

SMT Assignment-7 Report

1. I have found the below problems in the code.

For testing the CheckLines method I have created the following test case

```
@Test

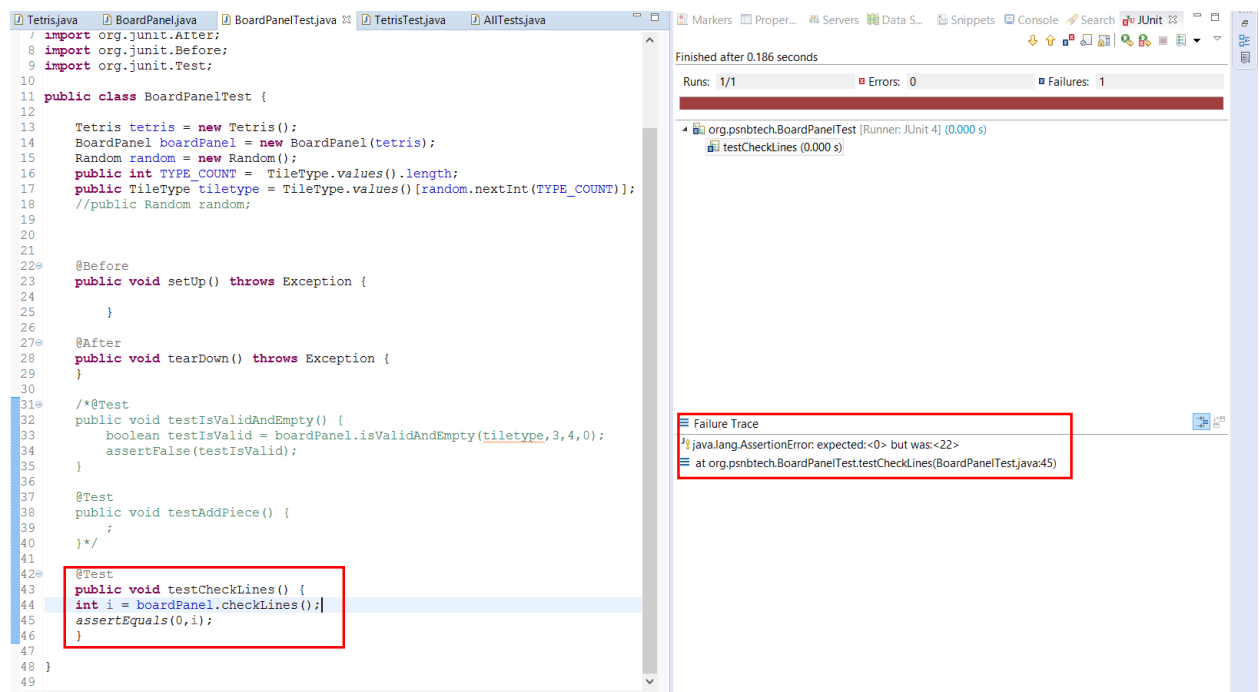
public void testCheckLines() {
    int i = boardPanel.checkLines();
    assertEquals(0,i);
}
```

In the above testcase I am testing whether the checkLines method is returning completedLines correctly after checking each row and if each row is filled with the tiles then the rest of the board should come down.

Here I am creating a variable 'i' and assigning it to the value returned by boardPanel.checkLines(); method.

By using assertEquals I am comparing the Expected value and Actual value returned by boardPanel.checkLines(); method.

When I am giving the expected value as 0, I am getting the actual value as 22 instead of 0 and the test case is failing because of problem in the code.



The screenshot displays an IDE with two panels. The left panel shows the source code of a Java test class, `BoardPanelTest`, with the following content:

```
1  import org.junit.After;
2  import org.junit.Before;
3  import org.junit.Test;
4
5  public class BoardPanelTest {
6
7      Tetris tetris = new Tetris();
8      BoardPanel boardPanel = new BoardPanel(tetris);
9      Random random = new Random();
10     public int TYPE_COUNT = TileType.values().length;
11     public TileType tiletype = TileType.values()[random.nextInt(TYPE_COUNT)];
12     //public Random random;
13
14     @Before
15     public void setUp() throws Exception {
16
17     }
18
19     @After
20     public void tearDown() throws Exception {
21
22     }
23
24     /*@Test
25     public void testIsValidAndEmpty() {
26         boolean testIsValid = boardPanel.isValidAndEmpty(tiletype, 3, 4, 0);
27         assertFalse(testIsValid);
28     }
29
30     @Test
31     public void testAddPiece() {
32
33     }
34
35     @Test
36     public void testCheckLines() {
37         int i = boardPanel.checkLines();
38         assertEquals(0,i);
39     }
40 }
```

The right panel shows the JUnit test results. It indicates that the test finished after 0.186 seconds, with 1 run, 0 errors, and 1 failure. The failure trace is as follows:

```
org.psnbtech.BoardPanelTest [Runner: JUnit 4] (0.000 s)
  testCheckLines (0.000 s)
    java.lang.AssertionError: expected:<0> but was:<22>
    at org.psnbtech.BoardPanelTest.testCheckLines(BoardPanelTest.java:45)
```

2. Below is the test case I have created for updateGame method

```
3. @Test
4. public void testUpdateGame() {
5.     int i = tetris.getScore();
6.     assertEquals(0,i);
7. }
8. }
```

In this test case I have created a variable 'i' and assigned it to the value returned by tetris.getScore(); method. Here I am comparing the expected score and actual score before starting the game. Here my expected value and the actual value I got as 0. By using the above test case I have verified getScore() method. My testcase passed when both expected and actual value are the same.

Here my logic is simply comparing the expected value and the actual value by running the getScore() method before starting the Tetris game.

3.

