Department of Computer Science and Engineering

CSE 103: Structured Programming [FALL 2023]

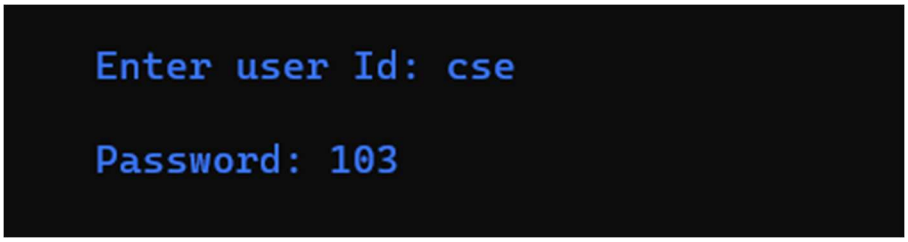
Library Management System

This project “Library Management System” is to design and develop an automated. system that will be used to automate Library Book Management.

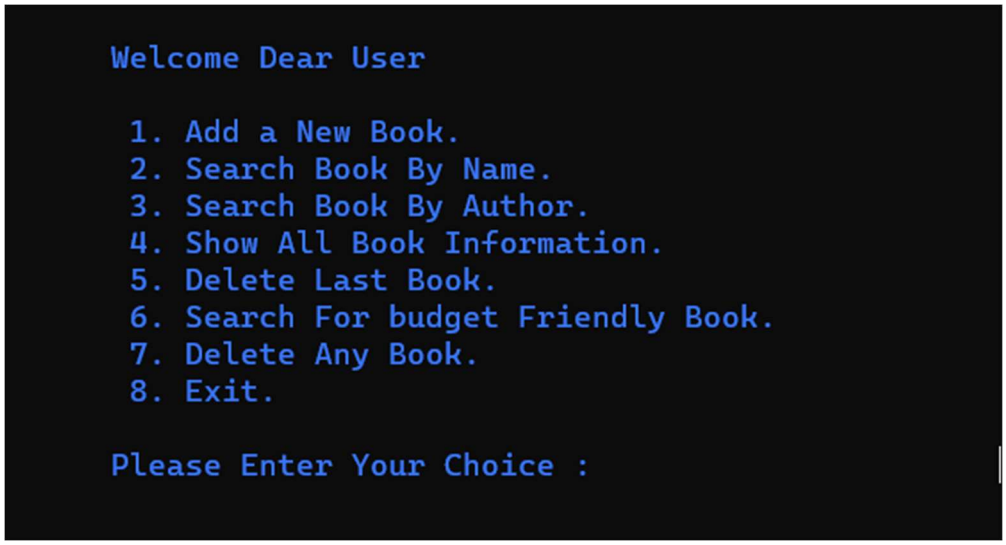
1. **show_welcome ():** is function simply prints “Welcome To EWU Library” surrounded by asterisks (*) as shown below. This is the first function that will be called when the program runs.

2. **exitMessage ():** This function prints “Thanks For Using EWU Library “ . This is the last function that will be called before the program ends.

3. **main_screen ():** After the execution of the **show_welcome ()** function, the following function will be invoked. This function prompts the user to enter their username and password. The predetermined username and password are set in the code. Upon receiving user input, the function checks whether the entered username and password are correct. If the user provides the correct credentials, the function returns 1; otherwise, it returns 0 to the main function. If the main function receives 1 from the **main_screen ()** function, then it will call **enter_choice ()** function.



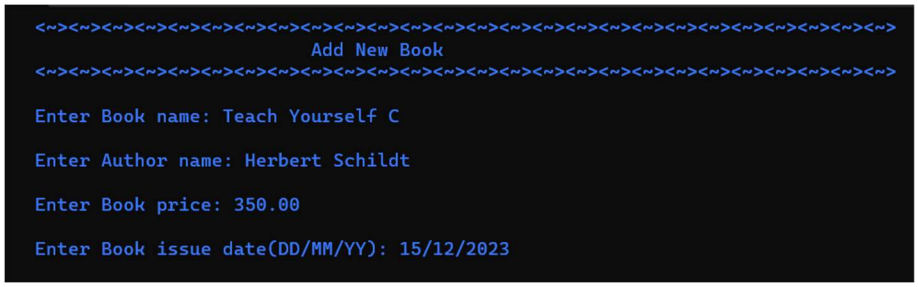
4. **show-menu ():** The following function shows the option available to the user.



