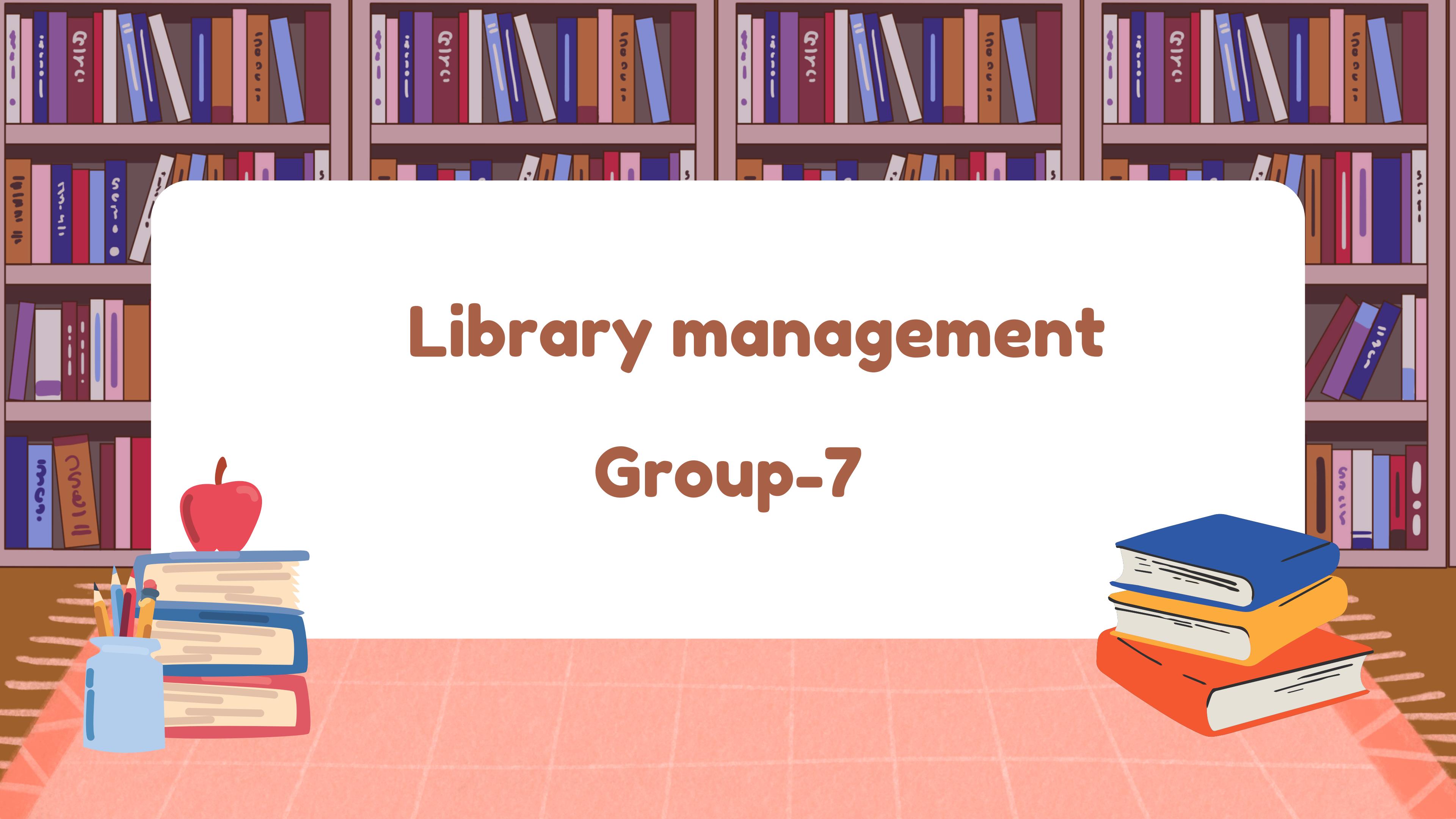


Library management

Group-7



Team members

Name	Cranes reg-
Ommkar sai mishra	CL2025010601891092
Satyajit Routray	CL2025010601923263
Somnath Mahapatra	CL2025010601926495
Subham Tarasia	CL20250106019293124

Introduction

Admin-Controlled Library Management System: A Java Swing application featuring secure login authentication and comprehensive tools for managing book inventory, member registrations, and borrowing/returning transactions through an intuitive graphical interface.

