Project 5 Documentation

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The purpose of the program is to create an inherited class system that is compatible with a provided main file. The class methods should then output specific debugging statements when called in the main file.

In order to ensure the functionality of my program, I built from the ground up. This means starting with the vehicle class. I made sure to write the constructors first and test their abilities. I wanted to ensure that the initializer lists were assigning the correct values to be later manipulated. I had an issue initializing the location array inside of the initializer lists. I ended up initializing the location array in the brackets of the constructors instead. I do not know if this is proper form or maybe just a different way to go about it. I am curious if the initializer process would have worked and I possibly wasn’t implementing it correctly. Next I implemented the rest of the vehicle methods and tested them against the main file. After this I copied the process with the Car class and its constructors and then the methods. I ran into a little bit of strife in initializing the vin and location because those were a part of the vehicle class. I fixed this problem by manually passing the vehicle parameterized constructors. This is because a car is a subclass of the vehicle and it works like that. After this I did not have any issues with the remaining car functions. I then made the cmake file and decided to assign each class to their own folder in the file structure. This made it really easy to link them together manually. I had to change the include statements in the main file to match the file paths of my file structure.

One of the only problems I had with this assignment was that the insertion operator would return the addresses only of the location array instead of the actual values. I thought nothing of it and instead focused on the parameterized constructor because I had yet to figure out how to initialize the arrays. Once I finished the parameterized constructor the insertion operator was returning the correct values for the object’s location. So it was ultimately undefined behavior rather than a problem in the functionality. Additionally, the vin would not be set to 999 as it required in the debugging main and I could not figure out why. I followed the code through the parameterized car constructor to the parameterized vehicle constructor and realized with the ternary operations I had forgotten to put different results relating to the condition so that was an easy fix.

One thing I would like to explore if I had more time was the fact that in the Inheritance sample posted by Christos it had mentioned to declare the constructors in the protected part of the class; however, when I tried to put it in any other place than public there was an error. Because there was no specific note about it in the project instructions I decided to leave it as is.