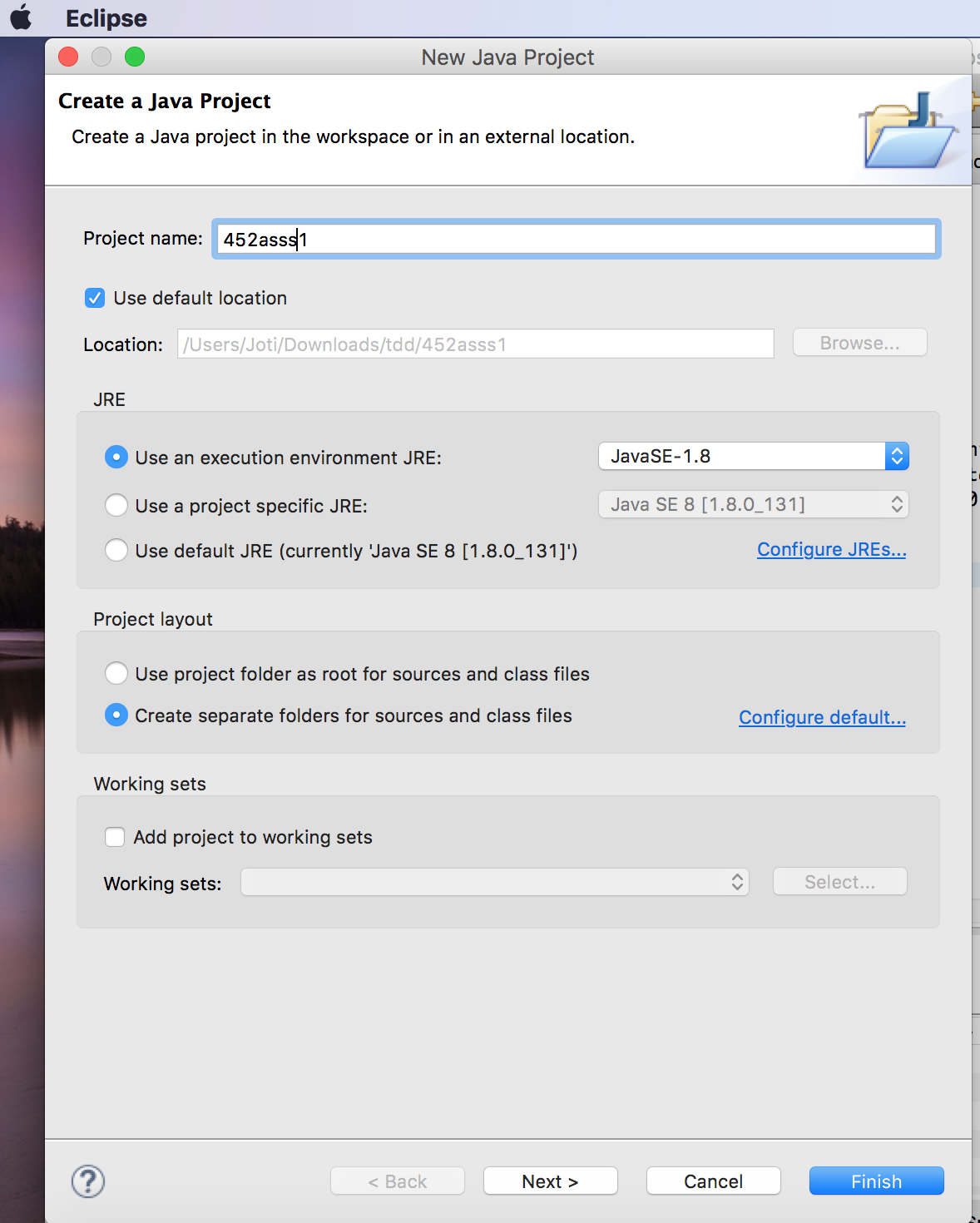
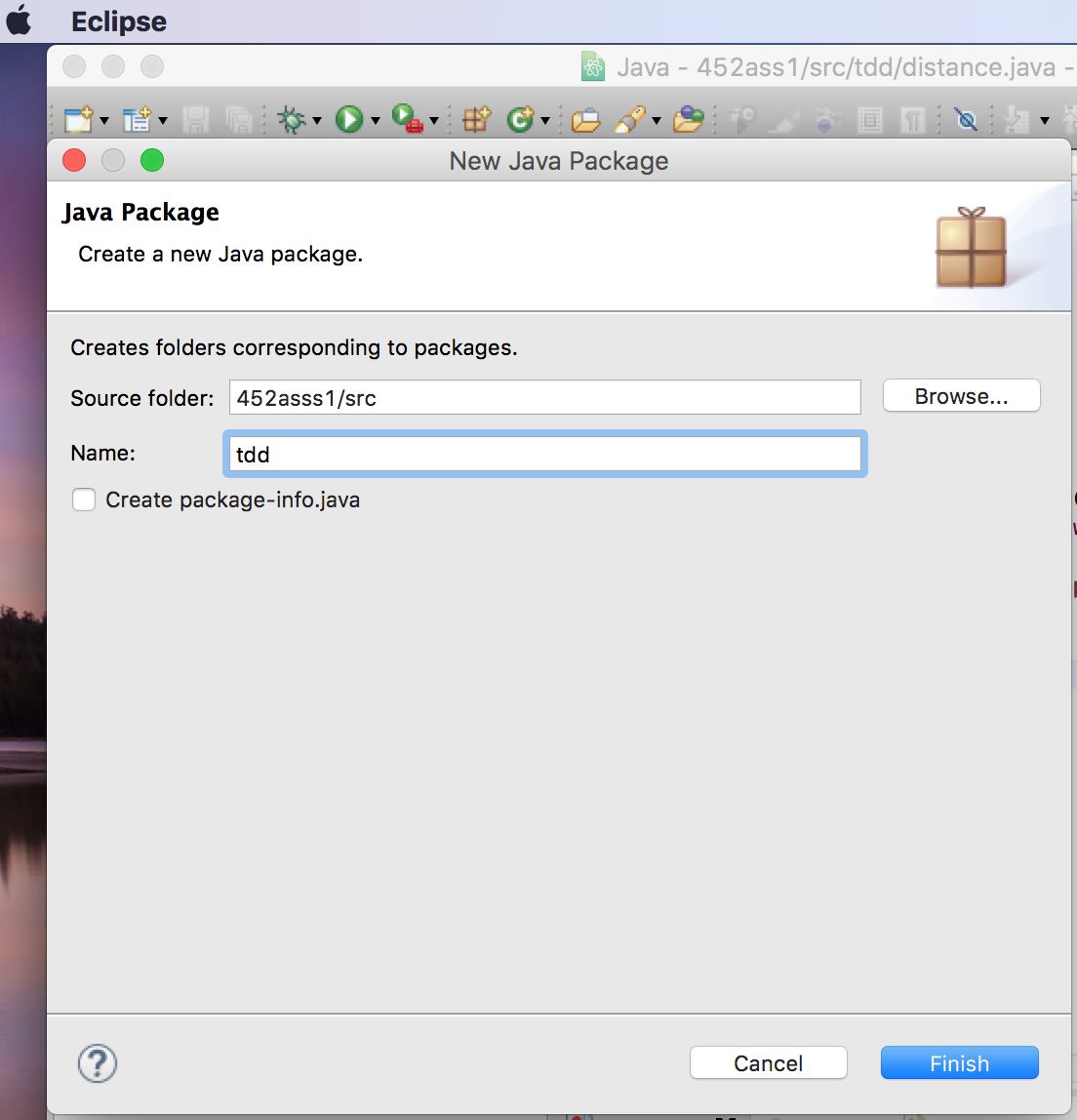
**Question 1: Unit test and Refactoring**