Background Processes

1. Login Check:

- Validates "admin/admin" credentials before allowing access.

2. Data Handling:

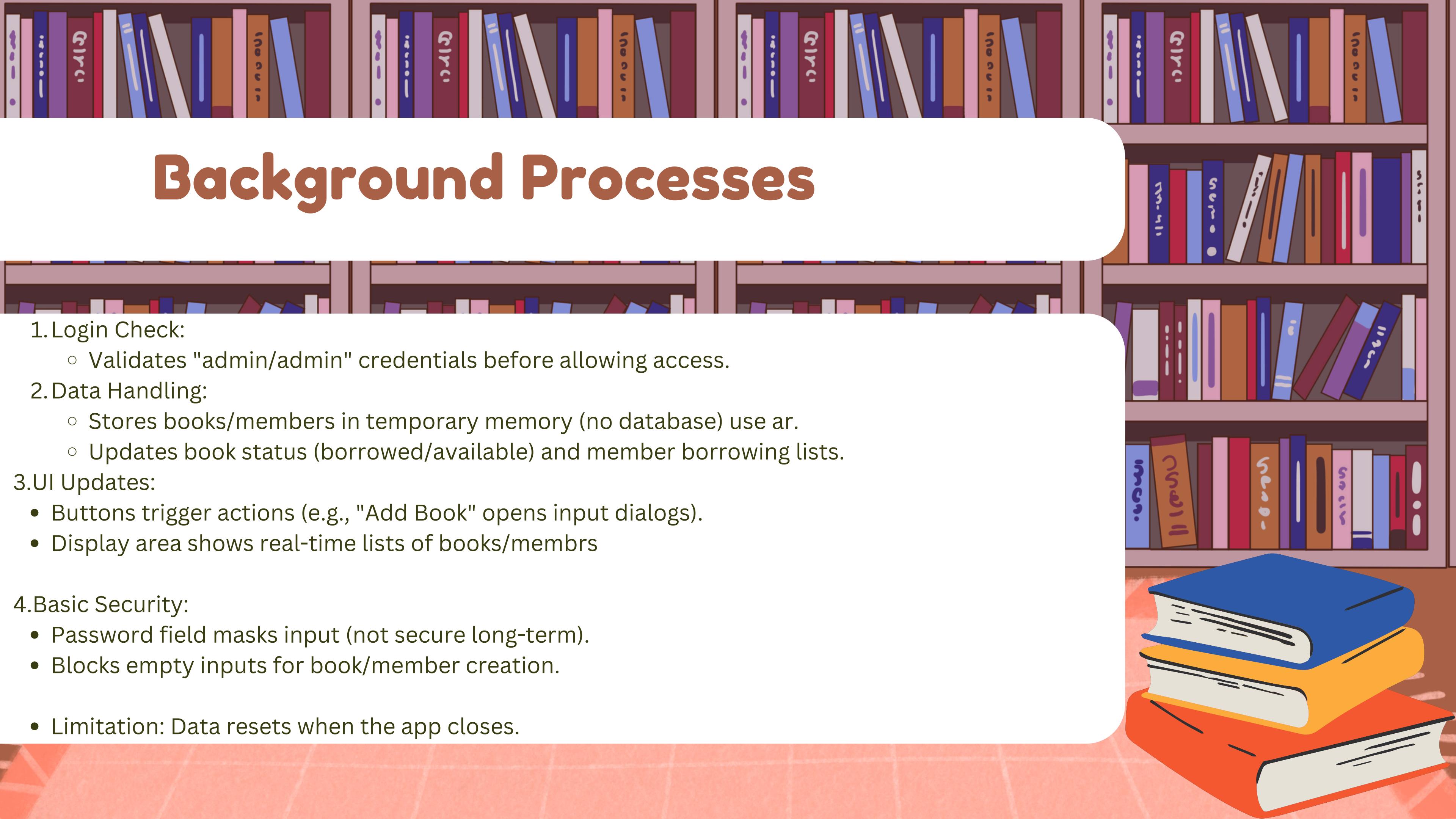
- Stores books/members in temporary memory (no database) use ar.
- Updates book status (borrowed/available) and member borrowing lists.

