**Case Study: Quality Control Management System**

**Objective:**

Develop a menu-based console application to assess your proficiency in Core Java, MySQL, and JDBC. The application will simulate a quality control management system for a manufacturing plant, allowing users to manage products, defects, and quality checks.

**Functionalities:**

1. **Product Management:**
   * Add a new product
   * View product details
   * Update product information
   * Delete a product
2. **Defect Management:**
   * Add a new defect type
   * View defect details
   * Update defect information
   * Delete a defect type
3. **Quality Check Management:**
   * Perform a quality check for a product
   * View quality check details
   * Update quality check information
   * Delete a quality check record

**Database Schema:**

* **Product Table:**
  + product\_id (Primary Key)
  + name
  + description
  + production\_date
  + quantity\_produced
* **Defect Table:**
  + defect\_id (Primary Key)
  + name
  + description
* **Quality Check Table:**
  + check\_id (Primary Key)
  + product\_id (Foreign Key references Product Table)
  + defect\_id (Foreign Key references Defect Table)
  + check\_date
  + result (pass/fail)

**Requirements:**

* Develop a menu-based console application using Core Java.
* Use JDBC for interactions with the MySQL database.
* Implement menu options for managing products, defects, and quality checks.
* Ensure that the application updates the quantity\_produced in the Product table and tracks defect occurrences.
* 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.