### **Vehicle Rental System Documentation**

The **Vehicle Rental System** is a console-based application enabling customers to rent and return vehicles while allowing administrators to manage the fleet. The system supports multiple vehicle types: **Cars**, **Motorcycles**, and **Trucks**.

#### **Key Features**

1. **Main Menu**:
   * Rent a vehicle.
   * Return a vehicle.
   * Add a vehicle (Admin-only).
   * Display fleet details (Admin-only).
   * Exit the application.
2. **Customer Operations**:
   * Rent vehicles by ID, specifying rental duration.
   * Return vehicles, updating availability status.
   * Calculates and displays rental costs based on duration.
3. **Admin Operations**:
   * Authenticate using a secure password.
   * Add new vehicles to the fleet by specifying type, model, and rental rate.
   * View fleet details, including available vehicles with their rates.

#### **Classes and Responsibilities**

1. **Main**: Orchestrates interactions and delegates tasks based on user input.
2. **Admin**: Manages the fleet, including adding vehicles and displaying availability.
3. **Car** (extends Vehicle): Implements Rentable interface to support rental and return operations.

#### **Utilities**

* Input validation ensures robust interaction.
* The fleet is pre-populated with sample vehicles for quick testing.
* Supports adding custom vehicles dynamically.

#### **Future Enhancements**

* Persistent data storage for fleet details.
* Authentication for customers.
* GUI integration for improved usability.

This system offers a straightforward and extensible structure, suitable for expanding into a full-fledged vehicle rental platform.