**Unit test**

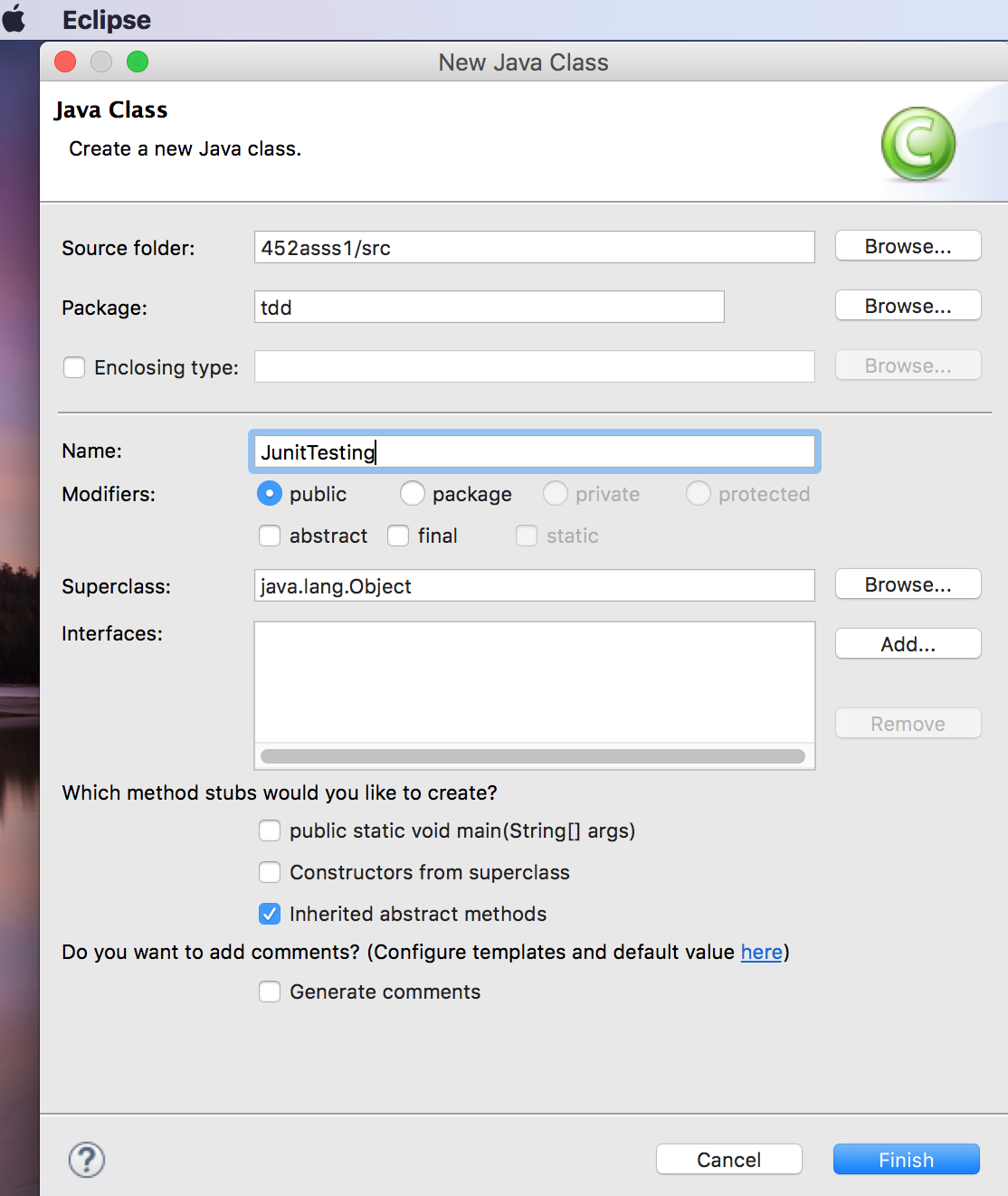
Below steps I took to create the program and test the program. For testing Junit method was used.

