**Shopping Cart System**

**Overview**

The Shopping Cart System is a Java-based application designed to simulate an online shopping environment. It utilizes a MySQL database for data storage and is intended to be run from the console. This application offers a simple yet functional approach to online shopping, including user authentication, product browsing, cart management, and payment processing.

**Features**

* **User Authentication**: Users can register for a new account or log in with existing credentials.
* **Product Browsing**: Products can be viewed by categories, providing a structured shopping experience.
* **Cart Management**: Users can add items to their cart, remove items, and view their cart's current state.
* **Payment Processing**: After finalizing their cart, users can proceed to payment, choosing from existing payment methods or adding new ones.
* **Logout**: Users can log out of the application, which returns them to the initial login or registration screen.

**How It Works**

1. **Start the Application**: Running the **Main** class presents users with options to log in, register, or exit.
2. **Authentication**: The **Login** and **Register** classes handle user authentication, securely managing user sessions.
3. **Browse Products**: Authenticated users can browse available products using the **Product** class functionalities.
4. **Manage Cart**: The **Cartclass** allows users to add or remove products from their shopping cart.
5. **Proceed to Payment**: The **Payment** class, implementing the **PaymentGateway** interface, facilitates the checkout process.
6. **Logout**: Users can choose to log out, effectively ending their session.

**Setup Instructions**

* **Database Setup**: Ensure a MySQL database is available and configured as specified in the **sqldatabaseconnection.java** class.
* **Compile and Run**: Compile the Java classes and run the **Main** class to start the application.
* **Dependencies**: This project requires the MySQL JDBC driver for database connectivity.