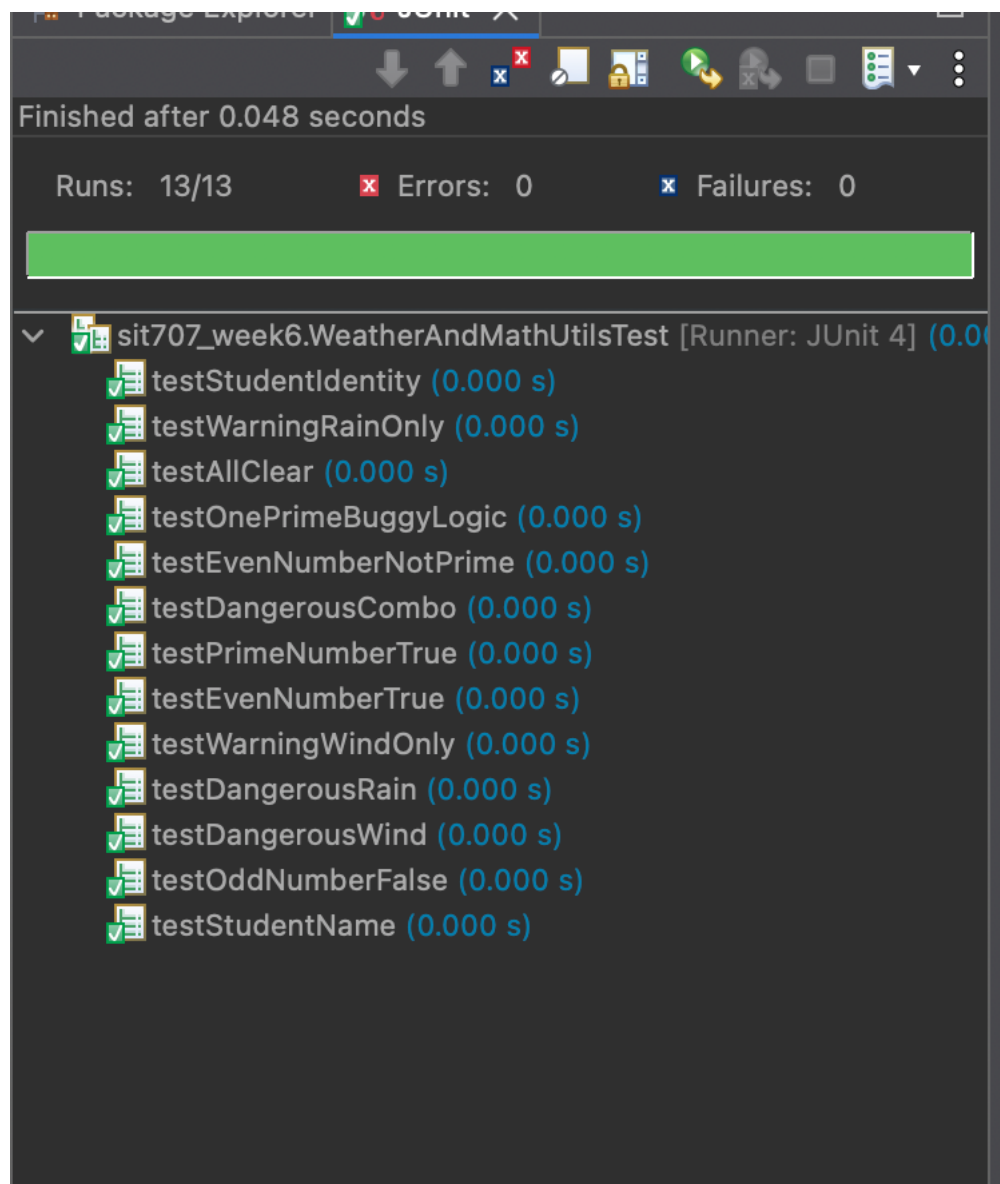**Name: Aditya**

**Student I'D: 224277942**

# SIT333 – Software Quality and Testing
# Task 6.1P – Code Coverage

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*A screenshot of your Eclipse IDE's*

*(i)*   *JUnit tab which shows test statistics including Runs,Errors and Failures and*

