**Case Study: Fitness Center Management System**

**Objective:**

Develop a menu-based console application to assess your proficiency in Core Java, MySQL, and JDBC. The application will simulate a fitness center management system, allowing users to manage members, trainers, and classes.

**Functionalities:**

1. **Member Management:**
   * Register a new member
   * View member details
   * Update member information
   * Delete a member
2. **Trainer Management:**
   * Add a new trainer
   * View trainer details
   * Update trainer information
   * Delete a trainer
3. **Class Management:**
   * Schedule a new class
   * View class details
   * Update class information
   * Cancel a class

**Database Schema:**

* **Member Table:**
  + member\_id (Primary Key)
  + name
  + email
  + phone\_number
  + membership\_type
* **Trainer Table:**
  + trainer\_id (Primary Key)
  + name
  + email
  + phone\_number
  + specialization
* **Class Table:**
  + class\_id (Primary Key)
  + trainer\_id (Foreign Key references Trainer Table)
  + class\_name
  + schedule
  + capacity
  + status (scheduled/cancelled)

**Requirements:**

* Develop a menu-based console application using Core Java.
* Use JDBC for interactions with the MySQL database.
* Implement menu options for managing members, trainers, and classes.
* Ensure that the application updates the status in the Class table appropriately after a class is scheduled or cancelled.
* 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.