Exercise 1: Setting Up Junit

##CalculatorTest.java:

package org.apache.maven.archetypes.maven_archetype_quickstart;

import org.junit.Test;

import static org.junit.Assert.assertEquals;

public class CalculatorTest {

```
        @Test
    public void testAdd() {
        Calculator calc = new Calculator();
        int result = calc.add(2, 3);
        assertEquals(5, result);
    }
    @Test
    public void testSubtract() {
        Calculator calc = new Calculator();
        int result = calc.subtract(5, 2);
        assertEquals(3, result);
    }
    @Test
    public void testAddNegativeNumbers() {
        Calculator calc = new Calculator();
        assertEquals(-5, calc.add(-2, -3));
    }
}
```

##Calculator.java

package org.apache.maven.archetypes.maven_archetype_quickstart;

public class Calculator {

```java
    public int add (int a, int b) {

  return a + b;

  }

  public int subtract(int a, int b) {

    return a - b;

  }

}
```

pom.xml

```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
http://maven.apache.org/xsd/maven-4.0.0.xsd">

  <modelVersion>4.0.0</modelVersion>


  <groupId>org.apache.maven.archetypes  </groupId>

  <artifactId>maven-archetype-quickstart</artifactId>

  <version>0.0.1-SNAPSHOT</version>


  <name>maven-archetype-quickstart</name>

  <url>http://www.example.com</url>


  <properties>

    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>

    <maven.compiler.release>17</maven.compiler.release>

  </properties>



<dependencies>
```

```xml
    <dependency>

      <groupId>junit</groupId>

      <artifactId>junit</artifactId>

      <version>4.13.2</version>

      <scope>test</scope>

    </dependency>


    <dependency>

    <groupId>org.slf4j</groupId>

    <artifactId>slf4j-api</artifactId>

    <version>1.7.36</version>

  </dependency>

  <dependency>

    <groupId>org.slf4j</groupId>

    <artifactId>slf4j-simple</artifactId>

    <version>1.7.36</version>

  </dependency>

</dependencies>

  <build>

    <pluginManagement><!-- lock down plugins versions to avoid using Maven defaults (may
be moved to parent pom) -->

      <plugins>

        <!-- clean lifecycle, see https://maven.apache.org/ref/current/maven-
core/lifecycles.html#clean_Lifecycle -->

        <plugin>

          <artifactId>maven-clean-plugin</artifactId>

          <version>3.4.0</version>

        </plugin>

        <!-- default lifecycle, jar packaging: see https://maven.apache.org/ref/current/maven-
core/default-bindings.html#Plugin_bindings_for_jar_packaging -->
```
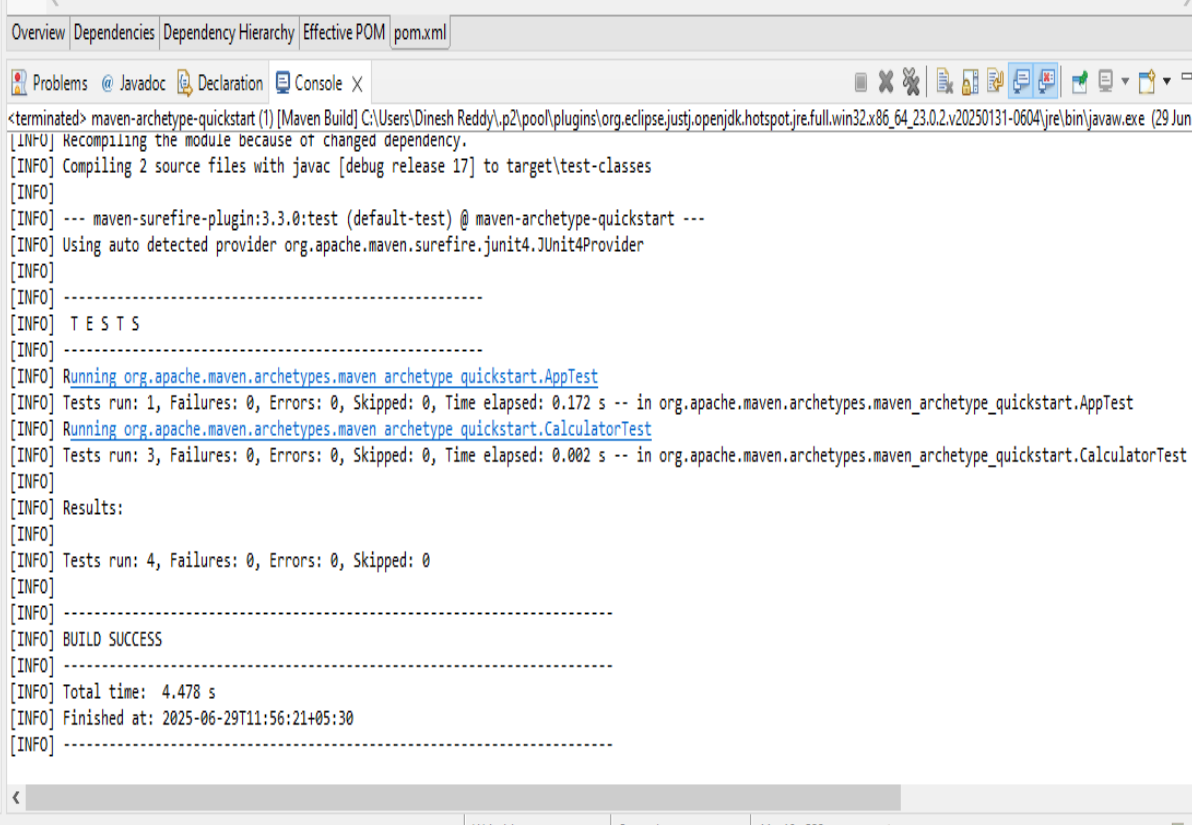
```xml
<plugin>
  <artifactId>maven-resources-plugin</artifactId>
  <version>3.3.1</version>
</plugin>
<plugin>
  <artifactId>maven-compiler-plugin</artifactId>
  <version>3.13.0</version>
</plugin>
<plugin>
  <artifactId>maven-surefire-plugin</artifactId>
  <version>3.3.0</version>
</plugin>
<plugin>
  <artifactId>maven-jar-plugin</artifactId>
  <version>3.4.2</version>
</plugin>
<plugin>
  <artifactId>maven-install-plugin</artifactId>
  <version>3.1.2</version>
</plugin>
<plugin>
  <artifactId>maven-deploy-plugin</artifactId>
  <version>3.1.2</version>
</plugin>
<!-- site lifecycle, see https://maven.apache.org/ref/current/maven-core/lifecycles.html#site_Lifecycle -->
<plugin>
  <artifactId>maven-site-plugin</artifactId>
  <version>3.12.1</version>
```

```
        </plugin>

        <plugin>

          <artifactId>maven-project-info-reports-plugin</artifactId>

          <version>3.6.1</version>

        </plugin>

      </plugins>

    </pluginManagement>

  </build>

</project>
```

OUTPUT: