Junit Exercises

Exercise 1: Setting Up Junit

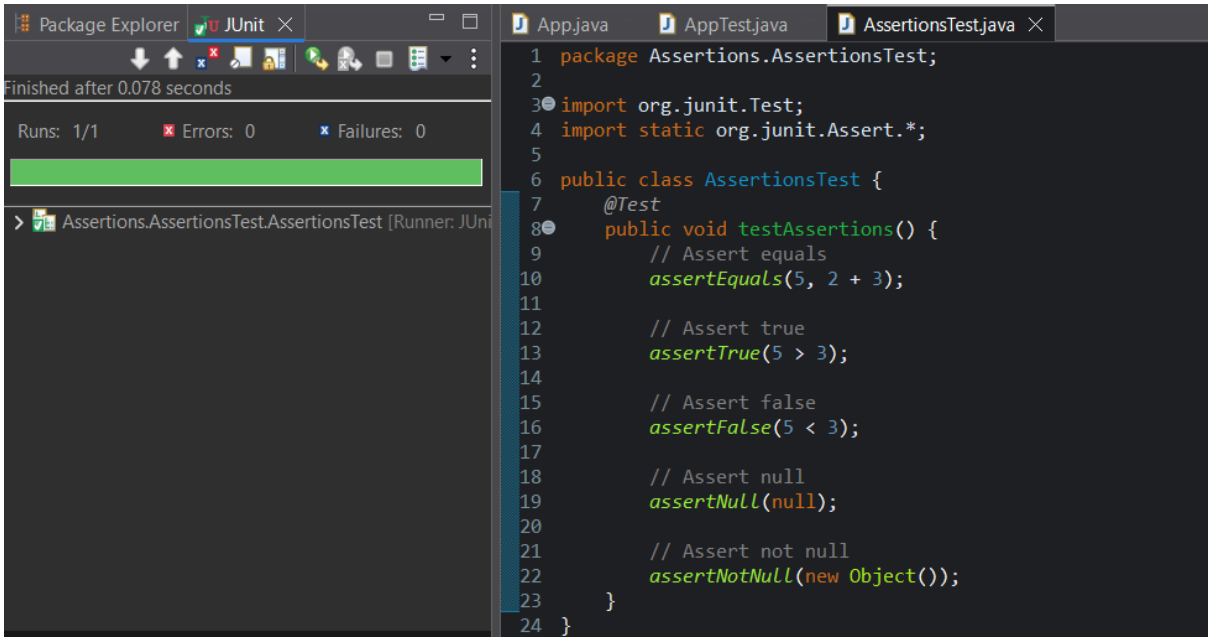
```
  <dependencies>
    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>3.8.1</version>
      <scope>test</scope>
    </dependency>
    <dependency>
    <groupId>junit</groupId>
    <artifactId>junit</artifactId>
    <version>4.13.2</version>
    <scope>test</scope>
    </dependency>
  </dependencies>

</project>

```

Exercise 3: Assertions in Junit

AssertionsTest.java

```
package Assertions.AssertionsTest;

import org.junit.Test;

import static org.junit.Assert.*;

public class AssertionsTest {

  @Test

  public void testAssertions() {

    // Assert equals

    assertEquals(5, 2 + 3);


    // Assert true

    assertTrue(5 > 3);


    // Assert false

    assertFalse(5 < 3);
```

```
        // Assert null
        assertNull(null);

        // Assert not null
        assertNotNull(new Object());
    }
}
```



Exercise 4: Arrange-Act-Assert (AAA) Pattern, Test Fixtures, Setup and Teardown Methods in Junit

CalculatoreTest.java

```
package com.CalculatorTest;


import static org.junit.jupiter.api.Assertions.*;

import org.junit.jupiter.api.Test;

import org.junit.jupiter.api.BeforeEach;

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

```
public class CalculatorTest {

    private Calculator calculator;

    @BeforeEach
    public void setUp() {
        calculator = new Calculator();
        System.out.println("Setup complete.");
    }

    @AfterEach
    public void tearDown() {
        calculator = null;
        System.out.println("Teardown complete.");
    }

    @Test
    public void testAddition() {
        int a = 5;
        int b = 3;
        int result = calculator.add(a, b);
        assertEquals(8, result);
    }

    @Test
    public void testSubtraction() {
        int a = 10;
        int b = 4;
```

```
        int result = calculator.subtract(a, b);
        assertEquals(6, result);
    }
}
```

Calculator.java

```
package com.CalculatorTest;

public class Calculator {
    public int add(int a, int b) {
        return a + b;
    }
    public int subtract(int a, int b) {
        return a - b;
    }
}
```