**Step 1: Creating a Java project on Eclipse**

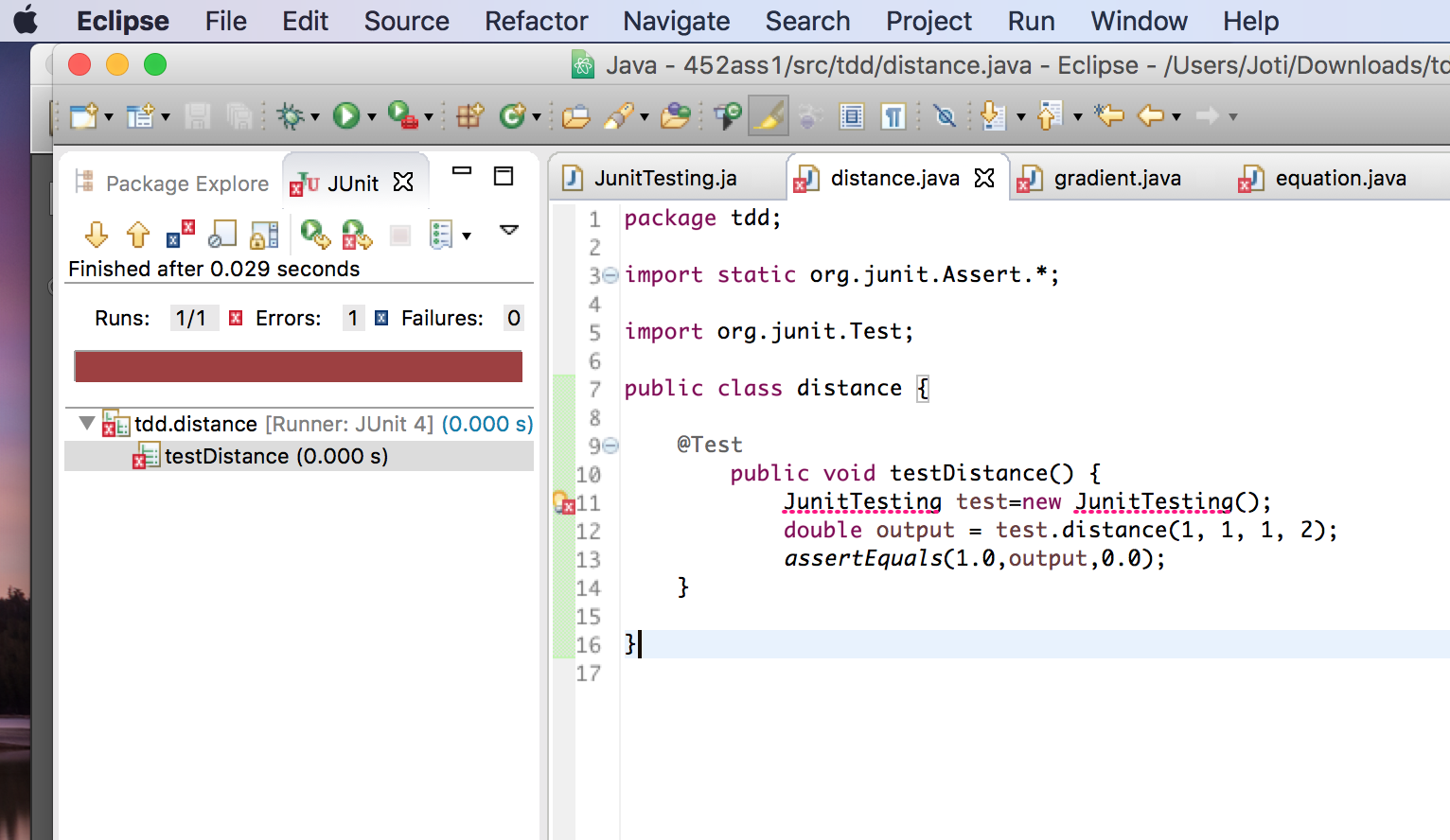


**Step 2: In the project I created a package named “tdd”**

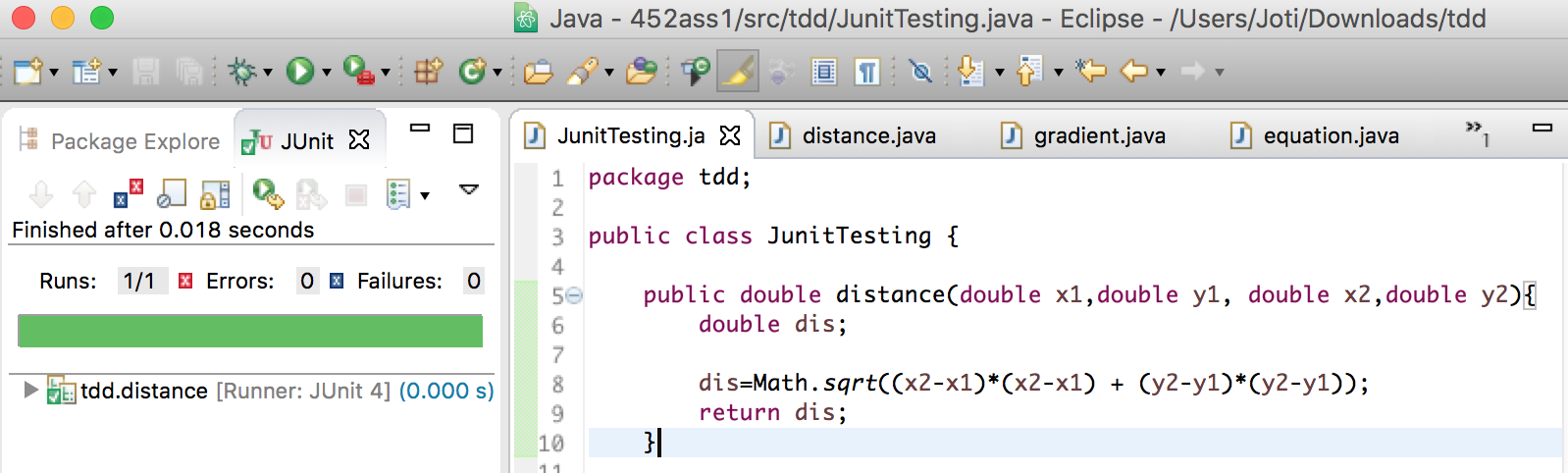
**Step 3: In the package tdd I created a class named JunitTesting**



