

CS 1632 – DELIVERABLE 2:

CitySim9005

<https://github.com/KevinMadison/CS1632/tree/master/Deliverable2>

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Introduction

Upon creating the CitySim9005 program, I had to consider the scope of the project. As a larger scope would be prone to more bugs. Therefore, I decided to just create a simple CitySim9005 program which would generate the seed and create another object, I titled as “Driver”. The driver class would be responsible for keeping track of the city map and achieving the design requirements.

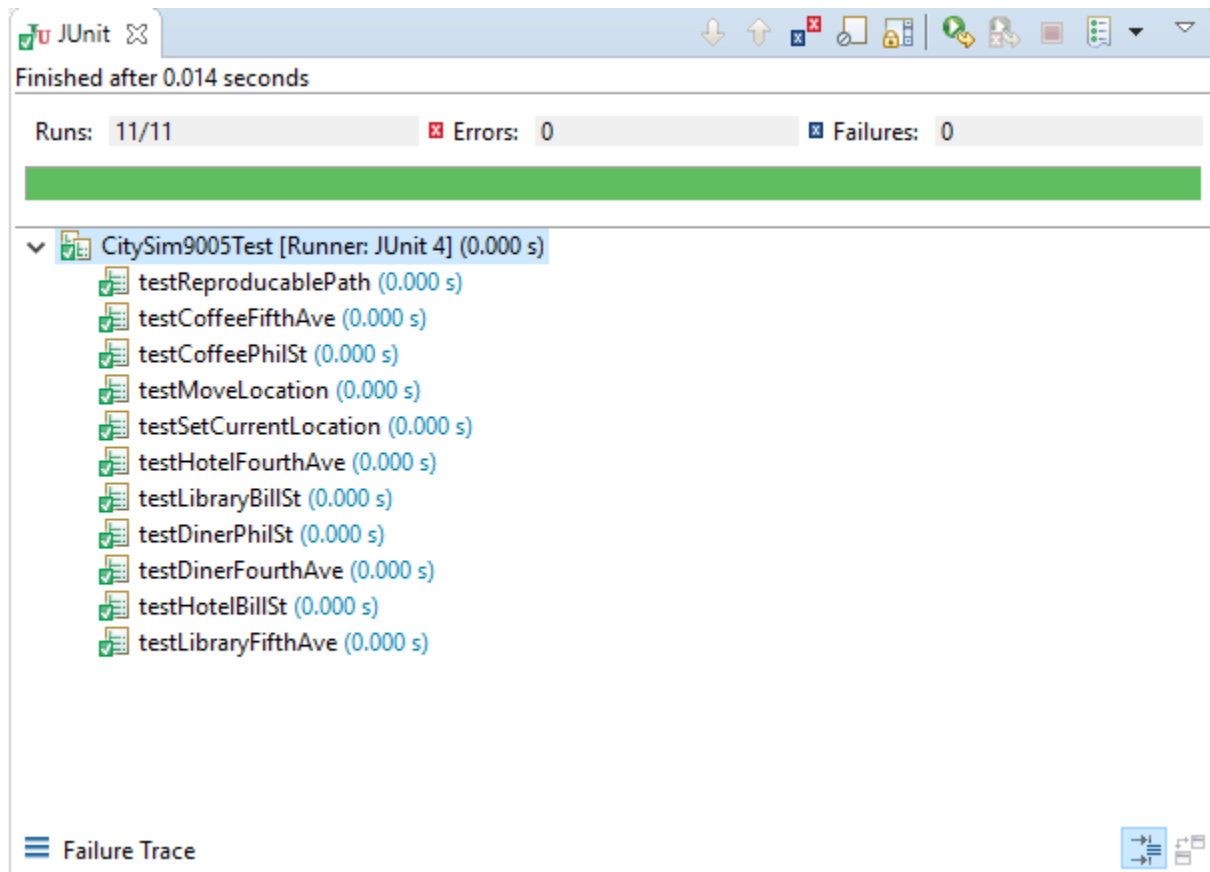
I contemplated creating the city out of nodes which would keep track of the street names and their adjacent locations. This design would be easier to add new location and streets. However, the design requirements didn’t explicitly state this. Therefore, I went with a generic switch case to determine the driver’s next location and route taken. However, this made creating test cases difficult.

Therefore, I attempted to redesign the program using a class to represent each path, location, and driver. The CitySim9005 program create a “Driver” which instantiates a hierarchy of object from the city, location, and path.

When creating the CitySim9005 test program, I ran into the issue of having methods which are hard to test. Since the program runs in a generic, linear fashion, methods returned 1 on success and -1 on failures. I had difficulty using mocks and stubs in my test class because creating a mock would not influence the program to become testable.

Instead, my test cases test the public method by creating a testable class and manipulating the arguments to test each case. When testing the edge cases of the arguments, I considered negative values and values which are not in the accepted range. In each case, the method returned a negative value

Unit Test Results



JUnit 4

Finished after 0.014 seconds

Runs: 11/11 Errors: 0 Failures: 0

CitySim9005Test [Runner: JUnit 4] (0.000 s)

- testReproduciblePath (0.000 s)
- testCoffeeFifthAve (0.000 s)
- testCoffeePhilSt (0.000 s)
- testMoveLocation (0.000 s)
- testSetCurrentLocation (0.000 s)
- testHotelFourthAve (0.000 s)
- testLibraryBillSt (0.000 s)
- testDinerPhilSt (0.000 s)
- testDinerFourthAve (0.000 s)
- testHotelBillSt (0.000 s)
- testLibraryFifthAve (0.000 s)

Failure Trace