*(ii)* *Emma coverage output which shows coverage statistics including percentage coverage per java file and corresponding number of instructions covered/missed.*

| Element | Coverage | Covered Instructions | Missed Instructions | Total Instructions |
|---|---|---|---|---|
| task6_2P | 95.6 % | 151 | 7 | 158 |
| src/main/java | 90.7 % | 68 | 7 | 75 |
| sit707_week6 | 90.7 % | 68 | 7 | 75 |
| WeatherAndMathUtils.java | 90.7 % | 68 | 7 | 75 |
| WeatherAndMathUtils | 90.7 % | 68 | 7 | 75 |
| weatherAdvice(double, double) | 91.1 % | 41 | 4 | 45 |
| isEven(int) | 100.0 % | 8 | 0 | 8 |
| isPrime(int) | 100.0 % | 19 | 0 | 19 |
| src/test/java | 100.0 % | 83 | 0 | 83 |
| sit707_week6 | 100.0 % | 83 | 0 | 83 |
| WeatherAndMathUtilsTest.java | 100.0 % | 83 | 0 | 83 |
| WeatherAndMathUtilsTest | 100.0 % | 83 | 0 | 83 |
| testAllClear() | 100.0 % | 8 | 0 | 8 |
| testDangerousCombo() | 100.0 % | 8 | 0 | 8 |
| testDangerousRain() | 100.0 % | 8 | 0 | 8 |
| testDangerousWind() | 100.0 % | 8 | 0 | 8 |
| testEvenNumberNotPrime() | 100.0 % | 4 | 0 | 4 |
| testEvenNumberTrue() | 100.0 % | 4 | 0 | 4 |
| testOddNumberFalse() | 100.0 % | 4 | 0 | 4 |
| testOnePrimeBuggyLogic() | 100.0 % | 4 | 0 | 4 |
| testPrimeNumberTrue() | 100.0 % | 4 | 0 | 4 |
| testStudentIdentity() | 100.0 % | 6 | 0 | 6 |
| testStudentName() | 100.0 % | 6 | 0 | 6 |
| testWarningRainOnly() | 100.0 % | 8 | 0 | 8 |
| testWarningWindOnly() | 100.0 % | 8 | 0 | 8 |

