**Case Study: Car Rental System**

**Objective:** Develop a menu-based console application to assess your proficiency in Core Java, MySQL, and JDBC. The application will manage a car rental system, allowing users to perform CRUD (Create, Read, Update, Delete) operations for cars, and include functionality for renting out cars.

**Functionalities:**

1. **Car Management:**
   * Add a new car
   * View car details
   * Update car information
   * Delete a car
2. **Car Rental:**
   * Display list of available cars
   * Display list of rented cars
   * Rent out a selected car to a customer
   * Update the rental record in the database (rental\_date, return\_date initially null)
   * Validate that the selected car is available for rent
   * Validate customer information

**Database Schema:**

* **Car Table:**
  + car\_id (Primary Key)
  + make
  + model
  + year
  + price\_per\_day
  + available\_for\_rent (boolean)
* **Rental Table:**
  + rental\_id (Primary Key)
  + car\_id (Foreign Key references Car Table)
  + customer\_name
  + customer\_phone
  + rental\_date
  + return\_date (nullable)

**Requirements:**

* Develop a menu-based console application using Core Java.
* Use JDBC for interactions with the MySQL database.
* Implement menu options for CRUD operations for cars and car rental.
* Ensure that the application updates the available\_for\_rent status in the Car table appropriately.
* Handle exceptions effectively and provide user-friendly error messages.
* Ensure the application code is clean, well-documented, and follows standard coding conventions.

**Submission:**

* Submit the complete source code along with a README file that provides setup and usage instructions.
* Share your project by uploading it to a public GitHub repository.
* Provide the link to the GitHub repository.