5. **enter_choice ():** The **enter_choice ()** function begins by invoking **show_menu ()** to present the user with available options. It initializes a structure array to store book information. The menu options include adding a new book, searching for a book by name or author, displaying all books, and deleting the last book. The function will then ask the user to Enter their choice (scan an integer value).

   If the user enters 1 then the function will call **addBook ()** function.
   If the user enters 2 then the function will call **searchByName ()** function.
   If the user enters 3 then the function will call **searchByAuthor ()** function.
   If the user enters 4 then the function will call **showAllBooks ()** function.
   If the user enters 5 then the function will call **deleteLastBook ()** function.
   If the user enters 6 then the function will call **budget_friendly ()** function.
   If the user enters 7 then the function will call **deleteAnyBook ()** function.
   Lastly if the user enters 8 then function will call **exitMessage ()** function and end.

6. **addBook ():** The **addBook ()** function prompts the user to input details for a new book, including the book name, author name, price, and issue date. It then adds this book information to the library system by updating the corresponding fields in the array of book structures.



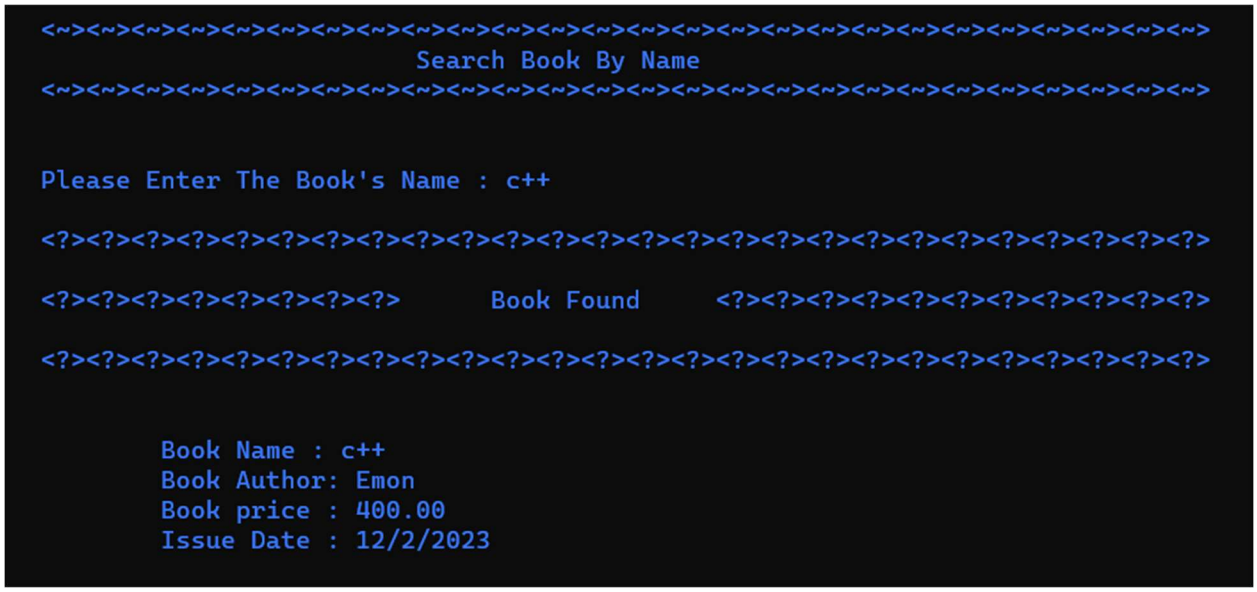
7. **showAllBooks ():** The **showAllBooks ()** function prints details for each book in the library, including book number, name, author, price, and issue date. It adds decorative lines between entries for clarity. If there are no books in the inventory, it displays a message indicating this.

