



2019-2020 Semester 2

CT548 Object Oriented Design and Development

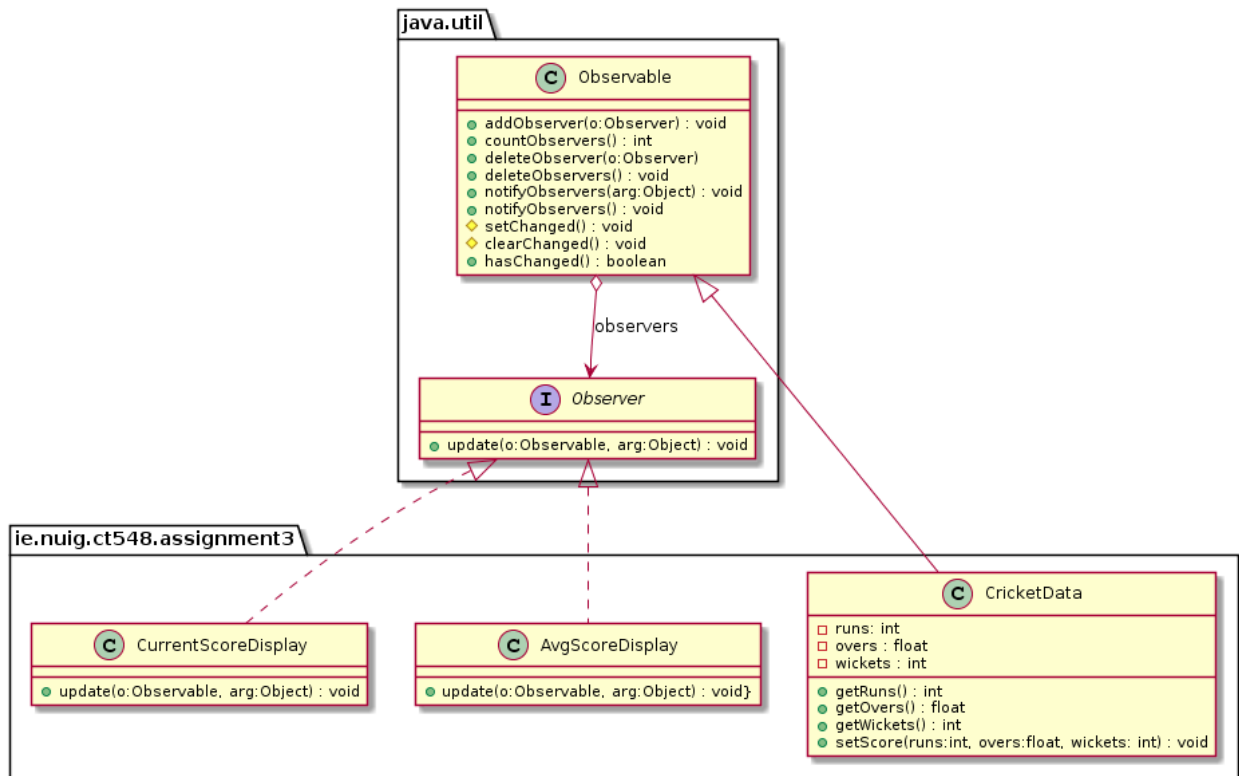
Individual Assignment 3

Objective	Using test-driven development approach, implement the Observer design pattern in Java and demonstrate its behaviour within a Graphical User Interface.
Lecturer	Dr Umair ul Hassan Email: umair.ulhassan@nuigalway.ie Office: Data Science Institute
Marks Awarded	The marks awarded for this assignment are worth 15% of the overall marks for the course.
Submission	The submission is due at 5pm on Monday March 16th, 2020 . The solution should be submitted through Blackboard. Provide a single archive file of your code as detailed in the submission guidelines on Blackboard.
Late Submission or No Submission Policy	Same as assignments 1 and 2. Late assignments will incur a penalty depending on the delay. After 48 hours past the deadline, submissions will no longer be accepted.

Please ensure that you submitted files follows the submission guidelines and package structure.

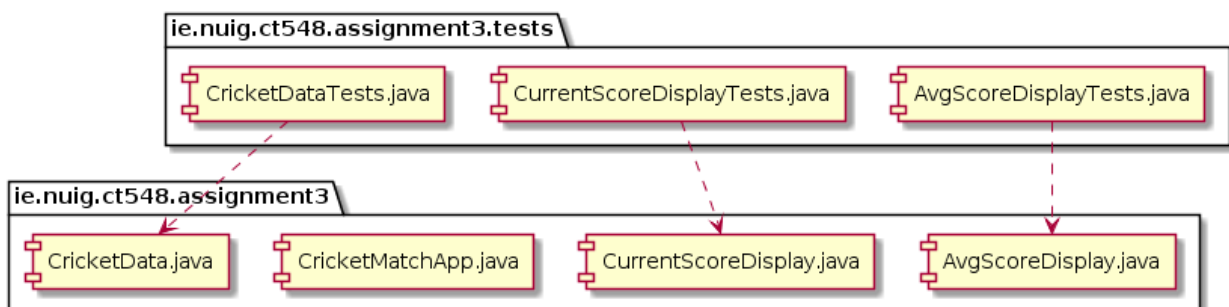
PART 1 (3 marks)

Implement the `ie.nuig.ct548.assignment3` package as shown in following class diagram. It shows a cricket data system that uses the Observer pattern, to update two types of displays, based on `Observable` class and `Observer` interface from `java.util` package of Java 8.



PART 2 (6 marks)

Write two methods with units tests for each class in the `ie.nuig.ct548.assignment3` package, in their respective test classes. The components of the submission should use following structure.



PART 3 (6 marks)

Using Java Swing, create the GUI for the **CricketData**, **CurrentScoreDisplay** and **AvgScoreDisplay** classes. As shown in following figure, demonstrate the functionality of the Observer pattern by changing scores and update both displays.

