CS 1632- DELIVERABLE 2: UNIT TESTING CITY SIM9006

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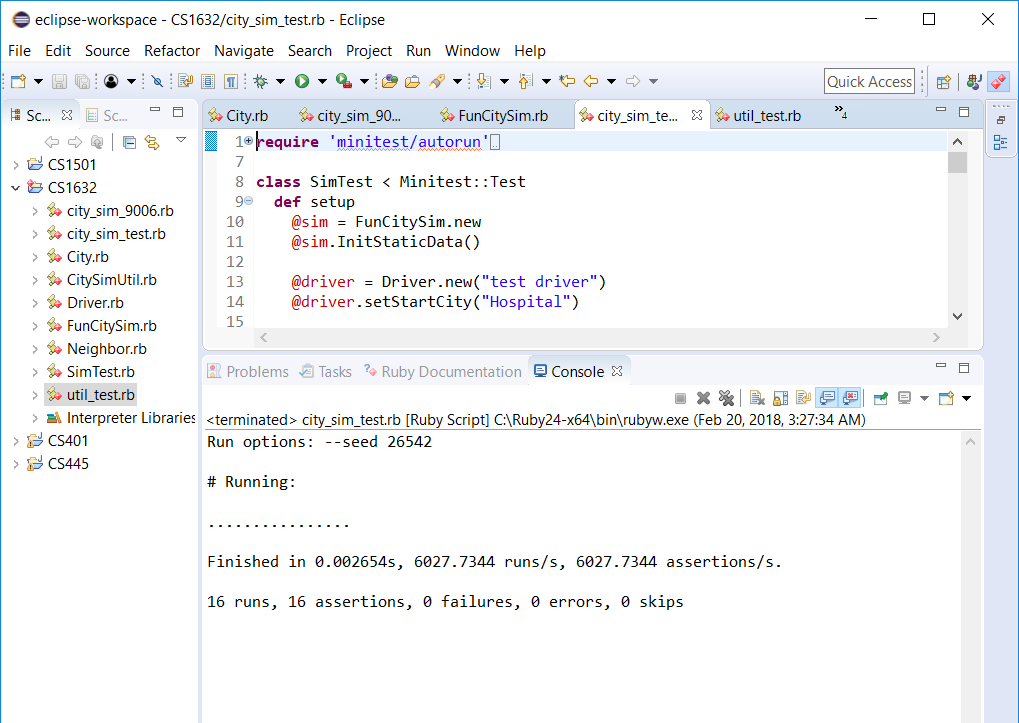
https://github.com/pengwy3697/CS1632/tree/master/Deliverable%202

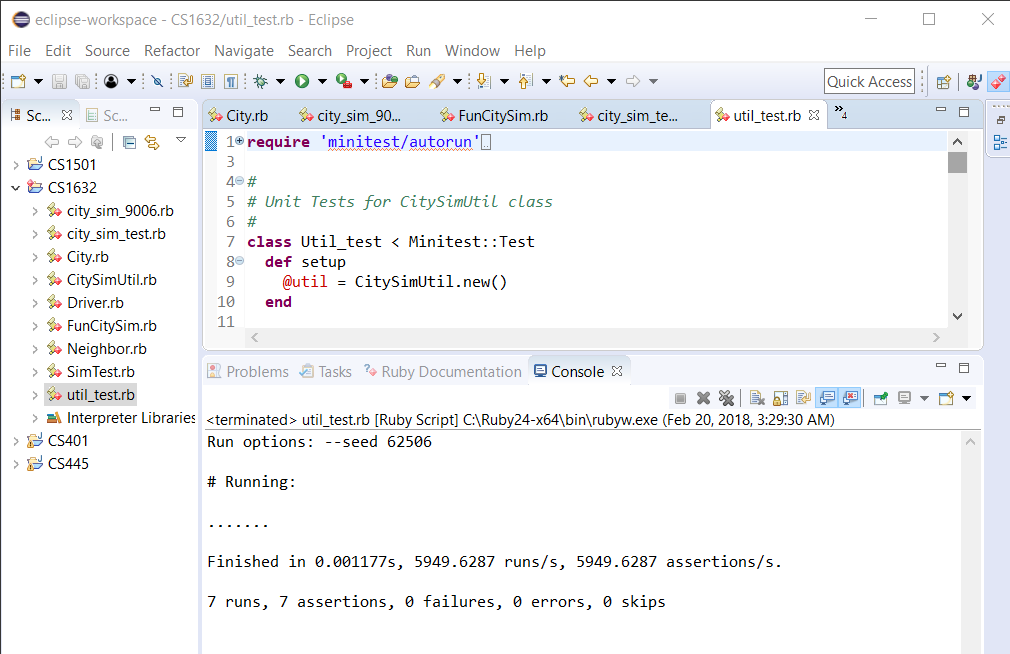
**1. Issues**

Deliverable 2 is a city simulation where you enter a seed integer and 5 drivers travel around the city randomly and collect items/ take classes at certain locations until they reach either Downtown or Morrisville. I initially coded this simulation where each location had different directions such as north, south, east and west; however, I later found this difficult to implement because not all locations allowed the driver to go in all four directions, thus I decided to use a linked list instead. When I was coding, the parts I found most difficult was having the drivers moving randomly. For example, even seed numbers would always go to the same locations while odd seed numbers went to other similar locations. In addition to this, when I fixed the driver issue, the items/classes obtained became an issue right after. Whenever the driver would go to Cathedral, the classes would start from 2 as well as randomly add a class when the driver never went to Cathedral. I also had issues where at times the driver would run into an infinite loop and never reach the end.

When I was testing the code, I initially found it difficult because I kept all the classes within one file and some methods combined tasks (ie. driver would travel and collect all in one method), which made it difficult to test for certain functions such as determining how many books a driver had. To make it easier to test, I separated each class into different files by each function and refactor the methods in order to perform unit testing. Because Ruby determines the value and type at runtime, I had difficulty in debugging, as opposed to using print statements, and needed to refactor the code to make it easier to test, especially for edge cases. All in all, I found the program difficult to test and needed to readjust it accordingly to make it easier to test.

**UNIT TESTS**

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