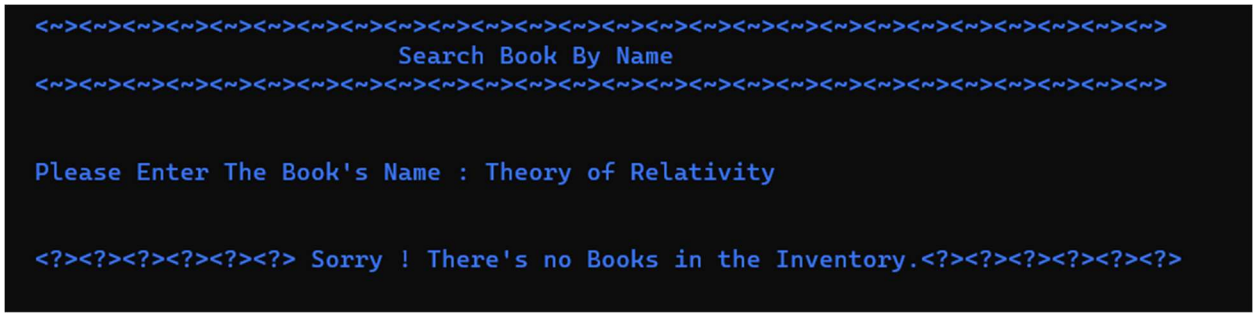
```
<~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~>
                                Show All Books
<~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~><~>

<?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?>

Total Number of Books: 2

        Book Index : 1
        Book Name   : Teach Yourself C
        Book Author: Herbert Schildt
        Book price : 350.00
        Issue Date : 15/12/2023
<?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?>

        Book Index : 2
        Book Name   : c++
        Book Author: Emon
        Book price : 400.00
        Issue Date : 12/2/2023
<?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?>
```

```
<?><?><?><?><?><?> No Books in the Inventory.<?><?><?><?><?><?>



 1. Add a New Book.
 2. Search Book By Name.
 3. Search Book By Author.
 4. Show All Book Information.
 5. Delete Last Book.
 6. Search For budget Friendly Book.
 7. Delete Any Book.
 8. Exit.

Please Enter Your Choice :
```

(IF THERE IS NO BOOK TO SHOW)

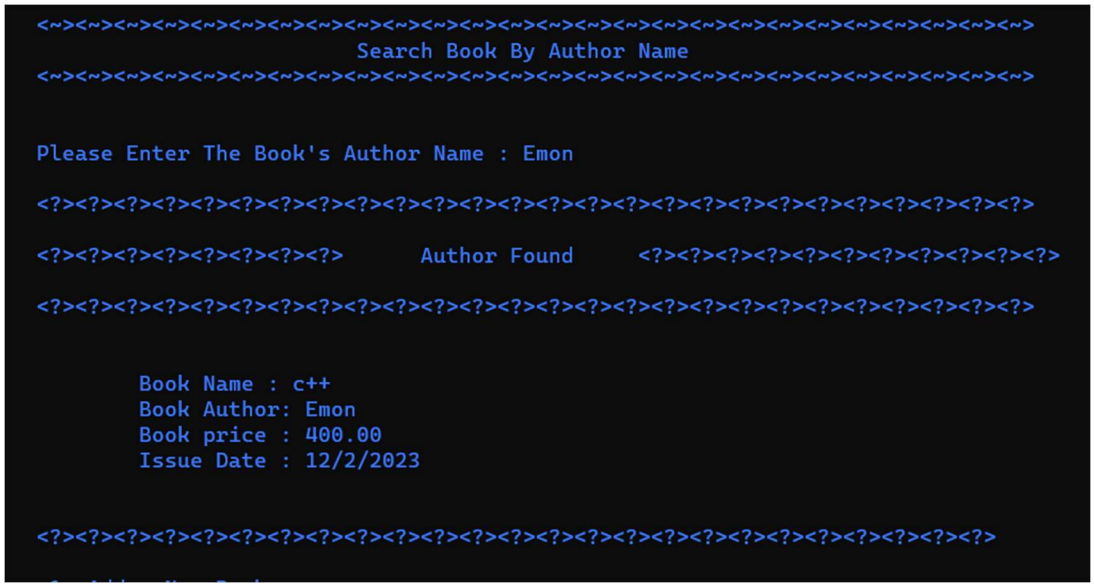
8. **searchByName ():** The **searchByName ()** function checks if a book with a given name exists in the library. If found, it prints the book details; otherwise, it displays a message saying the book was not found.