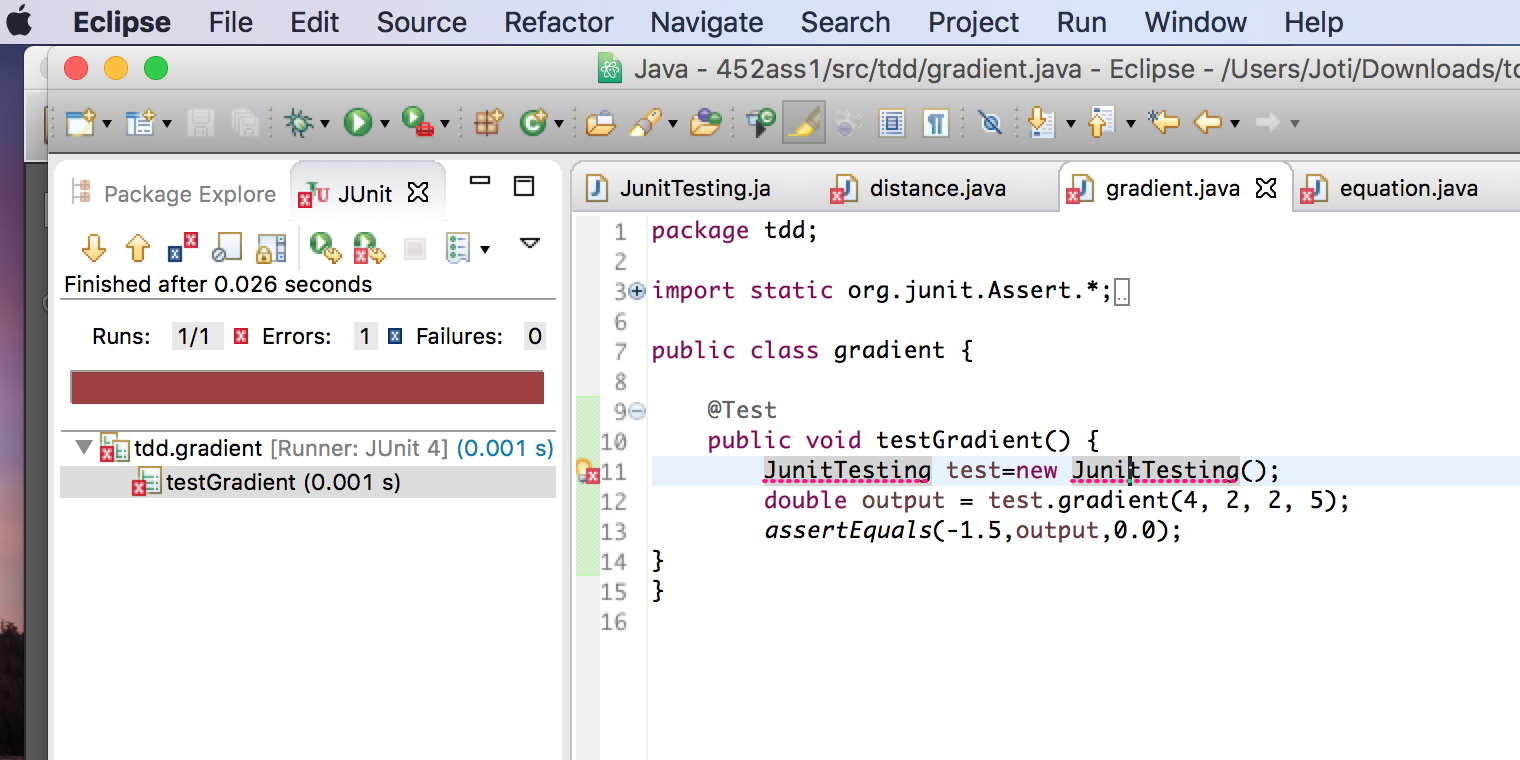
**Step 4: Created test for distance of the line and it shows error after running the program, as I didn’t write the real program.**



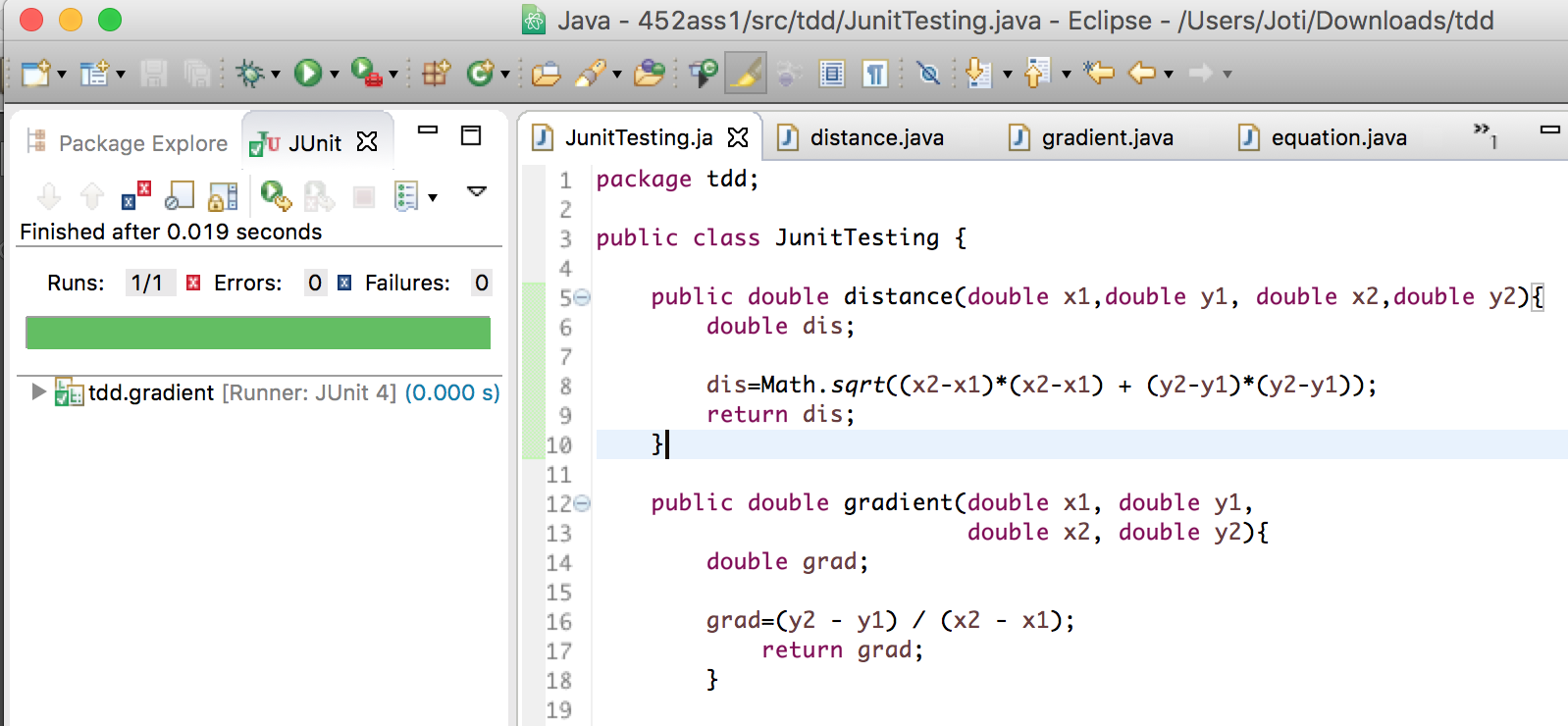
**Step 5: Then I wrote the code to find out the distance of the line and run the test again and did not show any error.**

