

Serendipity Booksellers Software Development Project— Part 1: Program Specifications

Serendipity Booksellers is a small bookstore located in a shopping mall. They have a cashier station equipped with a personal computer. The manager wants you to develop a point-of-sale (POS) software package that will make the computer function as a cash register and keep an inventory file. The inventory file will be a database of all the books in the bookstore. In general, the software is to perform the following tasks:

- Calculate the total of a sale, including sales tax
- When a book is purchased, subtract it from the inventory file
- Add, change, delete, and look up books in the inventory file
- Display various sales reports

You will build on the project by implementing newly learned features from each chapter. In the end, you will have designed and written a fully functional software package that incorporates most of the topics covered in the text.

The Modules

The program will be organized into the following three modules:

- Cashier module
- Inventory Database module
- Report module

When the program runs, a menu will be displayed on the screen, which allows the user to activate any of the modules. A discussion of each module follows:

The Cashier Module

The Cashier module allows the computer to act as a cash register. The user enters information for the books being purchased and the program calculates the sales tax and the total price. In addition, the books being purchased are automatically subtracted from the Inventory Database.

The Inventory Database Module

The Inventory Database will be a file containing a list of all the books in Serendipity's inventory. The following information for each book will be stored in the file:

Field	Description
ISBN	This is the International Standard Book Number. It is a unique number assigned to each book by the publisher.
Title	The title of the book.
Author	The book's author.
Publisher	The company that publishes the book.
Date Added	The date the book was added to the inventory.
Quantity-On-Hand	The number of copies of the book in inventory.
Wholesale Cost	The price paid by Serendipity for each copy of the book.
Retail Price	The price Serendipity is charging for each copy of the book.

The Inventory Database module will allow the user to look up information on any book in the file, add new books to the file, delete books, and change any information in the database.

The Report Module

The Report module will analyze the information in the Inventory Database to produce any of the following reports:

- **Inventory List.** A list of information on all books in the inventory.
- **Inventory Wholesale Value.** A list of the wholesale value of all books in the inventory and the total wholesale value of the inventory.
- **Inventory Retail Value.** A list of the retail value of all books in the inventory and the total retail value of the inventory.
- **List by Quantity.** A list of all books in the inventory sorted by quantity on hand. The books with the greatest quantity on hand will be listed first.
- **List by Cost.** A list of all books in the inventory, sorted by wholesale cost. The books with the greatest wholesale cost will be listed first.
- **List by Age.** A list of all books in the inventory, sorted by purchase date. The books that have been in the inventory longest will be listed first.