

PROJECT 7

Project Description:

The Car Rental System project simulates a simple car rental shop where customers can rent cars on an hourly, daily, or weekly basis. The system is implemented in Python using object-oriented programming concepts. It consists of two main classes: CarRental and Customer.

The CarRental class manages the rental operations and inventory of cars available in the shop. It allows customers to check available stock, rent cars on different time bases (hourly, daily, weekly), return cars, and calculates bills based on the rental duration and type.

The Customer class represents a customer interacting with the rental shop. It allows customers to request cars, return cars they have rented, and manages the rental details such as the number of cars rented, rental basis (hourly, daily, weekly), rental time, and bill calculation.

The main functionalities of the Car Rental System include:

1. Displaying available cars in the inventory.
2. Renting cars based on hourly, daily, or weekly rates.
3. Calculating bills based on the type and duration of the rental.
4. Providing discounts for family rentals (3 to 5 cars).
5. Allowing customers to return cars and generating bills for the rental period.
6. Handling user input to navigate through the rental process (rent, return, display, exit).

Summary:

The Car Rental System project provides a practical implementation of a car rental service using Python. It utilizes datetime for time-related operations and demonstrates fundamental concepts of object-oriented programming such as classes, objects, constructors, methods, and encapsulation.

Upon running the program, users are presented with a menu-driven interface where they can select options to view available cars, rent cars on different rental bases, return cars, and exit the system. Each operation is validated to ensure correct input and availability of cars in the inventory.

The system maintains simplicity while offering essential functionalities expected from a car rental service, including accurate billing based on rental duration and type. It concludes with a message thanking the user for using the car rental system, ensuring a complete user experience flow from start to finish.