

ByteMe! CLI-Based Food Ordering System

Overview

ByteMe is a command-line interface (CLI) food ordering system designed for a college canteen, offering two distinct user interfaces: an Admin interface for management and a Customer interface for food browsing and ordering. The system facilitates menu management, order processing, customer management, and a review system for items.

System Components

1. Core Classes

- . ByteMe: The main class that controls the application's logic and user interfaces.**
- . Customer: Manages customer information, including VIP status.**

- **FoodItem:** Represents individual menu items, including price, category, and customer reviews.
- **Order:** Manages order processing, including status tracking, prioritization, and special requests.
- **Review:** Handles customer reviews and ratings for menu items.

2. Key Features

- **Dual interfaces for Admin and Customer access.**
- **Order processing.**
- **Customer registration with an optional VIP system.**
- **Item review and rating functionality.**
- **Report generation for sales.**

Assumptions

General Assumptions

- 1. Single Session Operation: Data is only available within the current session; it is not saved between runs.**
- 2. Input Validation: Basic validation is in place, assuming users provide correct data types.**
- 3. Payment Processing: Payment processing is simplified and assumed to be successful.**
- 4. Authentication: The system doesn't have a way to log in for admin access.**

Customer-Related Assumptions

- 1. Customer Registration:**
 - . Registration requires only a name.**
 - . Duplicate name checking is not implemented.**

- No password or authentication is required.
- 2. **VIP Membership:**
 - A one-time payment of \$50 is required to obtain VIP status.
 - VIP status is permanent once the purchase

Order-Related Assumptions

1. **Order Processing:**
 - All orders are marked as paid when placed.
 - Orders can only be cancelled in "Order Received" status.
 - VIP orders are prioritized in the processing queue.

Menu-Related Assumptions

1. **Menu Items:**

- . Each item is uniquely named.
 - . Customization is limited to a single "special request" field.
- 2. Reviews:**
- . Multiple reviews per item are permitted.
 - . There is no verification to ensure the reviewer has purchased the item.
 - . Ratings are on a scale of 1 to 5.
 - . Customers cannot modify or delete submitted reviews.

System Flow

- 1. Main :**
- . The system initializes with a predefined menu.
 - . The user selects either the Admin or Customer interface.

2. Admin Interface

- . Provides menu management (add, update, and remove items).**
- . Allows order management, including viewing/updating status and processing refunds.**
- . Generates reports, including total sales and popular items.**

3. Customer Interface

- . Allows for customer registration.**
- . Provides menu browsing capabilities.**
- . Facilitates cart operations.**
- . Supports order placement and tracking.**
- . Allows customers to review items.**
- . Offers a VIP membership option after paying money.**

Data Structures

- . TreeMap: Used for the menu, sorted by item name for efficient retrieval.**
- . PriorityQueue: Used for orders, ensuring VIP orders are prioritized.**
- . ArrayList: Used for storing each item's order history, cart, and reviews.**

Key Processes

- 1. Order Processing:**
 - . Customers add items to their carts.**
 - . Orders are placed with optional special requests.**
 - . Orders enter a queue, with VIP orders receiving priority.**
 - . Admins can update the status of orders.**
 - . Customers may cancel orders if they still need to be processed.**

2. VIP Membership:

- . Customers pay a minimum of \$50 to gain VIP status.**
- . VIP orders receive priority in the order queue.**
- . VIP status is displayed in the order summaries.**