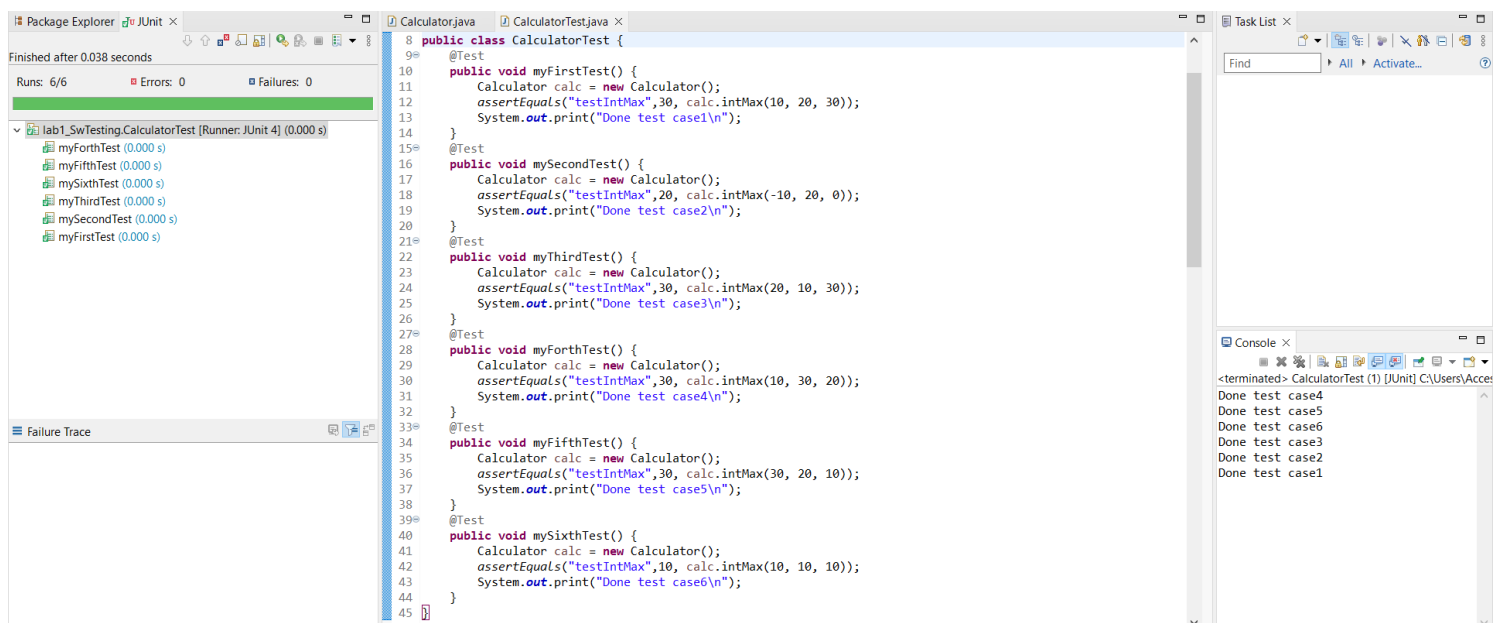
1- write the implementation of function in class (as example calculator class) as shown

```
1 package lab1_SwTesting;
2
3 public class Calculator {
4     public int intMax(int a,int b,int c) {
5         return Math.max(a,Math.max(b, c));
6     }
7
8     public static void main(String [] args) {
9
10    }
11 }
12
```

2- make another test class (as example CalculatorTest class) as shown

```
*Calculator.java    *CalculatorTest.java ×
1 package lab1_SwTesting;
2
3 import static org.junit.Assert.assertEquals;
4
5
6
7
8 public class CalculatorTest {
9
10 }
11
```