****

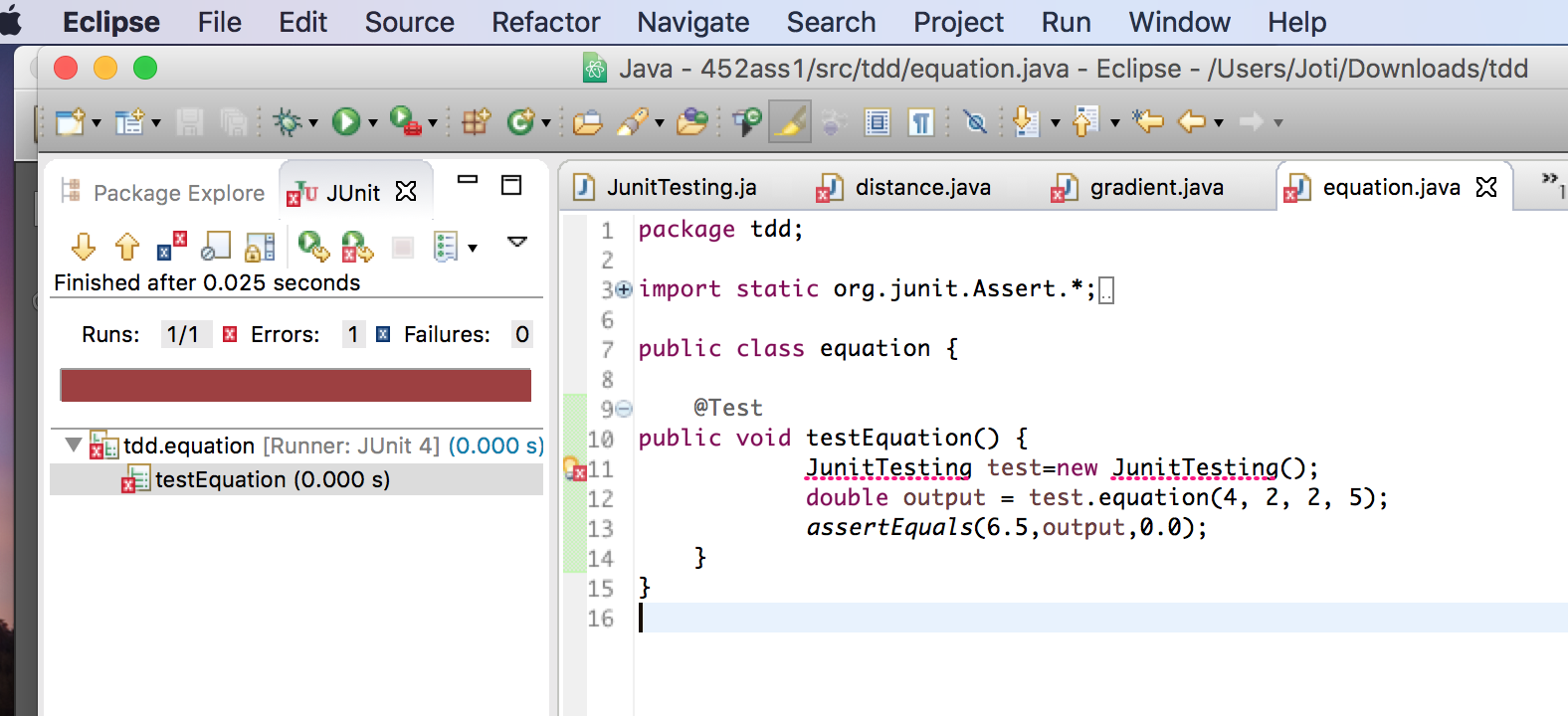
**Step 6: In this step I created test for gradient.**

