**Case Study: Student Course Mapping**

**Objective:** Develop a menu-based console application to assess your proficiency in Core Java, MySQL, and JDBC. The application will manage a student record system, allowing users to perform CRUD (Create, Read, Update, Delete) operations for student records, and include functionality for assigning courses to students.

**Functionalities:**

1. **Student Management:**
   * Add a new student
   * View student details
   * Update student information
   * Delete a student
2. **Course Assignment:**
   * Display list of available courses
   * Display list of students
   * Assign a selected course to a selected student
   * Update the assignment record in the database
   * Validate that the selected course is available
   * Validate that the selected student can be assigned more courses (limit not reached)

**Database Schema:**

* **Student Table:**
  + student\_id (Primary Key)
  + name
  + email
  + phone
  + courses\_assigned (stores count of courses assigned)
* **Course Table:**
  + course\_id (Primary Key)
  + title
  + instructor
  + schedule
  + capacity
  + students\_enrolled (stores count of students enrolled)
* **Assignment Table:**
  + assignment\_id (Primary Key)
  + course\_id (Foreign Key references Course Table)
  + student\_id (Foreign Key references Student Table)
  + assignment\_date

**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 student records and course assignments.
* Ensure that the application updates the courses\_assigned in the Student table and students\_enrolled in the Course 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.