

Problem Statement: Car Rental System

A **Car Rental Management System** is needed for a company that rents out cars to customers. Each **Car** belongs to a **Fleet**, and each **Fleet** is owned by a specific **Branch** of the rental company. Customers rent cars for a certain period, and the system needs to track these rentals.

The system should support the following:

1. Branch Management

- Add, view, update, and delete branches.
- Each branch has a unique ID, name, and location.

2. Fleet Management (Aggregation with Branch)

- Add, view, update, and delete fleets assigned to a branch.
- Each fleet consists of multiple cars.

3. Car Management (Aggregation with Fleet)

- Add, view, update, and delete cars.
- Each car has attributes such as registration number, model, brand, year, and availability status.

4. Customer Management

- Add, view, update, and delete customer records.
- Each customer has a unique ID, name, license number, and contact details.

5. Rental Management (Association with Customer & Car)

- Rent a car to a customer.
- Return a rented car and update its availability.
- View rental history.

Class Relationships:

- **Branch** has multiple **Fleets** (Aggregation).
- **Fleet** has multiple **Cars** (Aggregation).
- **Customer** rents a **Car** (Association).