• *Your program's source code for tests WeatherAndMathUtilsTest.java*

```java
package sit707_week6;

import org.junit.Assert;

public class WeatherAndMathUtilsTest {

    @Test
    public void testStudentIdentity() {
        String studentId = "224277942";
        Assert.assertNotNull("Student ID is null", studentId);
    }

    @Test
    public void testStudentName() {
        String studentName = "Aditya";
        Assert.assertNotNull("Student name is null", studentName);
    }

    // === weatherAdvice() tests ===

    @Test
    public void testDangerousWind() {
        String result = WeatherAndMathUtils.weatherAdvice(75.0, 2.0);
        Assert.assertEquals("CANCEL", result);
    }

    @Test
    public void testDangerousRain() {
        String result = WeatherAndMathUtils.weatherAdvice(20.0, 6.5);
        Assert.assertEquals("CANCEL", result);
    }

    @Test
    public void testDangerousCombo() {
        String result = WeatherAndMathUtils.weatherAdvice(46.0, 4.5);
        Assert.assertEquals("CANCEL", result);
    }

    @Test
    public void testWarningWindOnly() {
        String result = WeatherAndMathUtils.weatherAdvice(50.0, 2.0);
        Assert.assertEquals("WARN", result);
    }

    @Test
    public void testWarningRainOnly() {
        String result = WeatherAndMathUtils.weatherAdvice(10.0, 5.0);
        Assert.assertEquals("WARN", result);
    }

    @Test
    public void testAllClear() {
        String result = WeatherAndMathUtils.weatherAdvice(10.0, 1.0);
```

```java
51
52⊖    @Test
53     public void testAllClear() {
54         String result = WeatherAndMathUtils.weatherAdvice(10.0, 1.0);
55         Assert.assertEquals("ALL CLEAR", result);
56     }
57
58     // === isEven() tests ===
59
60⊖    @Test
61     public void testEvenNumberTrue() {
62         Assert.assertTrue(WeatherAndMathUtils.isEven(4));
63     }
64
65⊖    @Test
66     public void testOddNumberFalse() {
67         Assert.assertFalse(WeatherAndMathUtils.isEven(5));
68     }
69
70     // === isPrime() tests ===
71
72⊖    @Test
73     public void testPrimeNumberTrue() {
74         Assert.assertTrue(WeatherAndMathUtils.isPrime(3)); // should be true
75     }
76
77⊖    @Test
78     public void testEvenNumberNotPrime() {
79         Assert.assertFalse(WeatherAndMathUtils.isPrime(4)); // even number
80     }
81
82
83
84⊖    @Test
85     public void testOnePrimeBuggyLogic() {
86         Assert.assertTrue(WeatherAndMathUtils.isPrime(1)); // due to faulty logic
87     }
88
89 }
90
```
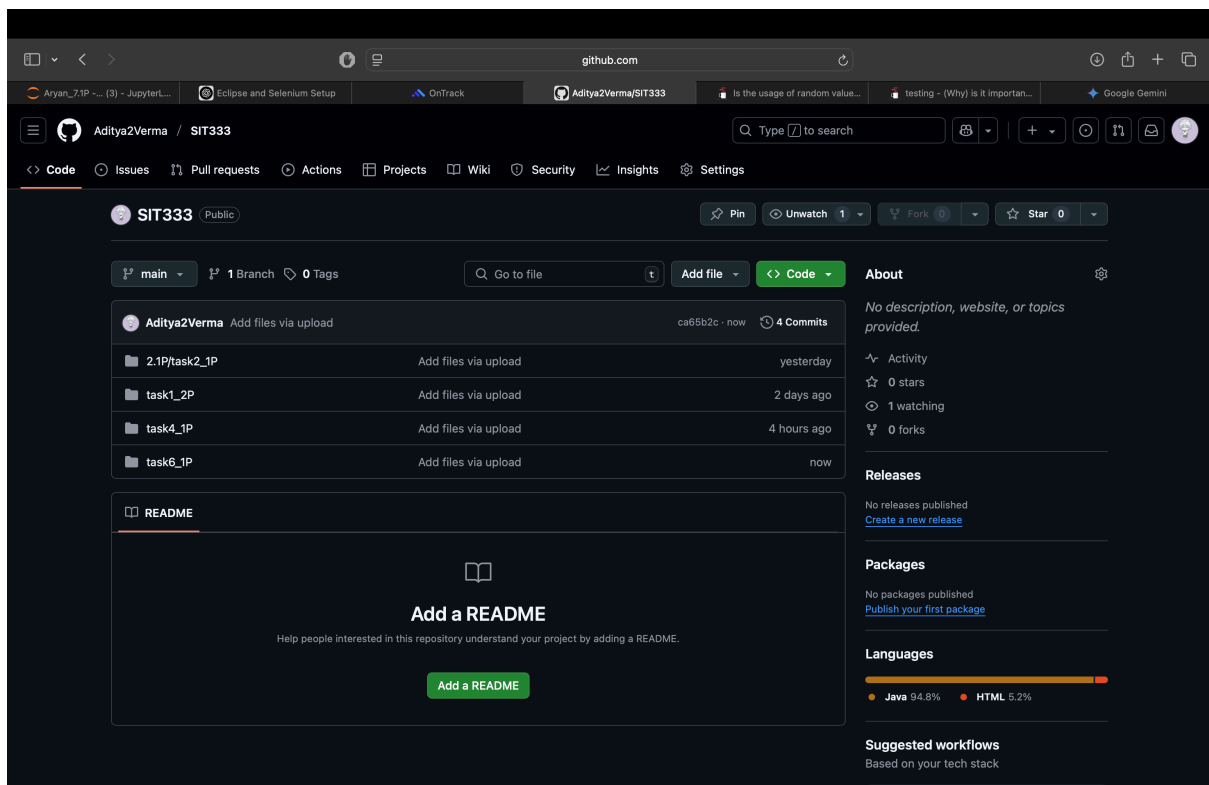
• *A screenshot of your GitHub page where your latest project folder is pushed.*

**Github link:**

[https://github.com/Aditya2Verma/SIT333](https://github.com/Aditya2Verma/SIT333)