Book Inventory Management System

Description:

The Book Inventory Management System is a Java project aimed at helping bookstores or libraries manage their book inventory efficiently. The system will provide functionalities for adding, removing, updating, and searching for books in the inventory. It will utilize Java collections, sets, and maps to organize and manipulate the book data.

Features:

1. Book Class: Define a Book class with attributes such as title, author, ISBN, genre, price, quantity, etc.
2. Inventory Management: Implement functionalities to add new books to the inventory, remove books, update book information, and retrieve book details.
3. Unique ISBN: Ensure that each book in the inventory has a unique ISBN to prevent duplicates.
4. Search Functionality: Implement search functionality to allow users to search for books by title, author, genre, or ISBN.
5. Genre Classification: Classify books into different genres (e.g., fiction, non-fiction, mystery, romance) using a HashSet or EnumSet.
6. Pricing Information: Store pricing information for each book using a HashMap, where the key is the ISBN and the value is the price.
7. Quantity Management: Keep track of the quantity of each book in the inventory and update it when books are sold or restocked.
8. User Interface: Develop a simple command-line interface (CLI) to interact with the system, allowing users to perform various operations on the inventory.

Implementation:

1. Create a Book class with appropriate attributes and methods for accessing and manipulating book data.
2. Implement a BookInventory class that uses Java collections (e.g., ArrayList, HashMap) to store and manage the book inventory.

3. Develop methods in the BookInventory class for adding, removing, updating, and searching for books.
4. Implement genre classification using a HashSet or EnumSet to categorize books into different genres.
5. Use a HashMap to store pricing information for each book, with ISBN as the key and price as the value.

Additional Considerations:

- Error Handling: Implement error handling to handle invalid inputs and edge cases gracefully.
- Scalability: Design the system to handle a large number of books efficiently, considering factors like performance and memory usage.

Overall, the Book Inventory Management System will provide a convenient and efficient way for bookstores or libraries to manage their book inventory using Java collections, sets, and maps.