3. UI Updates:

- Buttons trigger actions (e.g., "Add Book" opens input dialogs).
- Display area shows real-time lists of books/membs

4. Basic Security:

- Password field masks input (not secure long-term).
 - Blocks empty inputs for book/member creation.
-
- Limitation: Data resets when the app closes.



login page

Login

Username:

Password:

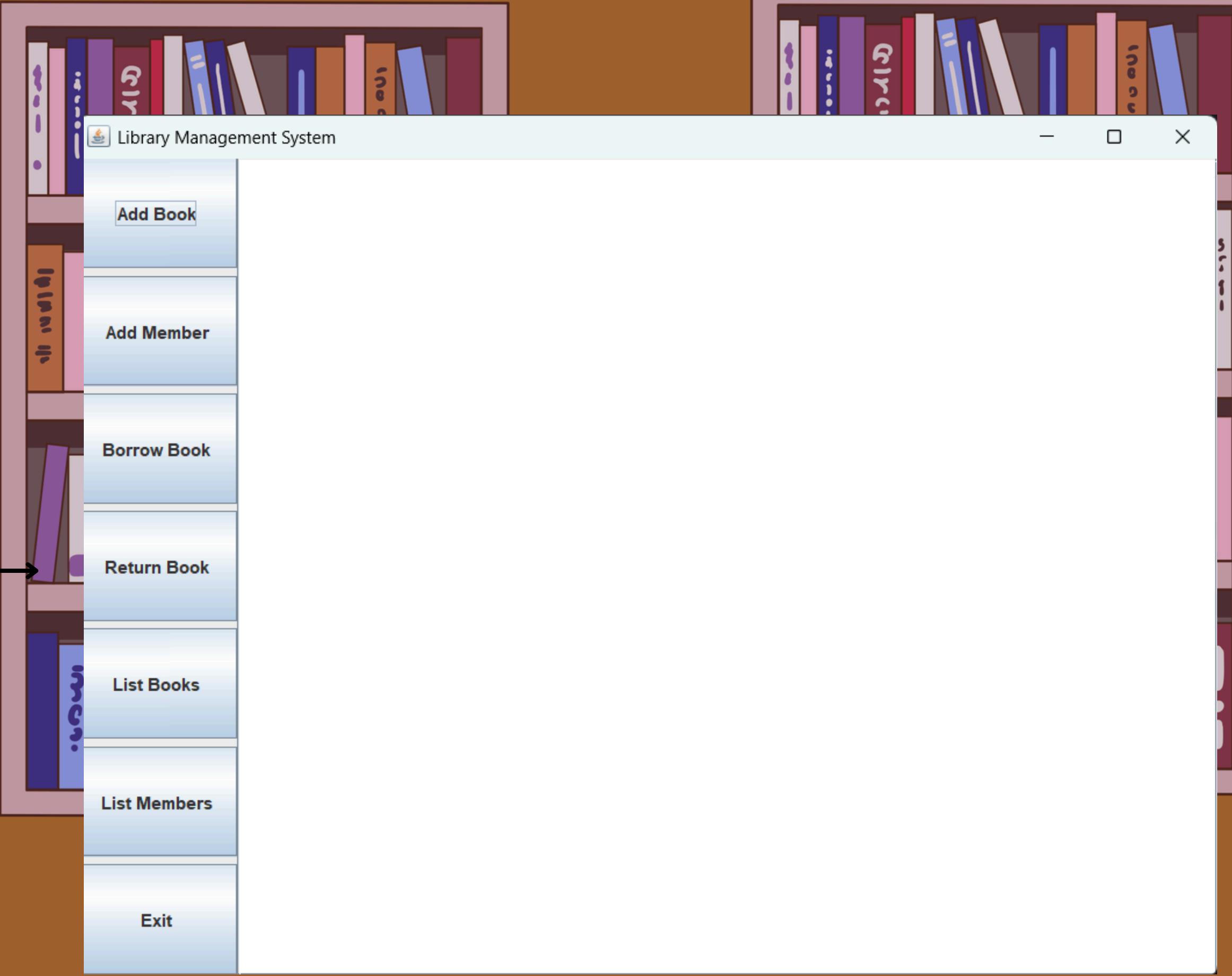
OK **Cancel**

Login

Username:

Password:

OK **Cancel**



Add Book

Input X

?