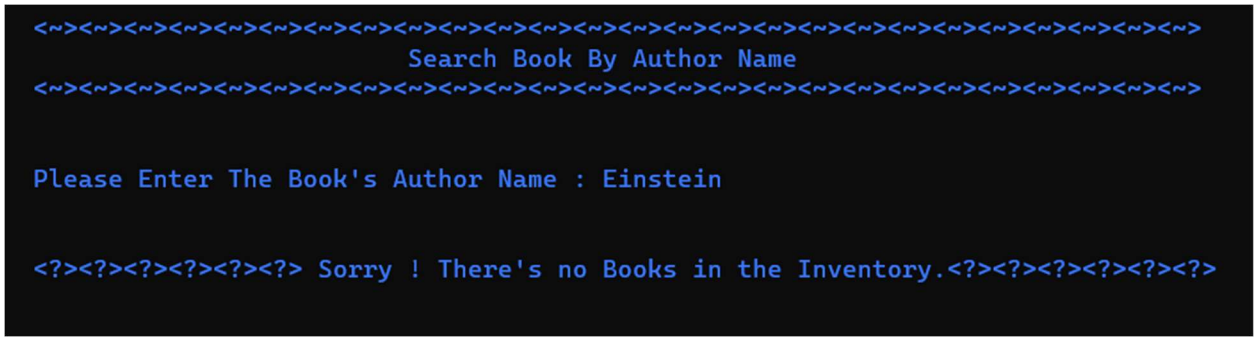




(IF THERE IS NO BOOK TO SHOW)

9. **searchByAuthor ():** The **searchByAuthor ()** function checks if any books in the library are authored by a given author. If a match is found, it prints detailed information about the book, including the book number, name, author, price, and issue date. Decorative lines are added for clarity. If no books are found by the specified author, it displays a message indicating that no books were found by that author.





(IF THE AUTHOR HAS NO BOOKS)

