Serendipity Booksellers Software Development Project— Part 12: A Problem-Solving Exercise

For this chapter’s assignment you are going to modify the program so it works with an inventory file instead of an array of structures. You will still keep the BookData structure declarations you created in Chapter 11. However, it will now be used to define the records in the file.

# Set up the Program to Work with the Inventory File

Include the appropriate header file and decide where you want to define the file stream object for the inventory file. One approach is to define a global file stream object. Another approach is to define the object only in the functions that need to open the file, and then pass references to it to functions that need to work with the file.

* Add fstream header file
* Define a global fstream object after the structures definition
  + With the mode flag for input, output, and binary modes
* Close the file at the end of the file or when the user selects quit

# Modify the addBook Function

Change the addBook function so it works with the file instead of the array of BookData structures. When a new book is added to the inventory, the program will step through the file, reading each record into a single BookData structure. The program will then call the isEmpty function. When it finds an empty structure, it will ask the user for the book’s data. The function will then set its variable members to the new data. Once the structure is filled with the new data, it will be written to the file, over the old record.

* Use cin >> to initialize BookData struct member variables

# Modify the lookUpBook Function

The lookUpBook function should be changed to search the file, instead of the BookData structure array , for a book whose title matches the user’s input. When a book is found, its data should be passed to the bookInfo function.

# Modify the editBook Function

The editBook function should be changed to search and modify data in the file instead of in the BookData structure array. When it finds a book whose data the user wishes to modify, it should pass the new data to the structure’s appropriate functions. Once the data have been modified, the record should be written to the file over the old data.

# Modify the deleteBook Function and the removeBook

**Member Function**

The deleteBook function should be changed to work with the file instead of with the BookData structure array. When a book is to be removed from inventory, this function should search for it in the file, and then call the structure’s removeBook function to delete it. The removeBook member function should be modified so it writes the deleted record to the file.