**Exercise 1: Setting Up JUnit**

**Scenario:**

You need to set up JUnit in your Java project to start writing unit tests.

**Code:**

**pom.xml**

<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>com.example</groupId>

  <artifactId>JUnitDemo</artifactId>

  <version>1.0-SNAPSHOT</version>

  <packaging>jar</packaging>

  <name>JUnitDemo</name>

  <url>http://maven.apache.org</url>

<dependencies>

  <dependency>

    <groupId>junit</groupId>

    <artifactId>junit</artifactId>

    <version>4.13.2</version>

    <scope>test</scope>

  </dependency>

</dependencies>

</project>

**StringUtil.java**package com.example;

public class StringUtil {

    public static boolean isPalindrome(String input) {

        String reversed = new StringBuilder(input).reverse().toString();

        return input.equals(reversed);

    }

}

**StringUtilTest.java**package com.example;

import org.junit.Test;

import static org.junit.Assert.\*;

public class StringUtilTest {

@Test

    public void testPalindrome() {

        assertTrue(StringUtil.isPalindrome("madam"));

    }

@Test

    public void testNotPalindrome() {

        assertFalse(StringUtil.isPalindrome("hello"));

    }

@Test

    public void testSingleChar() {

        assertTrue(StringUtil.isPalindrome("a"));

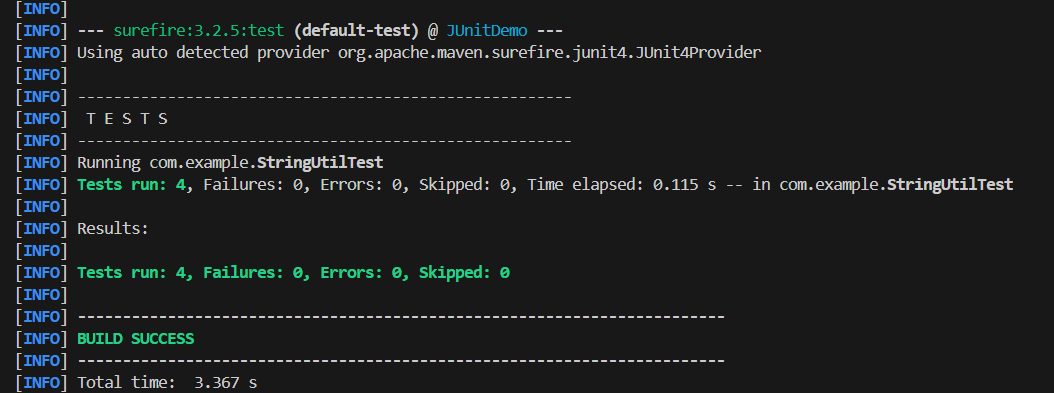
    }

@Test

    public void testEmptyString() {

        assertTrue(StringUtil.isPalindrome(""));}}

**Output:**

****