

# **Software Methods and Tools**

## **Assignment 7 Report**

### 1) Problems found in the code

I found two problems in the code. They are

- The first one is the score is updating every time the tile goes to bottom of panel, but the score should update only when line clears. I found this problem while testing updateGame() method in Tetris.java class.
  - The second one is, sometimes tiles are overlapping with each other. This is because of error in isValidAndEmpty() method in BoardPanel.java class. This is found while testing this method. This method is returning true even when tile touches other tile while moving down
- 2) The updateGame method is called every time a tile moves down one cell in board panel. In updateGame (), I have created test case for to test whether correct score is calculated or not. To reach that line of code the update game should be called minimum 20 times. After 20 times the tile reaches bottom of board and the score is updating and is increased by 50 which is wrong in the code. There is no input because there are no parameters in updateGame method. Expected output is 0 but actual output is 50.
- 3) Screenshot of Test Results : TestUpdateGame() failed because expected and actual output mismatches

The screenshot shows the Eclipse IDE interface. The top toolbar includes menus like File, Edit, Source, Refactor, Navigate, Search, Project, Run, Window, and Help. Below the toolbar is the Package Explorer on the left, showing a project structure with packages org.psnbtech and classes BoardPanelTest, TetrisTest, and testUpdateGame. The main editor area on the right displays the source code of TetrisTest.java, which includes package declarations, imports, and annotations like @RunWith and @SuiteClasses. The bottom console shows the test results, indicating that the testUpdateGame method failed with an AssertionError. The failure trace shows the expected value is 0 and the actual value is 50. The console also shows the Java version and the path to the Java executable.

```
Java - Tetris/Test/org.psnbtech/AllTests.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer JUnit
Finished after 0.555 seconds
Runs: 4/4 Errors: 0 Failures: 1
org.psnbtech.AllTests [Runner: JUnit 4] (0.491 s)
  org.psnbtech.BoardPanelTest (0.436 s)
  org.psnbtech.TetrisTest (0.055 s)
    testUpdateGame (0.055 s)
Failure Trace
java.lang.AssertionError: expected:<0> but was:<50>
at org.psnbtech.TetrisTest.testUpdateGame(TetrisTest.java:80)
Problems Javadoc Declaration Search Console
<terminated> AllTests [JUnit] C:\Program Files\Java\jre1.8.0_40\bin\javaw.exe (Apr 27, 2015,
```

In `TestIsValidEmpty()` method, when tile touches other tile it should return false but it is returning true

