

Object Oriented Programming

Assignment # 3

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Inheritance

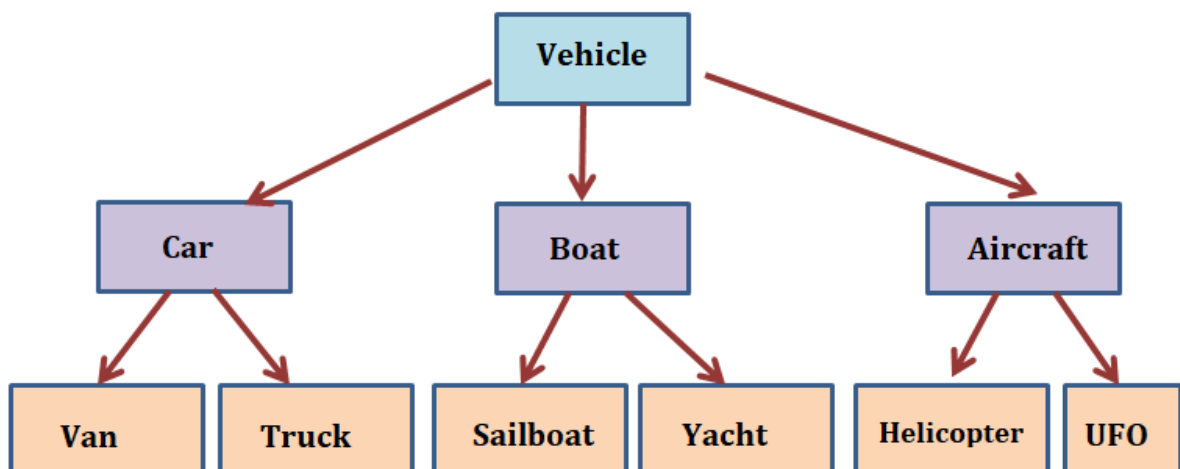
You are required to design a program that creates different kinds of vehicles for a video game.

The different types of vehicles that you can create classes for are Truck, Van, Sailboat, Yacht, Helicopter and UFO.

All these types of vehicles have some common features such as:

- Their cost
- Number of people that can be accommodated
- Dimensions
- And any other features you can think of

One way to tackle this problem can be to write a base class, **Vehicle**, and then derive several classes from it in this way:



Group the common features into the Vehicle class and derive the other classes from it. Group the common features of those derived classes and then further derive other classes from those.

Please note: This assignment is about inheritance. Your code should be constructed using inheritance. All data members will be PRIVATE, not public. You can however use public inheritance.

The purpose of this assignment is to encourage you to start thinking like a coder.

Include as many features as possible in your classes. You might have to research into the different features of these vehicles to learn which ones can be grouped together and what the unique features of the derived classes are.

Your program should work as follows:

The user should be asked what he/she wants to create. They should then be displayed these 6 different options. Once the user selects one of the options, they should be asked a series of questions to populate the particular characteristics of the vehicle. In the end, all the characteristics of the vehicle should be displayed to the screen.

For e.g. Your final output could be:

You have chosen to create the following vehicle:

A van

Carries 12 people

Has a fuel tank capacity of 25 gallons

Has a 275 horsepower engine

4 wheel ABS brakes

Tire pressure monitoring

Stability control

Final Note:

There is considerable room to exercise your imagination here. Think of the different functions and data members that can be included to make it mimic an actual video game.

Since the question is so open-ended, I expect every one of you to come up with a different solution.

There will definitely be extra marks for creativity. So get coding!