

SD2 – Worksheet 1 – 6%



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Course:	BSCH/BSCO/EXCH			Stage/year:	2	
Subject:	Software Development 2					
Study Mode:	Full time	<input checked="" type="checkbox"/>		Part-time	<input type="checkbox"/>	
Lecturer Name:	Gemma Deery					
Assignment Title:	Worksheet 1					
Date due:						
Date submitted:						
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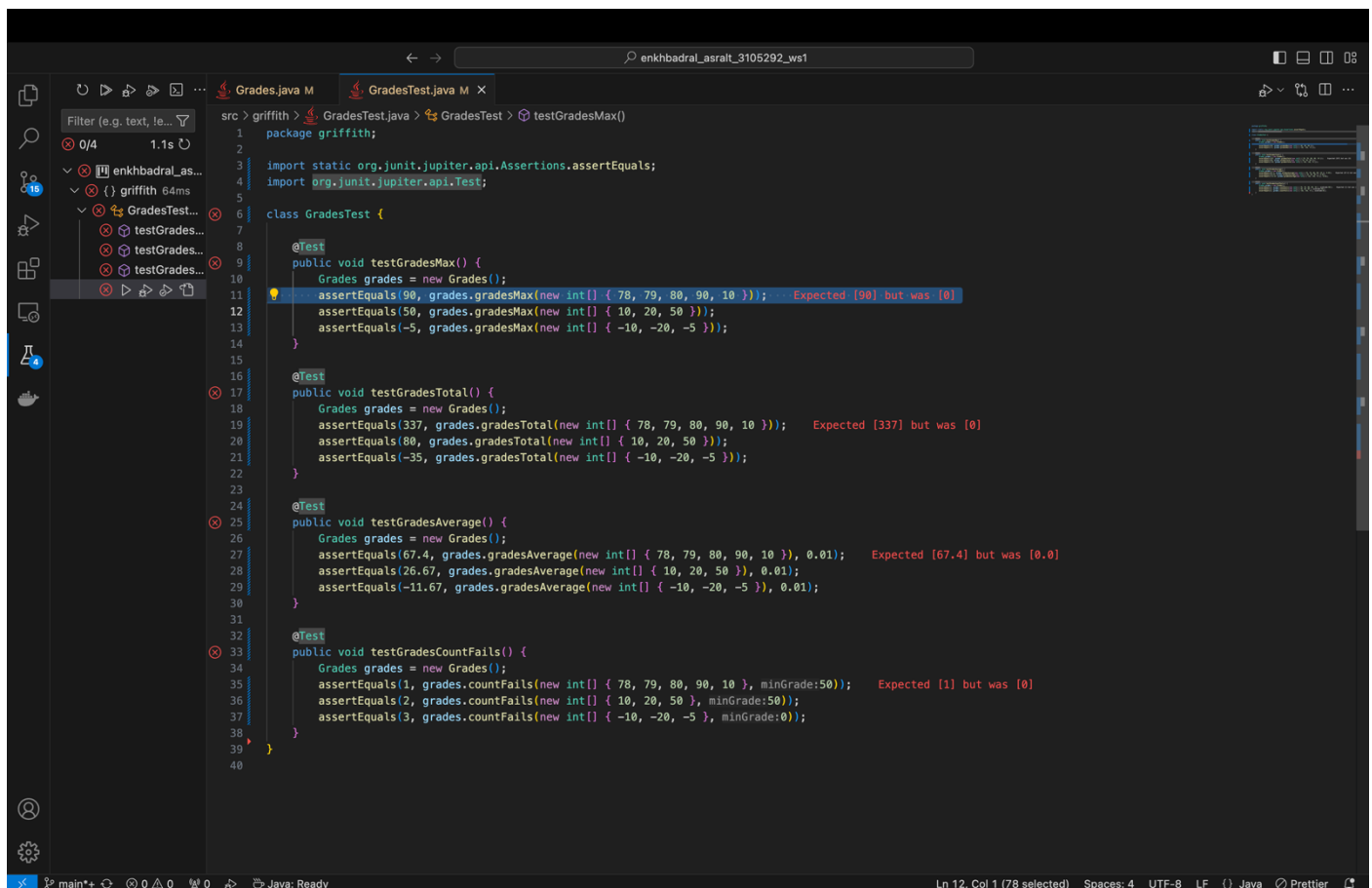
Please do not delete the questions.

