

Lab 19-Assignment

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1)Create test methods for a MathOperations class that provides basic arithmetic operations. Write tests to cover addition, subtraction, multiplication, and division. Use parameterized tests to test different input values.

```
package myapplication;

public class Calculator {
    public int add(int a, int b)
    {
        return (a+b);
    }
    public int sub(int a, int b)
    {
        return (a-b);
    }
    public int mul(int a, int b)
    {
        return (a*b);
    }
    public int div(int a, int b)
    {
        return (a/b);
    }
}
```

```
package myapplication;
```

```
import static
org.junit.jupiter.api.Assertions.assertEquals;
```

```
import org.junit.jupiter.api.Test;

public class TestCase {
    @Test
    public void testMethod()
    {
        Calculator calc = new Calculator();

        assertEquals(calc.add(10, 10),20);

    }
    @Test
    public void testMethod1()
    {
        Calculator calc = new Calculator();

        assertEquals(calc.sub(10, 10),0);

    }
    @Test
    public void testMethod2()
    {
        Calculator calc = new Calculator();

        assertEquals(calc.mul(10, 10),100);

    }
    @Test
    public void testMethod3()
    {
        Calculator calc = new Calculator();

        assertEquals(calc.div(10, 10),1);

    }
    @Test
    public void testMethod4()
    {
        Calculator calc = new Calculator();
```

```
assertEquals(calc.div(10, 10),0);
```

```
}
```

```
}
```

Output:

The screenshot displays an IDE interface with the following components:

- Package Explorer:** Shows the project structure with packages like `bubbyapplication`, `com.file1`, `Exception`, and `myapplication`. The `myapplication` package contains `src/main/java` and `src/test/java`.
- Editor:** Displays the `TestCase.java` file with the following code:

```
1 package myapplication;
2
3 import static org.junit.jupiter.api.Assertions.assertEquals
4
5 import org.junit.jupiter.api.Test;
6
7 public class TestCase {
8     @Test
9     public void testMethod()
10    {
11        Calculator calc = new Calculator();
12
13        assertEquals(calc.add(10, 10),20);
14    }
15
16     @Test
17     public void testMethod1()
18    {
19        Calculator calc = new Calculator();
20
21        assertEquals(calc.sub(10, 10),0);
22    }
23 }
```
- JUnit Runner:** Shows the test results for `TestCase`. The test `testMethod1()` failed with the message: `org.opentest4j.AssertionFailedError: expected: <1> but was: <0>`. The test `testMethod()` passed.
- Console:** Shows the output of the test run, including the error message for `testMethod1()`.