**Students detail**: Guy Itshak Binyamin 206648693

**Defined objectives**:

* Class Vehicle:

An abstract class that contains the model of the vehicle, the license number, the energy system, a list of wheels and vehicle info(I will explain later on).

* Class Car:

An abstract class that inherits from the class Vehicle and contains the color of the car and the number of doors.

* Class ElectricCar:

A class that inherits from class Car.

* Class FuelCar:

A class that inherits from class Car.

* Class Motorcycle:

An abstract class that inherits from the class Vehicle and contains the license type and the volume of the engine.

* Class ElectricMotorcycle:

A class that inherits from the class Motorcycle.

* Class FuelMotorcycle:

A class that inherits from the class Motorcycle.

* Class Truck:  
  An abstract class that inherits from the class Vehicle and contains whether the truck is loading with dangerous materials and the volume of the trunk.
* Class FuelTruck:  
  A class that inherits from the class Truck.
* Class EnergySystem:  
  An abstract class that contains the amount of energy left and the max amount of energy could possibly be.
* Class ElectricEnergySystem:  
  A class that inherits from the class EnergySystem.
* Class FuelEnergySystem:  
  A class that inherits from the class EnergySystem.
* Class Wheel:  
  A class that contains the name of the wheel manufacturer, the current PSI in the wheel and the max PSI that the wheel can hold.
* Class VehicleInfo:  
  A class that contains a list of questions to ask the user, a list of answers to those questions, the model of the vehicle, the license number and the current energy percent.
* Class Customer:  
  A class that contains a list the customer name, customer phone number, vehicle status and the vehicle itself.
* Class GarageVehicles:  
  A class that contains and creates all the vehicles which are in the garage.
* Class GarageManeger:  
  A class that contains all the customers and their vehicles.
* Enum eNumberOfDoors:  
  An enum that is exclusively related to the class Car class and describes the number of doors the car has.
* Enum eStatusVehicle:  
  An enum that describes the status of the vehicle in the garage.
* Enum eTypeFuel:  
  An enum that is exclusively related to all classes with FuelEnergySystem and describes all the types of fuel that could possibly be.
* Enum eTypeLicense:  
  An enum that is exclusively related to the class Motorcycle and describes all the types of license the motorcycle could have.
* Enum eColorOfCars:  
  An enum that is exclusively related to the class Car class and describes all the colors for a car.
* Class ValueOutOfRangeException:

A class that describes an error in terms of an input that is not in the demanded range.

**The inheritance diagram:**