3- make the test cases for this function:



```
8 public class CalculatorTest {
9     @Test
10    public void myFirstTest() {
11        Calculator calc = new Calculator();
12        assertEquals("testIntMax",30, calc.intMax(10, 20, 30));
13        System.out.println("Done test case1\n");
14    }
15    @Test
16    public void mySecondTest() {
17        Calculator calc = new Calculator();
18        assertEquals("testIntMax",20, calc.intMax(-10, 20, 0));
19        System.out.println("Done test case2\n");
20    }
21    @Test
22    public void myThirdTest() {
23        Calculator calc = new Calculator();
24        assertEquals("testIntMax",30, calc.intMax(20, 10, 30));
25        System.out.println("Done test case3\n");
26    }
27    @Test
28    public void myForthTest() {
29        Calculator calc = new Calculator();
30        assertEquals("testIntMax",30, calc.intMax(10, 30, 20));
31        System.out.println("Done test case4\n");
32    }
33    @Test
34    public void myFifthTest() {
35        Calculator calc = new Calculator();
36        assertEquals("testIntMax",30, calc.intMax(30, 20, 10));
37        System.out.println("Done test case5\n");
38    }
39    @Test
40    public void mySixthTest() {
41        Calculator calc = new Calculator();
42        assertEquals("testIntMax",10, calc.intMax(10, 10, 10));
43        System.out.println("Done test case6\n");
44    }
45 }
46
```

Package Explorer: lab1_SwTesting.CalculatorTest [Runner: JUnit 4] (0.000 s)

- myForthTest (0.000 s)
- myFifthTest (0.000 s)
- mySixthTest (0.000 s)
- myThirdTest (0.000 s)
- mySecondTest (0.000 s)
- myFirstTest (0.000 s)

Console:

```
<terminated> CalculatorTest (1) [JUnit] C:\Users\Acces
Done test case4
Done test case5
Done test case6
Done test case3
Done test case2
Done test case1
```

as shown 6 test cases and all of them are passed as expected.

The Second Function [hasTeen(int a, int b, int c)]

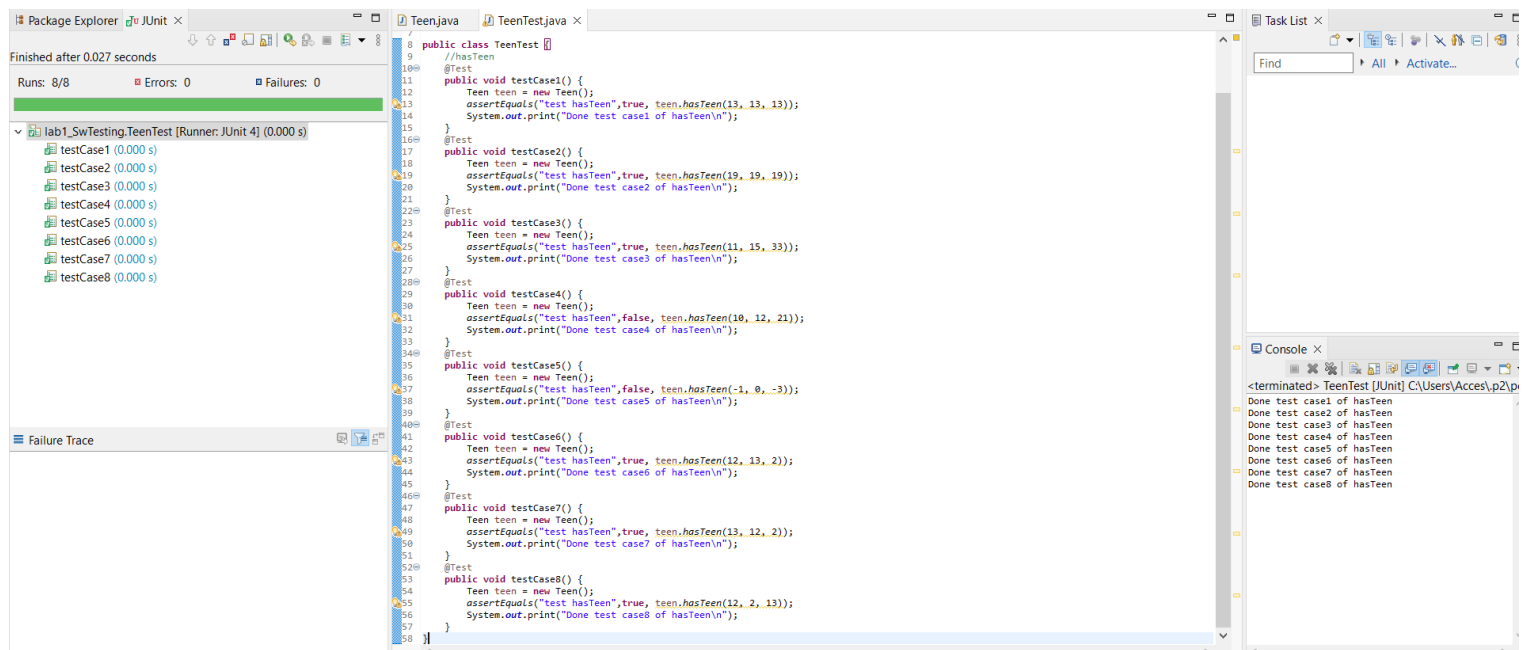
1- write the implementation of function in class (as example Teen class) as shown

```
Teen.java × TeenTest.java
1 package lab1_SwTesting;
2
3 public class Teen {
4     public static boolean hasTeen(int a,int b,int c) {
5         return (a >= 13 && a <= 19) || (b >= 13 && b <= 19) || (c >= 13 && c <= 19);
6     }
7     public static void main(String [] args) {
8
9     }
10 }
```

