

## **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.

### **1. 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.

### **2. 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.

### **3. 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.

### **4. 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.

### **5. Modify the `deleteBook` Function and the `removeBook` Member Function**

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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.