CS 1632 - DELIVERABLE 2: Unit Testing CitySim9005

Siming Zheng

Github URL: https://github.com/Ningyou134679/CS1632_Deliverable2
Download URL: https://github.com/Ningyou134679/CS1632_Deliverable2.git
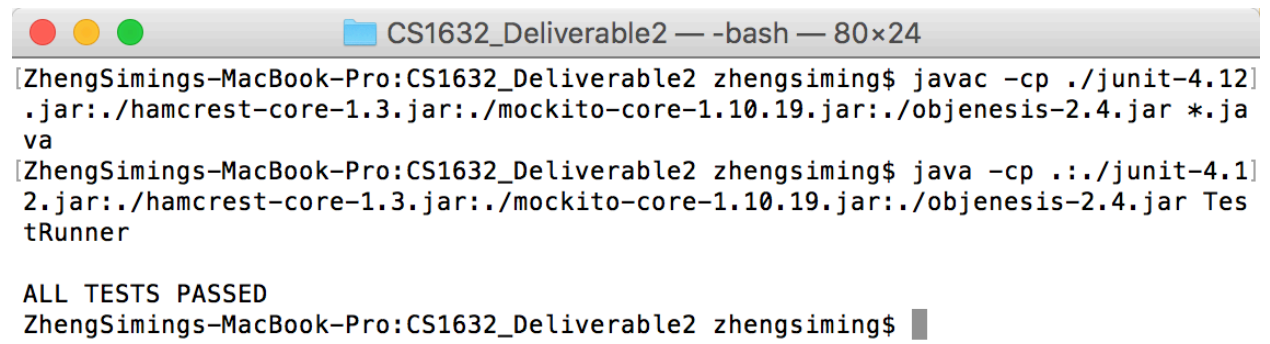
Summary and Testing concerns

  The first issue I faced first when reading the description is how the seed works in random. My concern here is that I cannot test an outcome that is random. However, as I try different seeds with the random method, I realize that, although it gives me different values each time I call methods like nextInt, the order of the values does not change every time I execute the program. So if I am to test, I can remember the order of outcomes and use that order to make my tests.

  Then, I had the worry of whether this program will never reach a destination. In this case, a driver that never drives outside the city, creating an infinite loop. I did actually ran into this issue, as I forgot to add the connections between some of my locations. But since it is an infinite loop, I have no way to get a return value or to unit test where the problem is. Therefore I had to manually trace where the driver goes to, and finally realize that I forgot to connect to another location.

  Another worry I had is that I do not know what code to be put into a separate method to test, and what code to put into the main method. Since this is a small project, writing more methods just so that the code can be tested might complicate the program itself. For example, if I can just print a field of a class object, should I put it in method, test its return value, then print it in the main method, or just print it in the first place.

  There is also the requirement that every public value should return a value, but if you have a method that just add some objects to an array list, a void method seems to be sufficient. So I had to come up with ideas to return something. In this case, if a user tells the program to connect library to null through Fifth Ave., I think it should not be added, and when a location is not added, I return false for the method indicating at least one of the object is not added to the array list.

Unit Test Screenshot

● ● ●   📁 CS1632_Deliverable2 — -bash — 80×24

[ZhengSimings-MacBook-Pro:CS1632_Deliverable2 zhengsiming$ javac -cp ./junit-4.12]
.jar:./hamcrest-core-1.3.jar:./mockito-core-1.10.19.jar:./objenesis-2.4.jar *.ja
va
[ZhengSimings-MacBook-Pro:CS1632_Deliverable2 zhengsiming$ java -cp .:./junit-4.1]
2.jar:./hamcrest-core-1.3.jar:./mockito-core-1.10.19.jar:./objenesis-2.4.jar Tes
tRunner

ALL TESTS PASSED
ZhengSimings-MacBook-Pro:CS1632_Deliverable2 zhengsiming$ ▉