For each question insert your answer below the question

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Tasks:

Task1 I have left the Grades.java file with stub methods and I ran the test, here is the result I got back at the moment everything returns 0 so every method has failed



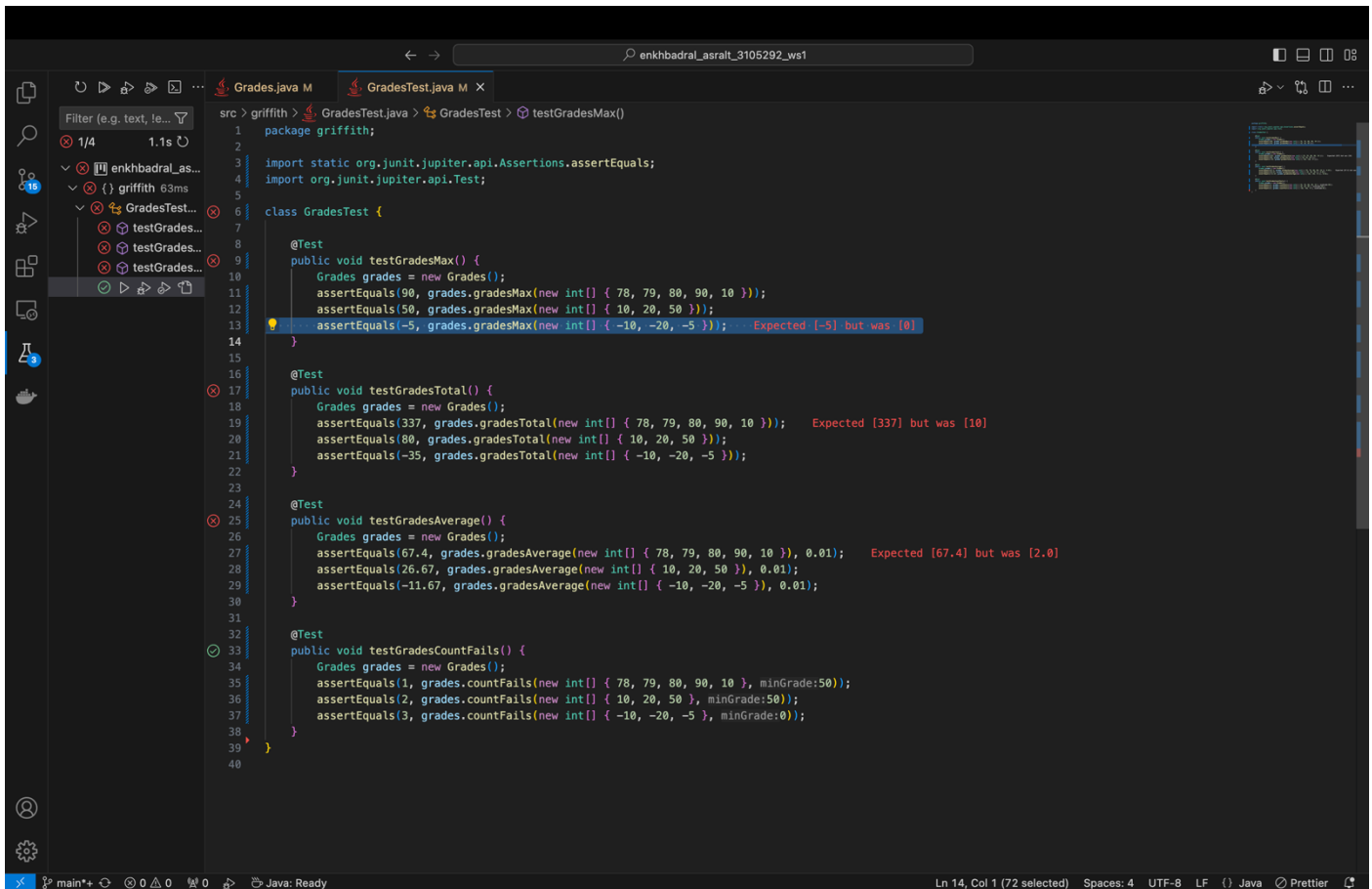
The screenshot shows an IDE window with a Java test file named `GradesTest.java`. The file is located in the package `griffith`. It contains several test methods that are failing due to incorrect return values from the `Grades` class methods. The test methods and their expected vs. actual values are as follows:

- `testGradesMax()`:
 - Expected [90] but was [0]
 - Expected [50] but was [0]
 - Expected [-5] but was [0]
- `testGradesTotal()`:
 - Expected [337] but was [0]
 - Expected [80] but was [0]
 - Expected [-35] but was [0]
- `testGradesAverage()`:
 - Expected [67.4] but was [0.0]
 - Expected [26.67] but was [0.0]
 - Expected [-11.67] but was [0.0]
- `testGradesCountFails()`:
 - Expected [1] but was [0]
 - Expected [2] but was [0]
 - Expected [3] but was [0]

The IDE interface shows the test results on the left, indicating that all tests failed. The status bar at the bottom shows "Ln 12, Col 1 (78 selected) Spaces: 4 UTF-8 LF {} Java Prettier".

