**Unit Testing Assignment**

**Due Wednesday Feb 15 at 11:59 pm**

The primary purpose of this assignment is to provide hands-on experience with Unit Testing. In this assignment, you will be asked to write JUnit tests for two Java classes provided. You will use the techniques and good practices learned during the lecture to complete this assignment.

The secondary purpose of this assignment is to familiarize you with Java Programming Language and Eclipse IDE. We will be using these tools in future assignments as well.

The two Java classes **Option** and **Configuration** are provided to you in an Eclipse project. The classes are placed in the Java package **edu.umd.fcmd.analysis.data**.

**Task 1 (10 points):** For each Java class, implement the **equals()** and **hashCode()** methods using the techniques described during the lecture. Your implementation of the **equals()** and **hashCode()** methods will be tested against our tests for correctness. (Hint: use the compareTo() method to make your task easier)

**Task 2 (25 points):** Create a separate Java (sub)package **edu.umd.fcmd.analysis.data.test** and perform the following testing tasks:

* Verify the constructors
* Write tests for getters()/setters() as you see fit
* Verify ALL other methods

You are required to use JUnit conventions and good practices. Good programming style is also considered.

**Task 3 (15 points):** If you completed **Task 2** correctly then this should be free points! We will run your JUnit tests against versions of the **Option** and **Configuration** classes with seeded bugs; you earn points by catching these seeded bugs. The goal here is to encourage you to be thorough and creative with Unit Testing.

**Submission Instructions:**

1. Rename your project (via “refactor” function within Eclipse) to **Assignment1\_<YourLastName>**.
2. Create a zip file containing your project directory and named it **Assignment1\_<YourLastName>.zip**.
3. Submit the zip file via Canvas.

**Important:** Start early and ask questions early. For all assignments, your questions will NOT be answered if received after the weekend before they are due.