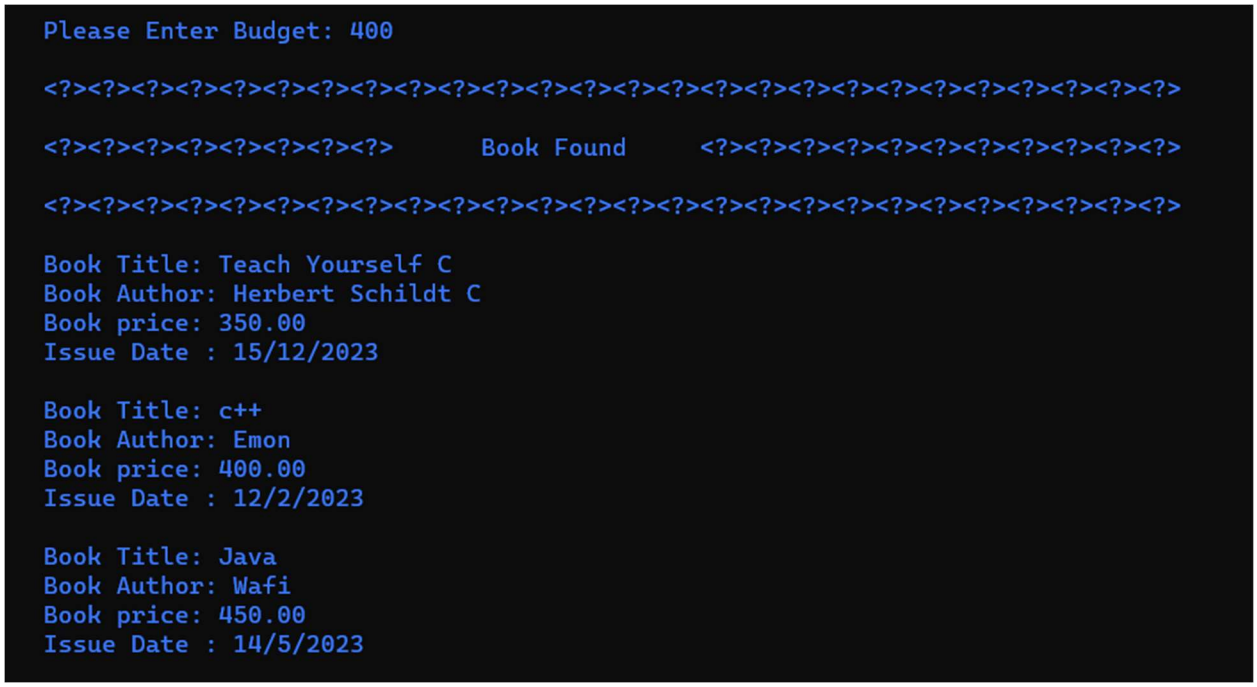
10. **deleteLastBook ():** The **deleteLastBook ()** function delete the last book which was added by the authority. Decorative lines are added for clarity. If no books are inserted by the authority, it displays a message indicating that no books were found in the inventory.

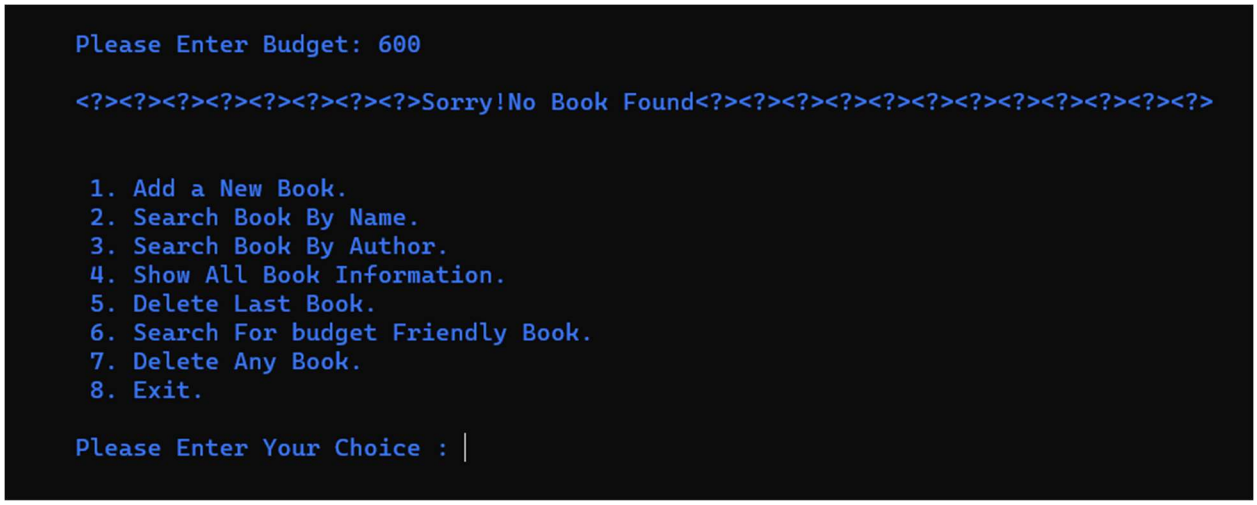
```
<?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?>
                          Delete Last Book
<?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?><?>

Last Book Deleted Successfully!


Total Number of Books Left: 1
```

```
<?><?><?><?><?><?><?><?> Sorry, there's no Books in the Inventory.<?><?><?><?><?><?>



 1. Add a New Book.
 2. Search Book By Name.
 3. Search Book By Author.
 4. Show All Book Information.
 5. Delete Last Book.
 6. Search For budget Friendly Book.
 7. Delete Any Book.
 8. Exit.

Please Enter Your Choice :
```