****

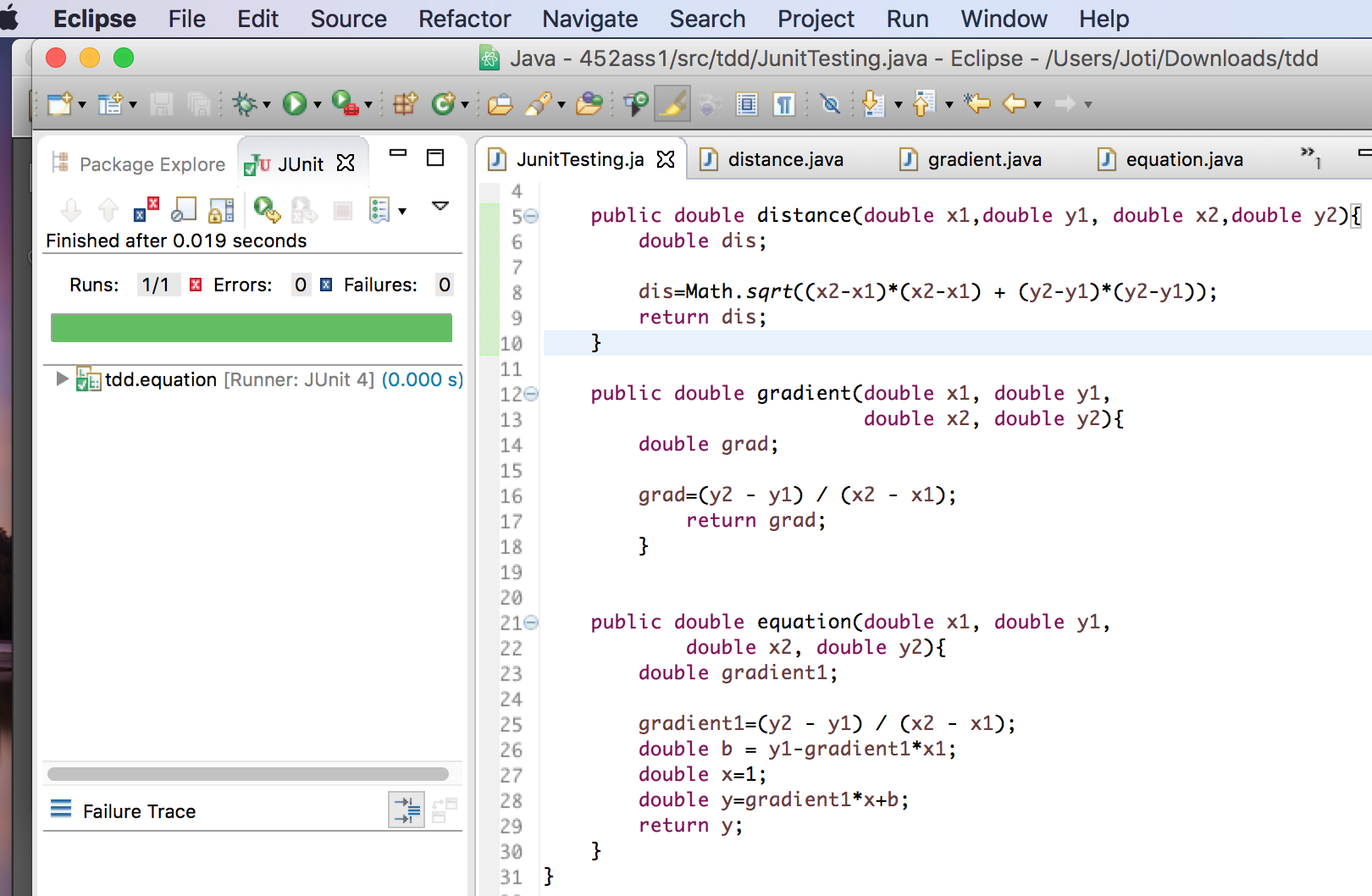
**Step 7: I wrote program to find out gradient. This time test did not show any error.**

****

**Step 8: I created test for Equation of the line, and showed error.**



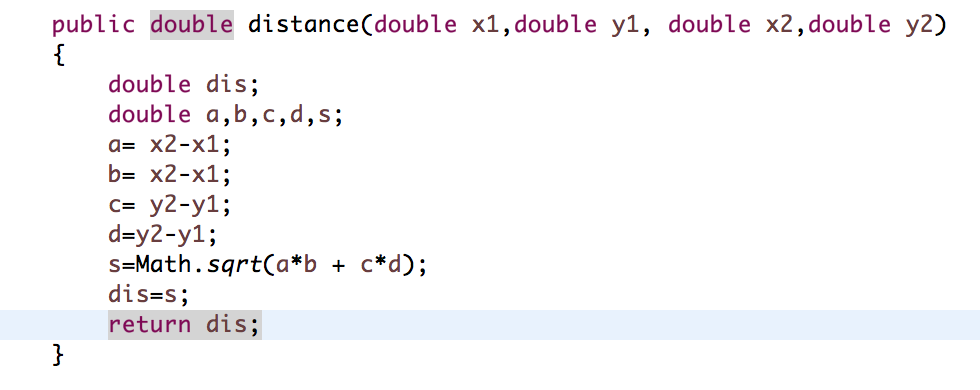
**Step 9: I wrote program to find out equation of the line and run the test again. This time no error was found.**