Now after I implanted the Grades.java

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The screenshot shows an IDE with a Java test file named `GradesTest.java`. The file contains several test methods for a `Grades` class. The following table summarizes the test methods and their results:

Test Method	Expected Value	Actual Value	Status
<code>testGradesMax()</code>	-5	0	Failed
<code>testGradesTotal()</code>	337	10	Failed
<code>testGradesAverage()</code>	67.4	2.0	Failed
<code>testGradesCountFails()</code>	1, 2, 3	1, 2, 3	Passed

```
1 package griffith;
2
3 import static org.junit.jupiter.api.Assertions.assertEquals;
4 import org.junit.jupiter.api.Test;
5
6 class GradesTest {
7
8     @Test
9     public void testGradesMax() {
10         Grades grades = new Grades();
11         assertEquals(90, grades.gradesMax(new int[] { 78, 79, 80, 90, 10 }));
12         assertEquals(50, grades.gradesMax(new int[] { 10, 20, 50 }));
13         assertEquals(-5, grades.gradesMax(new int[] { -10, -20, -5 })); Expected [-5] but was [0]
14     }
15
16     @Test
17     public void testGradesTotal() {
18         Grades grades = new Grades();
19         assertEquals(337, grades.gradesTotal(new int[] { 78, 79, 80, 90, 10 })); Expected [337] but was [10]
20         assertEquals(80, grades.gradesTotal(new int[] { 10, 20, 50 }));
21         assertEquals(-35, grades.gradesTotal(new int[] { -10, -20, -5 }));
22     }
23
24     @Test
25     public void testGradesAverage() {
26         Grades grades = new Grades();
27         assertEquals(67.4, grades.gradesAverage(new int[] { 78, 79, 80, 90, 10 }, 0.01)); Expected [67.4] but was [2.0]
28         assertEquals(26.67, grades.gradesAverage(new int[] { 10, 20, 50 }, 0.01));
29         assertEquals(-11.67, grades.gradesAverage(new int[] { -10, -20, -5 }, 0.01));
30     }
31
32     @Test
33     public void testGradesCountFails() {
34         Grades grades = new Grades();
35         assertEquals(1, grades.countFails(new int[] { 78, 79, 80, 90, 10 }, minGrade:50));
36         assertEquals(2, grades.countFails(new int[] { 10, 20, 50 }, minGrade:50));
37         assertEquals(3, grades.countFails(new int[] { -10, -20, -5 }, minGrade:0));
38     }
39 }
40
```

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Task 2

With the Stub method and testing it

The screenshot shows an IDE with the following content:

```
src > griffith > Word > WordTest.java > WordTest > testContains()
1 package griffith.Word;
2
3 import static org.junit.jupiter.api.Assertions.*;
4 import org.junit.jupiter.api.Test;
5
6 class WordTest {
7
8     @Test
9     // method that test contains method it calls the method into the
10    public void testContains() {
11        Word word = new Word(new char[] { 'a', 's', 'k', 'a' });
12        assertTrue(word.contains(symbol:'a')); Expected [true] but was [false]
13
14        assertTrue(word.contains(symbol:'e'));
15        assertFalse(word.contains(symbol:'a'));
16    }
17
18    @Test
19    public void testLength() {
20        Word word = new Word(new char[] { 'a', 's', 'k', 'a' });
21        assertEquals(4, word.length()); Expected [4] but was [0]
22        assertEquals(0, new Word(new char[] { }).length());
23        assertEquals(1, new Word(new char[] { 'a' }).length());
24    }
25
26    @Test
27    public void testNotNull() {
28        Word word = new Word(new char[] { 'a' });
29        assertNotNull(word.getLetters()); org.opentest4j.AssertionFailedError: expected: not [null] at griffith.Word.WordTest.testNotNull(WordTest.)
30        assertEquals(1, word.getLetters().length());
31    }
32 }
33
```

Expected [true] but was [false] testContains()

Expected	Actual
true	false

Error: Main method not found in the file, please define the main me...

After implementing the Word.java

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The screenshot shows an IDE with a project named 'enkhbadral_asralt_3105292_ws1'. The file 'WordTest.java' is open, showing a class with three test methods: 'testContains()', 'testLength()', and 'testNotNull()'. The 'testContains()' method is currently selected and has a red error bar indicating a failure. The error message is 'Expected [true] but was [false]'. Below the error message, a comparison table shows the expected value 'true' and the actual value 'false'. The 'testLength()' and 'testNotNull()' methods are marked with green checkmarks, indicating they passed. The 'testContains()' method is marked with a red 'X'.

```
src > griffith > Word > WordTest.java > WordTest > testContains()
3  import static org.junit.jupiter.api.Assertions.*;
4  import org.junit.jupiter.api.Test;
5
6  class WordTest {
7
8      @Test
9      // method that test contains method it calls the method into the
10     public void testContains() {
11         Word word = new Word(new char[] { 'a', 's', 'k', 'a' });
12         assertEquals(4, word.length());
13         assertEquals(0, new Word(new char[] { }).length());
14         assertEquals(1, new Word(new char[] { 'a' }).length());
15         assertTrue(word.contains(symbol:'e')); // Expected [true] but was [false]
16     }
17
18     @Test
19     public void testLength() {
20         Word word = new Word(new char[] { 'a', 's', 'k', 'a' });
21         assertEquals(4, word.length());
22         assertEquals(0, new Word(new char[] { }).length());
23         assertEquals(1, new Word(new char[] { 'a' }).length());
24     }
25
26     @Test
27     public void testNotNull() {
28         Word word = new Word(new char[] { 'a' });
29         assertNotNull(word.getLetters());
30         assertEquals(1, word.getLetters().length);
31     }
32 }
33
```

Expected	Actual
true	false

Link: https://github.com/asralt/enkhbadral_asralt_3105292_ws1

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