**Case Study: Public Transportation Management System**

**Objective:**

Develop a menu-based console application to assess your proficiency in Core Java, MySQL, and JDBC. The application will simulate a public transportation management system, allowing users to manage buses, passengers, and routes.

**Functionalities:**

1. **Bus Management:**
   * Add a new bus
   * View bus details
   * Update bus information
   * Delete a bus
2. **Passenger Management:**
   * Add a new passenger
   * View passenger details
   * Update passenger information
   * Delete a passenger
3. **Route Management:**
   * Add a new route
   * View route details
   * Update route information
   * Delete a route

**Database Schema:**

* **Bus Table:**
  + bus\_id (Primary Key)
  + number\_plate
  + model
  + capacity
  + availability\_status
* **Passenger Table:**
  + passenger\_id (Primary Key)
  + name
  + email
  + phone\_number
  + address
* **Route Table:**
  + route\_id (Primary Key)
  + start\_location
  + end\_location
  + distance
  + duration

**Requirements:**

* Develop a menu-based console application using Core Java.
* Use JDBC for interactions with the MySQL database.
* Implement menu options for managing buses, passengers, and routes.
* Ensure that the application handles bus availability updates and passenger booking.
* 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.