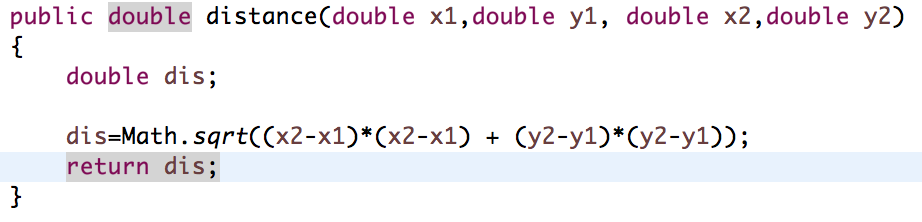
**Refactoring**

**Distance of the line:**

Before:

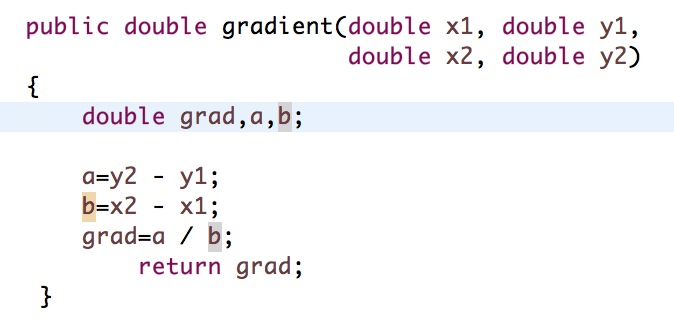
****

After:

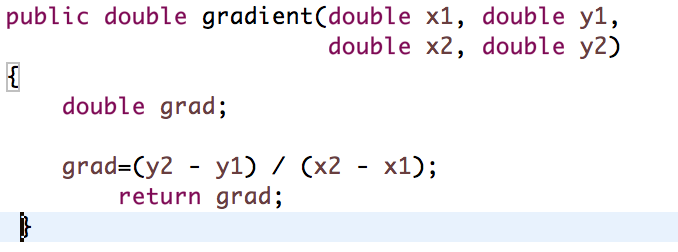
****

**Gradient of the line:**

Before refactoring:

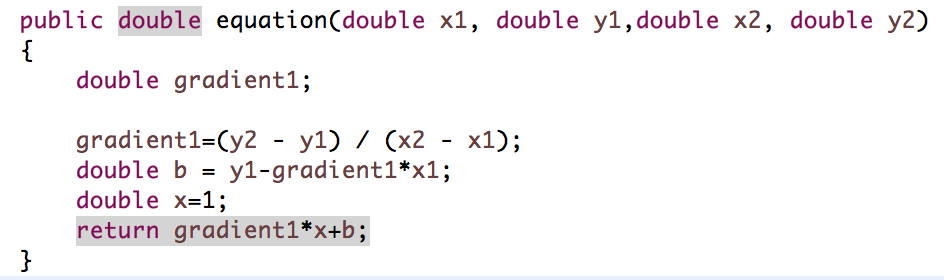


After refactoring:

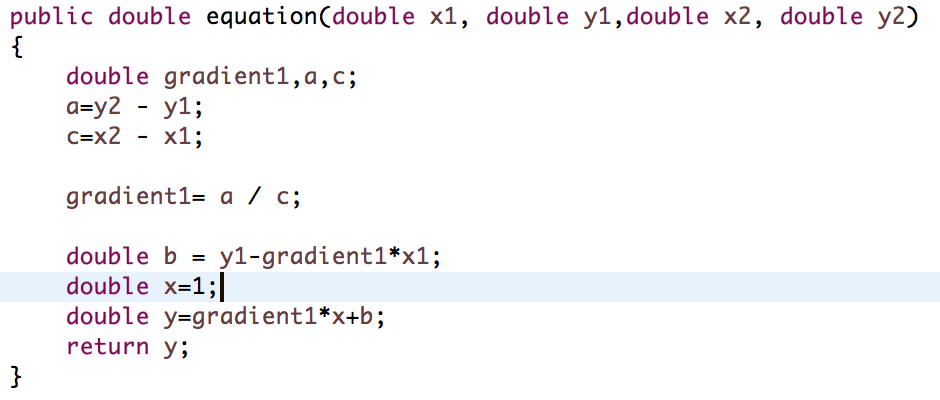


**Equation of the line:**

Before refactoring:



After refactoring:



**Question 2: Code smell**

5 issues and their related code smells: