P1U3 Documentation

In this documentation, I will elaborate some design thinking for this P1U3 Project.

This lab familiarizes me with the concept of multi-threads. The part that is added to this unit is the EditOptions class and some changes in methods in the ProxyAutomobile.

First of all, in the EditOptions class, I add three fields of which operationNum is the field that determines which method will be executed (there are five methods of which three are updating operations and two are deleting operations), operation is an array of Strings that stores the needed parameters for the upcoming method. Auto is an object of the Automobile class which stands for the Automobile that is related to the car in the fleet. I synchronized the Automobile object auto in the “run ()” method using Synchronized keyword.

Secondly, in the ProxyAutomobile class, I also synchronized the Automobile object after searching in the fleet. Then, when the thread is created by instantiating an EditOptions object and starts the thread, I block the current thread using the wait () method which will be unblocked in the EditOptions class using the notifyAll () method when the “run ()” method runs to the end. This kind of “wait” and “notify” pair guarantees that the created thread will not interleave together so that deals with the potential synchronized problem.

Finally, I add the EditAuto interface, which will be implemented again by the BuildAuto class so that better extensibility would be available.