Enter book title:

OK Cancel

Input X

?

Enter book author:

OK Cancel

Library Management System — □ ×

Add Book Add Member

Book added: The god of small Things by Arundhati Roy

java

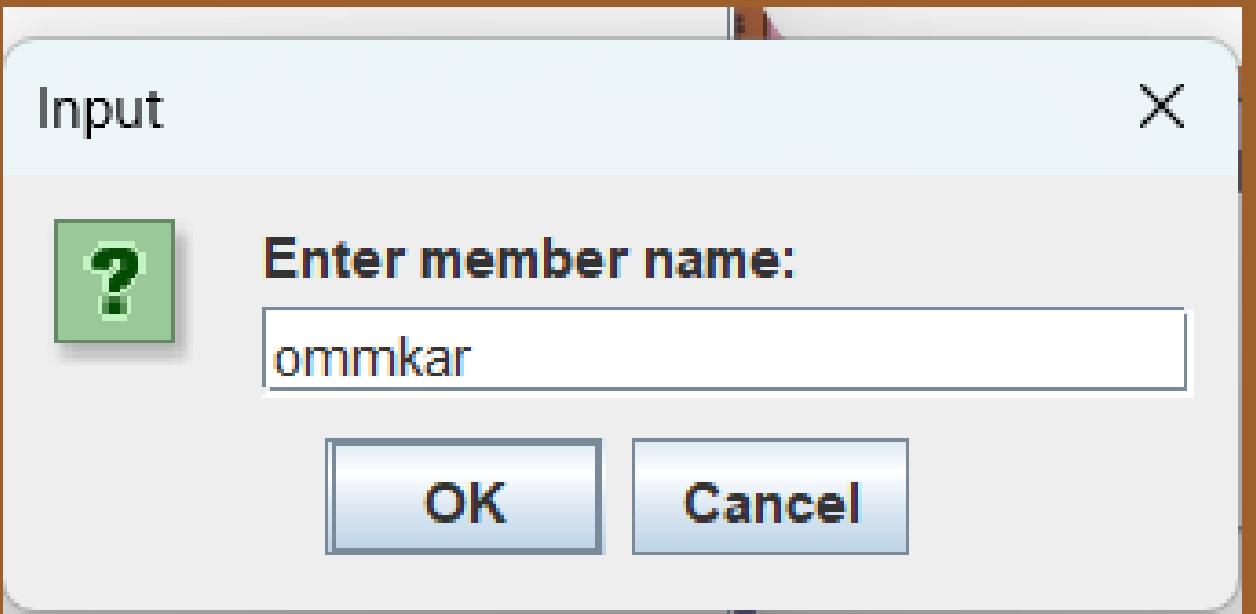
```
case 1:  
    clearScreen();  
    System.out.print("Enter book title: ");  
    String title = scanner.nextLine();  
    System.out.print("Enter book author: ");  
    String author = scanner.nextLine();  
    library.addBook(new Book(title, author));  
    System.out.println("\nBook added successfully.");  
    System.out.print("Press Enter to continue...");  
    scanner.nextLine();  
    break;
```

