**Case Study: Sales Reporting System**

**Objective:**

Develop a menu-based console application to assess your proficiency in Core Java, MySQL, and JDBC. The application will simulate a sales reporting system for a retail business, allowing users to generate and view sales reports based on different criteria.

**Functionalities:**

1. **Sales Data Entry:**
   * Add new sales data
   * View sales data
   * Update sales information
   * Delete sales data
2. **Sales Reporting:**
   * Generate a sales report by product
   * Generate a sales report by date range
   * Generate a sales report by customer
   * Generate a sales report by region
3. **Sales Summary:**
   * View summary of total sales
   * View summary of sales by product category
   * View summary of sales by region
   * View summary of sales by customer

**Database Schema:**

* **Sales Table:**
  + sale\_id (Primary Key)
  + product\_id (Foreign Key references Product Table)
  + customer\_id (Foreign Key references Customer Table)
  + sale\_date
  + quantity
  + total\_amount
* **Product Table:**
  + product\_id (Primary Key)
  + name
  + category
  + price
* **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 data entry, sales reporting, and sales summary.
* Ensure that the application generates accurate reports based on the selected criteria.
* 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.