**Case Study: Movie Rental Management System**

**Objective:**

Develop a menu-based console application to assess your proficiency in Core Java, MySQL, and JDBC. The application will simulate a movie rental management system, allowing users to manage movies, customers, and rentals.

**Functionalities:**

1. **Movie Management:**
   * Add a new movie
   * View movie details
   * Update movie information
   * Delete a movie
2. **Customer Management:**
   * Register a new customer
   * View customer details
   * Update customer information
   * Delete a customer
3. **Rental Management:**
   * Rent a movie to a customer
   * Return a rented movie
   * View rental details
   * Calculate rental charges

**Database Schema:**

* **Movie Table:**
  + movie\_id (Primary Key)
  + title
  + genre
  + release\_year
  + rental\_price
* **Customer Table:**
  + customer\_id (Primary Key)
  + name
  + email
  + phone\_number
  + address
* **Rental Table:**
  + rental\_id (Primary Key)
  + movie\_id (Foreign Key references Movie Table)
  + customer\_id (Foreign Key references Customer Table)
  + rental\_start\_date
  + rental\_end\_date
  + total\_charge

**Requirements:**

* Develop a menu-based console application using Core Java.
* Use JDBC for interactions with the MySQL database.
* Implement menu options for managing movies, customers, and rentals.
* Ensure that the application updates the availability status in the Movie table appropriately after a movie is rented or returned.
* Calculate rental charges based on the rental price and rental duration.
* 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 to the coaches.