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CREATE DATABASE mydatabase;
USE mydatabase;

CREATE TABLE Product (
   ProductID INT PRIMARY KEY AUTO_INCREMENT,
   ProductName VARCHAR(100),
   Price DECIMAL(10,2),
   Quantity INT
);
import java.sql.*;
import java.util.Scanner;

public class ProductCRUD {
   static final String URL = "jdbc:mysql://localhost:3306/mydatabase";
   static final String USER = "root";
   static final String PASSWORD = "";

   public static void main(String[] args) {
      try (Connection con = DriverManager.getConnection(URL, USER, PASSWORD);
          Scanner scanner = new Scanner(System.in)) {

         Class.forName("com.mysql.cj.jdbc.Driver");
         System.out.println("Database connected successfully!");

         while (true) {
            System.out.println("\n1. Add Product");
            System.out.println("2. View Products");
            System.out.println("3. Update Product");
            System.out.println("4. Delete Product");
            System.out.println("5. Exit");
            System.out.print("Enter your choice: ");
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            int choice = scanner.nextInt();

            switch (choice) {
                case 1:
                    addProduct(con, scanner);
                    break;
                case 2:
                    viewProducts(con);
                    break;
                case 3:
                    updateProduct(con, scanner);
                    break;
                case 4:
                    deleteProduct(con, scanner);
                    break;
                case 5:
                    System.out.println("Exiting...");
                    return;
                default:
                    System.out.println("Invalid choice! Try again.");
            }
        }

    } catch (Exception e) {
        e.printStackTrace();
    }
}

// Add a new product
private static void addProduct(Connection con, Scanner scanner) throws SQLException {
    System.out.print("Enter Product Name: ");
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    scanner.nextLine(); // Consume newline
    String name = scanner.nextLine();
    System.out.print("Enter Price: ");
    double price = scanner.nextDouble();
    System.out.print("Enter Quantity: ");
    int quantity = scanner.nextInt();

    String query = "INSERT INTO Product (ProductName, Price, Quantity) VALUES (?, ?, ?)";
    try (PreparedStatement stmt = con.prepareStatement(query)) {
        stmt.setString(1, name);
        stmt.setDouble(2, price);
        stmt.setInt(3, quantity);
        stmt.executeUpdate();
        System.out.println("Product added successfully!");
    }
}

// View all products
private static void viewProducts(Connection con) throws SQLException {
    String query = "SELECT * FROM Product";
    try (Statement stmt = con.createStatement();
         ResultSet rs = stmt.executeQuery(query)) {
        System.out.println("\nProduct List:");
        while (rs.next()) {
            System.out.println("ID: " + rs.getInt("ProductID") +
                    ", Name: " + rs.getString("ProductName") +
                    ", Price: " + rs.getDouble("Price") +
                    ", Quantity: " + rs.getInt("Quantity"));
        }
    }
}
```

```
// Update a product
private static void updateProduct(Connection con, Scanner scanner) throws SQLException {
    System.out.print("Enter Product ID to update: ");
    int id = scanner.nextInt();
    System.out.print("Enter New Price: ");
    double price = scanner.nextDouble();
    System.out.print("Enter New Quantity: ");
    int quantity = scanner.nextInt();

    String query = "UPDATE Product SET Price = ?, Quantity = ? WHERE ProductID = ?";
    try (PreparedStatement stmt = con.prepareStatement(query)) {
        stmt.setDouble(1, price);
        stmt.setInt(2, quantity);
        stmt.setInt(3, id);
        int rows = stmt.executeUpdate();
        if (rows > 0) {
            System.out.println("Product updated successfully!");
        } else {
            System.out.println("Product ID not found.");
        }
    }
}

// Delete a product
private static void deleteProduct(Connection con, Scanner scanner) throws SQLException {
    System.out.print("Enter Product ID to delete: ");
    int id = scanner.nextInt();

    String query = "DELETE FROM Product WHERE ProductID = ?";
    try (PreparedStatement stmt = con.prepareStatement(query)) {
```

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stmt.setInt(1, id);

int rows = stmt.executeUpdate
```