Serendipity Booksellers Software Development Project— Part 8: A Problem-Solving Exercise

For this chapter's assignment you will add searching capabilities to the `addBook`, `lookUpBook`, `editBook`, and `deleteBook` functions.

1. Modify the `addBook` function

When a new book is added to the inventory, the program will search the `bookTitle` array for an element that is set to an empty string or the null terminator. If the element contains an empty string or a null terminator, it means there isn't a string stored there. (Because the arrays are global, all their elements will be automatically initialized to zero.)

Once an empty element is found in the `bookTitle` array, the book's data may be stored in each of the other arrays by using the same subscript. For instance, if the title of the book is stored in `bookTitle[7]`, its ISBN number will be stored in `isbn[7]`, its author's name will be stored in `author[7]`, its publisher's name will be stored in `publisher[7]`, the date the book was added to the inventory will be stored in `dateAdded[7]`, the quantity of books on hand will be stored in `qtyOnHand[7]`, the book's wholesale price will be stored in `wholesale[7]`, and the book's retail price will be stored in `retail[7]`.

The `addBook` function is currently a stub function. Modify it so it performs the following steps:

- First the function should search the `bookTitle` array for an empty element. As described above, the function should look for an element containing an empty string or the null terminator. If no empty element is found, it means the array is full. In that case, the function should display a message indicating that no more books may be added to the inventory, and then terminate.
- Once an empty element is found in `bookTitle`, the function should ask the user to enter the following items:

  > Book title
  > ISBN number
  > Author's name
  > Publisher's name
  > The date the book was added to the inventory
  > The quantity of the book being added
  > The wholesale cost of the book
  > The retail price of the book

Each item above should be added to the appropriate array. Note that the wholesale cost and retail price is for a single copy of the book. Also, remember that the date should be entered in the form MM-DD-YYYY, where MM is the month, DD is the day, and YYYY is the year.

2. Modify the `lookUpBook` Function

The `lookUpBook` function is currently a stub function. Modify it so it performs the following tasks:

- It should ask the user for the title of a book. This is the book that is to be looked up in the inventory database.
- The function should search the `bookTitle` array for a title that matches the one entered by the user. If no match is found, the function should display a message indicating that the book is not in inventory, and terminate. If the book is found, the function should call `bookInfo`, passing the correct data as arguments.

3. Modify the `editBook` Function

The `editBook` function is currently a stub function. Modify it so it performs the following tasks:

- It should ask the user for the title of a book. This is the book whose data are to be edited.
- The function should search the `bookTitle` array for a title that matches the one entered by the user. If no match is found, the function should display a message indicating that the book is not in inventory, and terminate. If the book is found, the function should call `bookInfo`, passing the correct data as arguments.
- The function should ask the user which of the fields he or she wished to change. The user is then allowed to enter new values for the selected field. These new values are saved in the arrays, replacing the old values.

4. Modify the `deleteBook` Function

The `deleteBook` function is currently a stub function. Modify it so it performs the following tasks:

- It should ask the user for the title of a book. This is the book that is to be deleted from the inventory database.
- The function should search the `bookTitle` array for a title that matches the one entered by the user. If no match is found, the function should display a message indicating that the book is not in inventory, and terminate. If the book is found, the function should call `bookInfo`, passing the correct data as arguments.
- The function should ask the user if they are sure the book's data are to be deleted from the inventory. If so, the book's title (stored in the `bookTitle` array) is to be set to an empty string or the null terminator. The ISBN number (stored in the `isbn` array) should be set to an empty string or the null terminator as well.