2- make another test class (as example TeenTest class) as shown

```
Teen.java *TeenTest.java ×
1 package lab1_SwTesting;
2
3 import static org.junit.Assert.assertEquals;
4
5
6
7
8 public class TeenTest {
9
10
11 }
```

3- make the test cases for this function:



```
Teen.java TeenTest.java ×
8 public class TeenTest {
9     //hasTeen
10    @Test
11    public void testCase1() {
12        Teen teen = new Teen();
13        assertEquals("test hasTeen",true, teen.hasTeen(13, 13, 13));
14        System.out.println("Done test case1 of hasTeen\n");
15    }
16    @Test
17    public void testCase2() {
18        Teen teen = new Teen();
19        assertEquals("test hasTeen",true, teen.hasTeen(19, 19, 19));
20        System.out.println("Done test case2 of hasTeen\n");
21    }
22    @Test
23    public void testCase3() {
24        Teen teen = new Teen();
25        assertEquals("test hasTeen",true, teen.hasTeen(11, 15, 33));
26        System.out.println("Done test case3 of hasTeen\n");
27    }
28    @Test
29    public void testCase4() {
30        Teen teen = new Teen();
31        assertEquals("test hasTeen",false, teen.hasTeen(10, 12, 21));
32        System.out.println("Done test case4 of hasTeen\n");
33    }
34    @Test
35    public void testCase5() {
36        Teen teen = new Teen();
37        assertEquals("test hasTeen",false, teen.hasTeen(-1, 0, 3));
38        System.out.println("Done test case5 of hasTeen\n");
39    }
40    @Test
41    public void testCase6() {
42        Teen teen = new Teen();
43        assertEquals("test hasTeen",true, teen.hasTeen(12, 13, 2));
44        System.out.println("Done test case6 of hasTeen\n");
45    }
46    @Test
47    public void testCase7() {
48        Teen teen = new Teen();
49        assertEquals("test hasTeen",true, teen.hasTeen(13, 12, 2));
50        System.out.println("Done test case7 of hasTeen\n");
51    }
52    @Test
53    public void testCase8() {
54        Teen teen = new Teen();
55        assertEquals("test hasTeen",true, teen.hasTeen(12, 2, 13));
56        System.out.println("Done test case8 of hasTeen\n");
57    }
58 }
```

Package Explorer JUnit ×
Finished after 0.027 seconds
Runs: 8/8 Errors: 0 Failures: 0
lab1_SwTesting.TeenTest [Runner: JUnit 4] (0.000 s)
testCase1 (0.000 s)
testCase2 (0.000 s)
testCase3 (0.000 s)
testCase4 (0.000 s)
testCase5 (0.000 s)
testCase6 (0.000 s)
testCase7 (0.000 s)
testCase8 (0.000 s)
Failure Trace

Task List ×
Find All Activate...
Console ×
<terminated> TeenTest [JUnit] C:\Users\Acces\p2\p
Done test case1 of hasTeen
Done test case2 of hasTeen
Done test case3 of hasTeen
Done test case4 of hasTeen
Done test case5 of hasTeen
Done test case6 of hasTeen
Done test case7 of hasTeen
Done test case8 of hasTeen

as shown 8 test cases and all of them are passed as expected.