**Case Study: Product Return Management System**

**Objective:**

Develop a menu-based console application to assess your proficiency in Core Java, MySQL, and JDBC. The application will simulate a product return management system for a consumer electronics company, allowing users to manage return requests, processing, and inventory updates.

**Functionalities:**

1. **Return Request Management:**
   * Register a new return request
   * View return request details
   * Update return request status
   * Delete a return request
2. **Processing Management:**
   * Process a return request
   * View processing details
   * Update processing status
   * Delete processing records
3. **Inventory Update:**
   * Update inventory after a return is processed
   * View current inventory status
   * Update inventory information
   * Delete inventory records

**Database Schema:**

* **Return Request Table:**
  + request\_id (Primary Key)
  + customer\_id (Foreign Key references Customer Table)
  + product\_id (Foreign Key references Product Table)
  + request\_date
  + reason
  + status
* **Processing Table:**
  + processing\_id (Primary Key)
  + request\_id (Foreign Key references Return Request Table)
  + processing\_date
  + processing\_details
  + status
* **Inventory Table:**
  + product\_id (Primary Key, Foreign Key references Product Table)
  + stock\_quantity

**Requirements:**

* Develop a menu-based console application using Core Java.
* Use JDBC for interactions with the MySQL database.
* Implement menu options for managing return requests, processing, and inventory updates.
* Ensure that the application updates inventory levels, processes return requests, and manages processing efficiently.
* 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.