

# Grocery Management System

A Java-based application to manage a grocery store's inventory, orders, and customer interactions. This system provides functionalities for handling products, customers, orders, payments, and staff, with support for both online and offline payment processing.

## Features

### 1. Inventory Management

- Track and manage grocery items with classes for products, categories, and inventory.

### 2. Order Processing

- Create and manage orders, with support for both online and offline payments.

### 3. Customer Management

- Handle customer information and order history.

### 4. Staff Management

- Manage staff members who interact with the system.

## 5. Payment Processing

- Integrated payment processing with support for multiple payment methods.

## Project Structure

grocery-management-system/

```
|— src/
|   |— Cart.java
|   |— Category.java
|   |— Customer.java
|   |— GroceryProduct.java
|   |— Inventory.java
|   |— Main.java
|   |— OfflinePayment.java
|   |— OnlinePayment.java
|   |— Order.java
|   |— PaymentProcessor.java
|   |— Product.java
|   |— Staff.java
|— README.md
|— LICENSE
```

- **src/**: Contains all Java source files for the project.
- **README.md**: Project documentation.
- **LICENSE**: Licensing information for the project.

## Class Structure

### Main Classes

- **Main**: The entry point of the application, handling initialization and program flow.
- **Customer**: Manages customer details, including order history and profile information.
- **Order**: Represents customer orders, tracking products and payment status.

### Inventory and Product Management

- **Product**: Basic properties of a product (e.g., name, price).
- **GroceryProduct**: A subclass of Product specific to grocery items.
- **Category**: Organizes products into categories for easier management.
- **Inventory**: Tracks available stock and manages product availability.

## Payment System

- **PaymentProcessor:** Core class for managing payment processing.
- **OnlinePayment:** Handles online transactions.
- **OfflinePayment:** Manages offline or in-store payments.

## Cart and Additional Functionality

- **Cart:** Allows customers to add or remove products before placing an order.
- **Staff:** Manages staff information and roles within the system.

## Getting Started

### Prerequisites

- **Java Development Kit (JDK) 8 or above**
- **IDE:** Any Java-compatible IDE (e.g., IntelliJ, Eclipse)

### Installation

1. Clone the repository:

```
bash
```

Copy code

git clone [https://github.com/tajbid-panthom/cseku\\_apl\\_24\\_230235/tree/main/Project%20Task%202](https://github.com/tajbid-panthom/cseku_apl_24_230235/tree/main/Project%20Task%202)

2. Open the project in your preferred Java IDE.
3. Compile and run the Main.java file.

### **Usage**

1. Run the Main class to start the application.
2. Follow on-screen prompts to add customers, manage inventory, place orders, and process payments.