## Homework 3 - Object Oriented Programming with C# and .NET

### **Names**:

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### **Classes and Enums:**

##### **Garage UI**

* Program – Entry of the entire program
* **GarageChangeVehicleUI** – Provides options to change a vehicle’s tires air pressure, amount of fuel/hours in its engine and the overall repair status.
  + **eVehicleChangeOptions** – The options given to the user from the change menu.
* **GarageHandler** – The main hub for inserting new vehicles to the garage, changing their stats, and getting information.
  + **eGarageOptions** - The options given to the user from the main menu.
* **GarageInfoVehicleUI** – Provides options to get information about certain vehicles according to their license number, or all vehicles licenses according to given a status
  + **eVehicleInfoOptions** – The options given to the user from the info menu.
* **GarageInsertVehicleUI** – Provides an interface for adding new vehicles to the garage based on attributes provided by the user through the input.

##### **Garage** **Logic**

* **Vehicle** – The core object that describes the common attributes for all vehicle types that the garage provides service.
* **Car** – The object that describes the common attributes for all types of cars that the garages provides service.
  + **eCarColor** – The colors possible for a car in the garage to have.
  + **eNumberOfDoors** – The number of doors that is possible for a car in the garage to have.
* **FuelBasedCar** – The fuel variant of the car that runs on a fuel-based engine
* **ElectricCar** – The electric based variant of the car that runs on an electric engine.
* Motorcycle – The object that describes the common attributes for all types of motorcycles that the garage provides service.
  + **eLicenseType** – The license types common to all motorcycles in the garage.
* **FuelBasedMotorcycle** – The fuel variant of the motorcycle that runs on a fuel-based engine.
* **ElectricMotorcycle** – The electric based variant of the motorcycle that runs on an electric engine.
* Truck – The object that describes the common attributes for all types of trucks that the garage provides service.
* **FuelBasedTruck** – The fuel variant of the truck that runs on a fuel-based engine.
* **eVehicleType** – The variant of vehicles that the garage provides services for them.
* Wheel – The object that describes each of the wheels every vehicle.
* Engine – The object that describes the engine for every vehicle.
* **eFuelType** – The possible fuel types of the fuel-based engine.
* **VehicleGarageManager** – The main vehicles manager of the garage where operations on the vehicles in the garage can be made.
* **VehicleGenerator** – The place for all types of vehicles the garage would be generated, creates vehicles based on their type and adds the specific attributes to them if needed.
* **VehicleRepairInfo** – Holds the vehicle’s owner name, phone number and repair status. Common for all vehicles in the garage.
  + **eVehicleRepairStatus** – The repair statues available for all vehicles in the garage.
* **ValueOutOfRangeException** – An exception that is thrown when an input exceeds the allowed range, for example when refueling too much fuel.

#### **UML Diagram:**