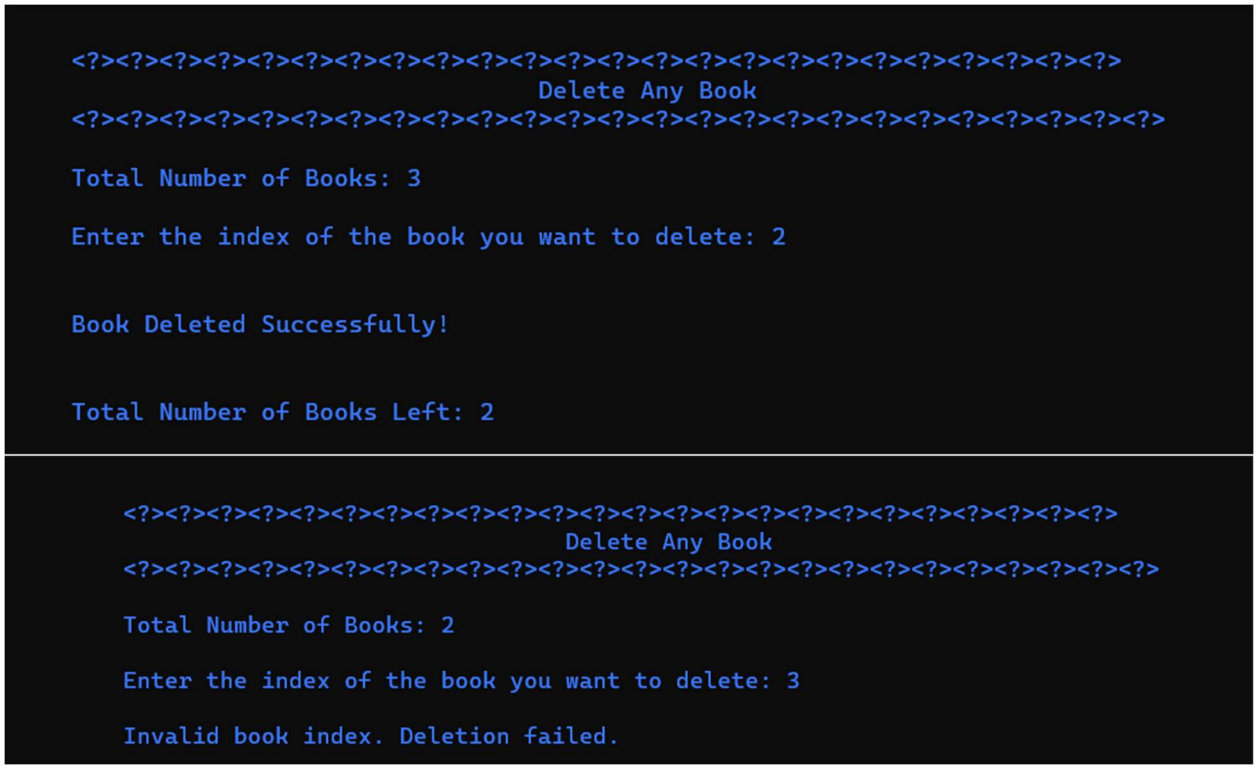
(IF THERE IS NO BOOK TO DELETE)

11. budget (): It depends on the user if he/she wants to buy a book how much money can be saved.





12. **deleteAnyBook ():** The **deleteAnyBook ()** function allows to delete any book by writing book's name.



(IF THE BOOK IS NOT AVAILABLE TO DELETE)