**Ex03 – The Garage:**

**Classes:**

**Garage Manager –** Run via the Console UI. Implements the integration between the user interface and the garage logic.

**Console IO Manager –** A separate class to gather all inputs and outputs in our program.

**Garage –** The garage holding all vehicles and contains all the operations (methods) that could be performed in the garage. The access to all vehicle is from this class.

**Garage Card –** Every vehicle in the garage has its owner. So better to gather the owner details with his vehicle, plus a mention of the status in the garage.

The idea behind this class is to separate the owner details from the vehicle object itself.

**Vehicle Manufacturer –** A separate class for manufacturing vehicles according to the user choice.

**Vehicle –** Abstract class gathering all the basic details vehicle has. Such as License ID and Model name.

All vehicles that manufactured in the garage have these basic details. An actual object of "Vehicle" cannot be created without specifying the type of vehicle.

**Car, Truck, Motorcycle –** Extending vehicle type. All three are inherit from the abstract class "vehicle"

Each one has it own special information, in addition to the basics.

**Energy –** Abstract class gathering all the basic details of an energy source. Such as energy left in percentage, max energy capacity, etc.

**Fuel, Electric –** Extending energy type. Fuel has its own special details, such as Fuel type.

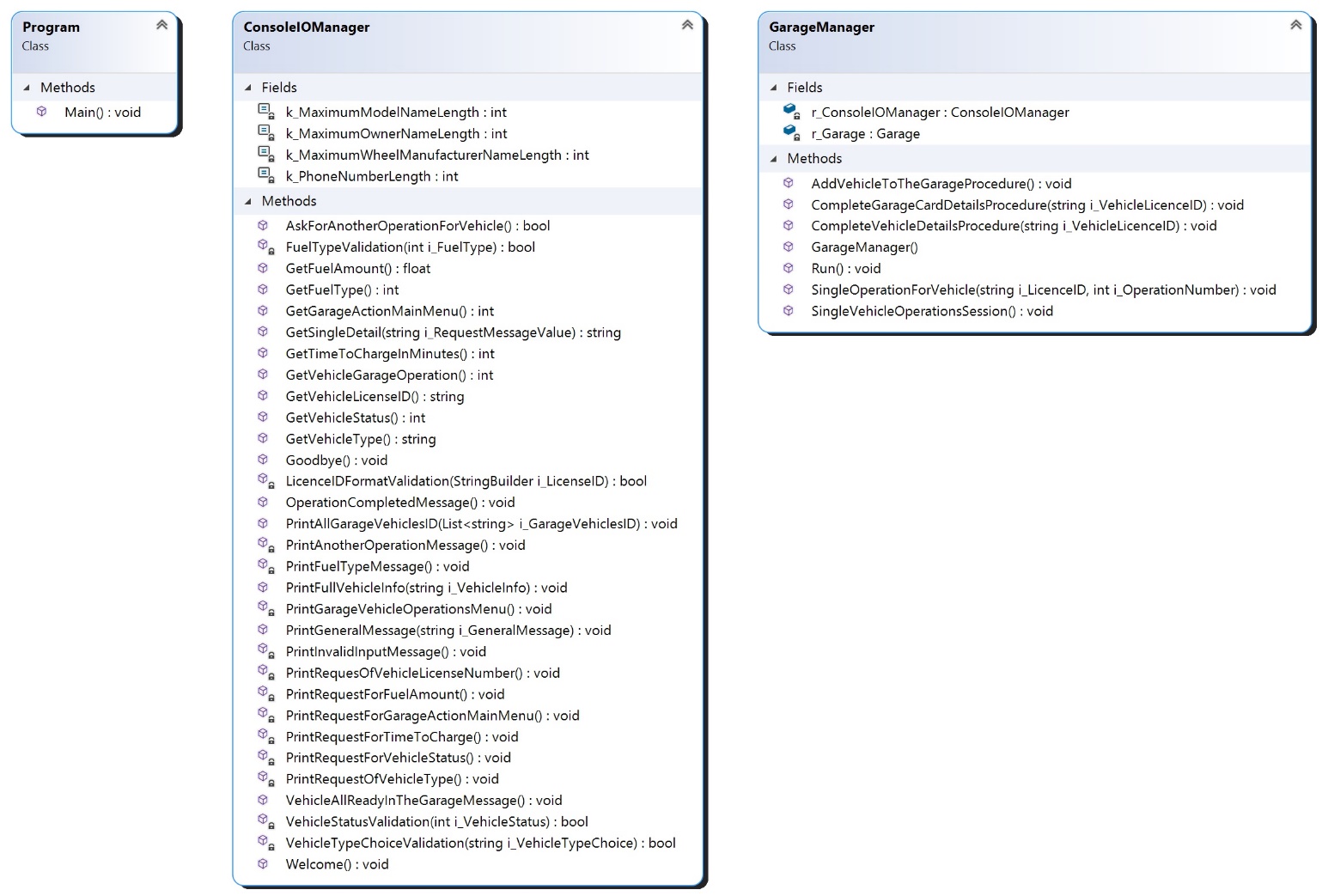
**Wheel –** A single wheel class. Each vehicle contains number of wheels stored in a List. Each wheel has its own information.

**Value Out Of Range Exception -** A new class inheriting form Exception. The purpose is to handle the specific cases of incorrect operations in the garage, such as refuel vehicle more than the maximum.

Enum Validator – Static class with static single method, for Enum range validation check.

**The Garage class's structure:**

**ConsoleUI project:**



**Garage Logic project:** תמונה שמכילה טקסט

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