Programming Exercise

Requirements

Web Application using .NET.

The application will manage a fleet of buses, trucks, and cars.

- The fleet will contain zero or more vehicles.
- Each vehicle will contain the following attributes:
  - **Chassis Id:**
    - Each chassis id will contain the following attributes:
    - **Chassis Series:** Type: String
    - **Chassis Number:** Type: Unsigned integer
  - **Type:** Can be either Bus, Truck, or Car
  - **Number of Passengers:**
    - For trucks, this value will always be 1.
    - For buses, this value will always be 42.
    - For cars, this value will always be 4.
  - **Color:** Type: String

Features

- **Insert a new vehicle:** Input all attributes for a vehicle and store it. If a vehicle with the same chassis id already exists, an error message will be shown.
- **Edit an existing vehicle:** Change only the color of a vehicle after finding it by chassis id.
- **List all vehicles:** Show all the details for all vehicles.
- **Find a vehicle by chassis id:** Show all details for a vehicle found by chassis id.

Evaluator Expectations

- The application must be runnable with minimal steps.
- Source code must include a README.md file with instructions.

Expectations

- Input validation.

- Majority of classes/methods/functions covered by Unit Tests.

- Usage of interfaces and inheritance.

- Separation of business and user interface logic.

- Proper usage of accessors (public, internal, private, or protected).

Skills Evaluated

Problem-solving, code quality, and adherence to software development best practices.