

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.**