COSC2429_Assignment3_2021C

Objective

The objective of this project is to develop a Python-based Command Line Interface (CLI) program for a store. The store is expected to maintain an inventory of at least 20 different items. The program should enable users to perform various operations, such as listing all items available in the store, viewing detailed information about specific items, searching for items by name or ID, accessing customer information, and placing orders with real-time inventory updates.

Input/Output

- **Input**:
  - **For Listing Items**: No specific input required from the user.
  - **For Viewing Item Information**: Item ID or name.
  - **For Searching Items**: Keyword for item name or the specific item ID.
  - **For Customer Information**: Customer's email address.
  - **For Placing Orders**: Item ID and the quantity to be purchased.
- **Output**:
  - A list of all items or specific item details.
  - Search results based on the provided name or ID.
  - Detailed customer information.
  - Confirmation of the order placed, along with updated inventory details.

Necessary Steps to Implement the Requirement

1. **Class Design**:
   - **Item Class**: To represent individual clothing items with attributes like ID, name, quantity, price, colors, sizes, and description.
   - **Customer Class**: To manage customer details such as name, email, and shipping address.
   - **Store Class**: To handle the inventory of items and the list of customers, along with methods for listing items, searching, and order processing.
2. **Implement Core Functionalities**:
   - **Loading Items**: Populate the store with at least 20 different clothing items. This can be hardcoded for the demo.
   - **Listing All Items**: Method in the Store class to display all items in the inventory.
   - **Viewing Specific Item Information**: Methods to find and display details of an item based on its ID or name.
   - **Searching Items**: Implement search functionality to find items by name or ID.
   - **Managing Customer Information**: Methods to add new customers and retrieve customer details.
   - **Order Processing**: Function to handle order placements, which includes checking item availability and updating inventory.
3. **User Interface (CLI)**:
   - Develop a user-friendly CLI that guides the user through different functionalities.
   - Implement a menu-driven approach where users can select options to view items, search, place orders, etc.
   - Ensure inputs are validated and errors are handled gracefully.
4. **Testing and Validation**:
   - Thoroughly test each functionality to ensure the program handles various scenarios correctly, including invalid inputs and edge cases.
   - Ensure inventory updates correctly when orders are placed.
5. **Documentation and Comments**:
   - Include comments and documentation within the code for clarity and maintainability.
6. **Extensibility Considerations**:
   - Design the program with future enhancements in mind, such as integrating a database for persistent storage or expanding the store to include more item categories.

Python Code

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Presentation Script

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