Code

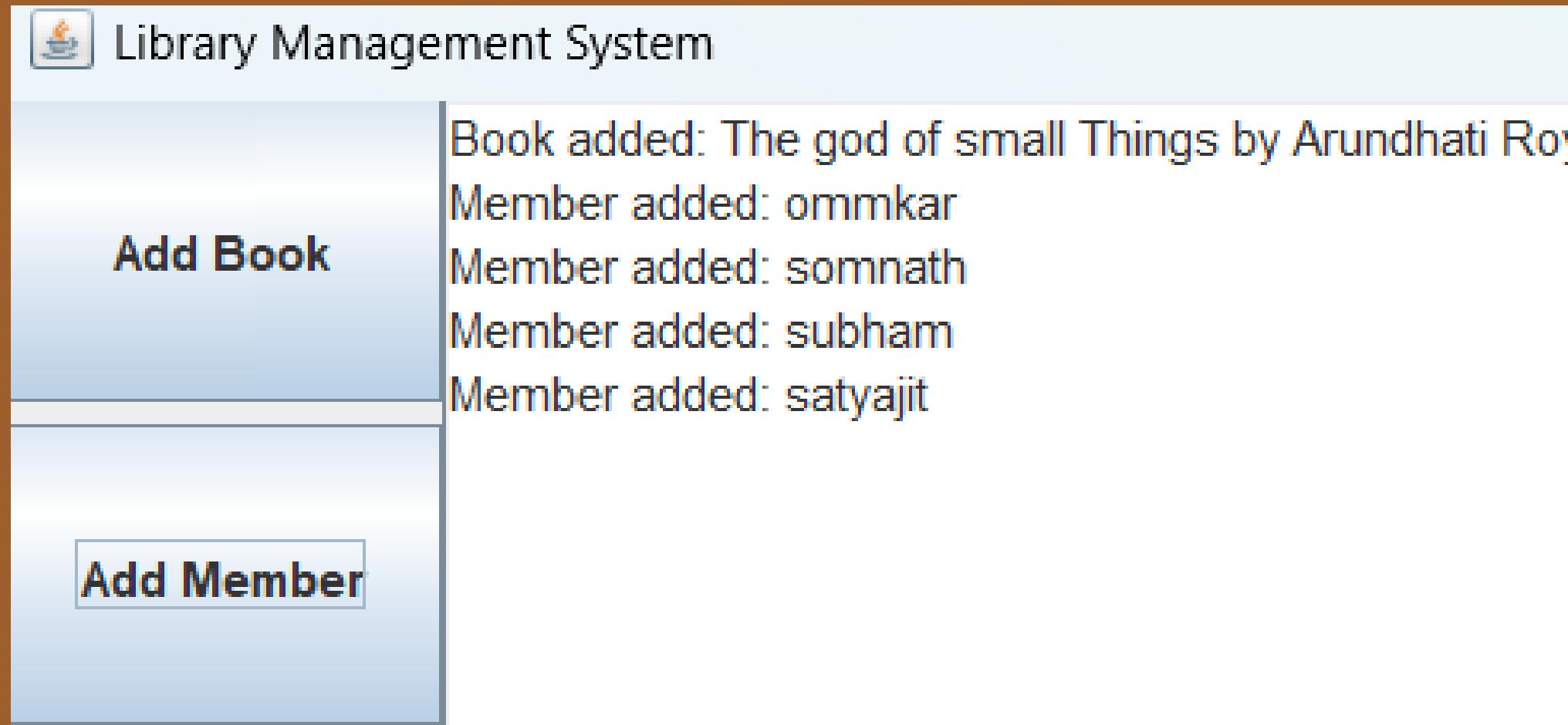
Flow Diagram

```
User selects "1. Add Book"  
    ↓  
Clear Screen  
    ↓  
Prompt for Title → Read Title (String)  
    ↓  
Prompt for Author → Read Author (String)  
    ↓  
Create Book Object → Add to Library's Book List  
    ↓  
Show Success Message → Wait for User Input  
    ↓  
Return to Main Menu
```

Add member



```
case 2:  
    clearScreen();  
    System.out.print("Enter member name: ");  
    String name = scanner.nextLine();  
    library.registerMember(new Member(name));  
    System.out.println("\nMember registered successfully.");  
    System.out.print("Press Enter to continue...");  
    scanner.nextLine();  
    break;
```

