

## JUnit Testing Exercises

### Exercise 3: Assertions in JUnit

Scenario:

You need to use different assertions in JUnit to validate your test results.

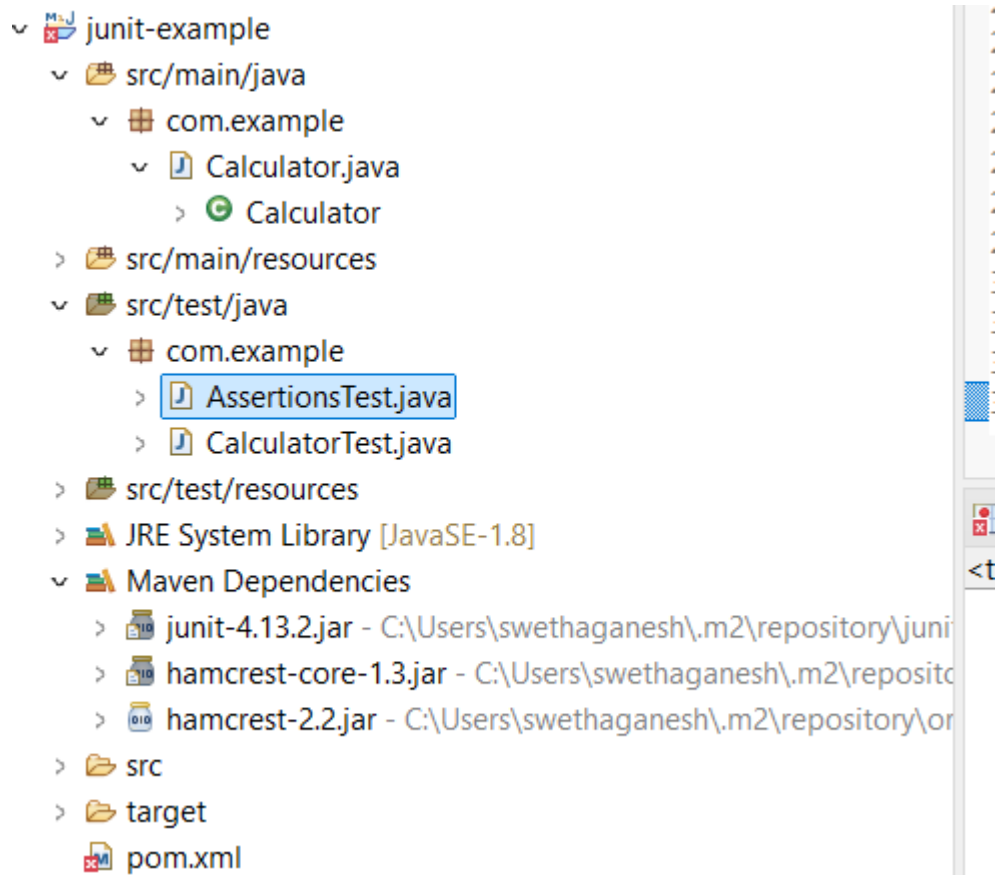
Steps:

1. Write tests using various JUnit assertions.

Solution Code:

```
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());  
    }  
}
```

## Project Structure:



## POM.XML:

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<project xmlns="http://maven.apache.org/POM/4.0.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
    https://maven.apache.org/xsd/maven-4.0.0.xsd">
```

```
<modelVersion>4.0.0</modelVersion>
```

```
<groupId>com.example</groupId>
```

```
<artifactId>junit-example</artifactId>
```

```
<version>0.0.1-SNAPSHOT</version>
```

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

  <dependency>
    <groupId>org.hamcrest</groupId>
    <artifactId>hamcrest</artifactId>
    <version>2.2</version>
  </dependency>
</dependencies>
```

```
</project>
```

### **AssertionsTest.java:**

```
package com.example;
```

```
import org.junit.Test;
```

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

```
public class AssertionsTest {
```

```
    @Test
```

```
    public void testAssertEquals() {
```

```
        assertEquals("2 + 3 should be 5", 5, 2 + 3);
```

```
    }
```

```
    @Test
```

```
    public void testAssertTrue() {
```

```
        assertTrue("5 is greater than 3", 5 > 3);
```

```
    }
```

@Test

```
public void testAssertFalse() {  
    assertFalse("5 is not less than 3", 5 < 3);  
}
```

@Test

```
public void testAssertNull() {  
    assertNull("Should be null", null);  
}
```

@Test

```
public void testAssertNotNull() {  
    assertNotNull("Object should not be null", new Object());  
}  
}
```

#### Explanation of Assertions Used:

Assertion Method	Purpose	Example Used
<code>assertEquals</code>	Compares expected and actual	<code>assertEquals(5, 2 + 3)</code>
<code>assertTrue</code>	Checks if a condition is true	<code>assertTrue(5 &gt; 3)</code>
<code>assertFalse</code>	Checks if a condition is false	<code>assertFalse(5 &lt; 3)</code>
<code>assertNull</code>	Validates a null value	<code>assertNull(null)</code>
<code>assertNotNull</code>	Validates a non-null value	<code>assertNotNull(new Object())</code>

## OUTPUT:

