**Case Study: Hotel Management System**

**Objective:**

Develop a menu-based console application to assess your proficiency in Core Java, MySQL, and JDBC. The application will simulate a hotel management system, allowing users to manage rooms, guests, and reservations.

**Functionalities:**

1. **Room Management:**
   * Add a new room
   * View room details
   * Update room information
   * Delete a room
2. **Guest Management:**
   * Register a new guest
   * View guest details
   * Update guest information
   * Delete a guest
3. **Reservation Management:**
   * Make a new reservation
   * View reservation details
   * Update reservation information
   * Cancel a reservation

**Database Schema:**

* **Room Table:**
  + room\_number (Primary Key)
  + type
  + price\_per\_night
  + availability\_status
* **Guest Table:**
  + guest\_id (Primary Key)
  + name
  + email
  + phone\_number
  + address
* **Reservation Table:**
  + reservation\_id (Primary Key)
  + room\_number (Foreign Key references Room Table)
  + guest\_id (Foreign Key references Guest Table)
  + check\_in\_date
  + check\_out\_date
  + total\_price

**Requirements:**

* Develop a menu-based console application using Core Java.
* Use JDBC for interactions with the MySQL database.
* Implement menu options for managing rooms, guests, and reservations.
* Ensure that the application updates the availability status in the Room table appropriately after a reservation is made or cancelled.
* Calculate the total price for a reservation based on the price per night and duration of stay.
* 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.