Design Plan

**-Classes**

I created a generic car class to work with that had the basic functions like setMake, setModel, setVIN, etc. From the generic car class, I created two derived classes, one for new car and for old car. The derived classes were necessary because the old and new cars would require different constructor parameters. Such as for the new car setWarranty was needed and for old car setMileage was needed.

**-Storing the vehicles**

I used two vectors to store new cars and old cars and the new cars vectors of the type for the new car class and made the old cars vector a type of the old car class. This method allowed me to use the proper parameters for each class and each vector.

**-Functions**

Since I am using two vectors, one for each derived class, I also needed to create double the amount of functions because of the new car and old car derived classes. That means for example I have two search by VIN functions, two sell by VIN functions, etc. This method was simple because it did not require any complicated uses of txt files and all that was need was to create the two versions of each function

**-Menu**

The menu just required the use of while loop to the keep the menu running until the exit key was selected. This meant that the menu options will always be visible the user no matter.

while (option != 5)

{

…

}

**-Options within menu**

The options within the menu worked with the use of if else statements. If the user enters one option then the other options would go away and they would be stuck in that option until it was completed and since it was runs on a if else they can choose the other menu options and once they are in the option they selected, more if else statements are used.

**-Error Handling and invalid input**

Since an if else statement is used for all the menu options, if an invalid input is selected the program will say “Invalid Input “. Also, if the user was supposed to enter an integer but a string was entered, a statement to clear the cin and ignore it is put in place to prevent the programming for infinitely running.

else if (!cin.good())

{

cin.clear();

cin.ignore();

}