**Case Study: Product 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 management system for a consumer electronics store, allowing users to manage products, sales, and customer information.

**Functionalities:**

1. **Product Management:**
   * Add a new product
   * View product details
   * Update product information
   * Delete a product
2. **Sales Management:**
   * Record a new sale
   * View sales details
   * Update sales information
   * Delete a sales record
3. **Customer Management:**
   * Add a new customer
   * View customer details
   * Update customer information
   * Delete a customer

**Database Schema:**

* **Product Table:**
  + product\_id (Primary Key)
  + name
  + category
  + price
  + stock\_quantity
* **Sales Table:**
  + sales\_id (Primary Key)
  + product\_id (Foreign Key references Product Table)
  + customer\_id (Foreign Key references Customer Table)
  + sale\_date
  + quantity
  + total\_amount
* **Customer Table:**
  + customer\_id (Primary Key)
  + name
  + email
  + phone
  + address

**Requirements:**

* Develop a menu-based console application using Core Java.
* Use JDBC for interactions with the MySQL database.
* Implement menu options for managing products, sales, and customers.
* Ensure that the application updates product stock levels, records sales transactions, and handles customer information 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.