**Summary**

This Car Configuration Application read a text file to build the reference base object model and archive it using Serialization, then it deserializes and output the class information. Besides, it also implements find, delete and update functions.

Design:

In this application, there’s a model package contain three classes: Automotive, OptionSet and Option class. Automotive class holds name of the automotive, base price and an array of OptionSet object. The Optionset class holds the name of the OptionSet and an array of Option object. Each Option can have name and price as properties.

All OptionSet and Option’s information is encapsulated in Automotive class. The outer class can only access to the Automotive class, not the OptionSet or Option.

The autoutil package contain one FileIO class. During the class, we implement buildAutoObject class to read a text file and populate the Automotive class.

The test package contain main function to test the read data, serialization, de-serialization, find Option, find OptionSet, delete OptionSet, delete Option.

Text file:

The first line in the test file contain information of the automotive, including name, baseprice and the number of Optionset objects

The following lines are OptionSet objects and Option objects’ information. Each line is an OptionSet.

These lines begins with the name of the Optionset object, and the number of options containing in this OptionSet objects. Then comes the name of the Option objects and the price of the corresponding Option object, the format repeat until the line is over, which will go to another OptionSet object.