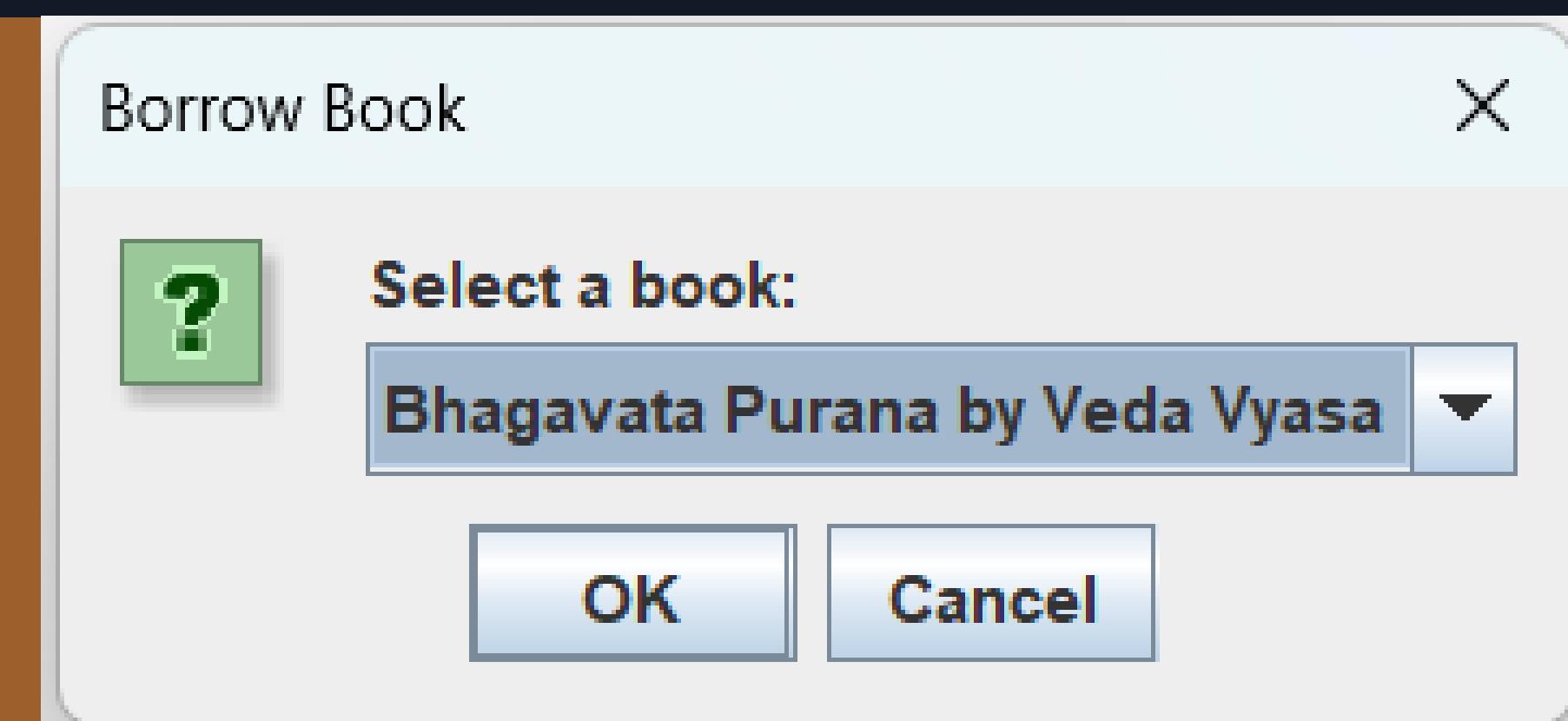


User selects "2. Add Member"
↓
Clear Screen
↓
Prompt for Name → Read Name (String)
↓
Create Member Object → Add to Library's Member List
↓
Show Success Message → Wait for User Input
↓
Return to Main Menu

Borrow book

```
clearScreen();
System.out.print("Enter book title to borrow: ");
String borrowTitle = scanner.nextLine();
Book borrowBook = null;
for (Book book : library.listBooks()) {
    if (book.getTitle().equalsIgnoreCase(borrowTitle)) {
        borrowBook = book;
        break;
    }
}
if (borrowBook == null) {
    System.out.println("\nBook not found.");
    System.out.print("Press Enter to continue...");
    scanner.nextLine();
    break;
}
System.out.print("Enter member name: ");
String borrowMemberName = scanner.nextLine();
Member borrowMember = null;
for (Member member : library.listMembers()) {
    if (member.getName().equalsIgnoreCase(borrowMemberName))
        borrowMember = member;
    break;
}
```

User selects "3. Borrow Book"
↓
Clear Screen → Prompt for Book Title → Search Book List
↓
If Book Not Found → Show Error → Return to Menu
↓
If Book Found → Prompt for Member Name → Search Member List
↓
If Member Not Found → Show Error → Return to Menu
↓
If Member Found → Validate Borrow (Check Book Availability)
↓
If Valid → Update Book Status + Member's List → Show Success
↓
If Invalid → Show Failure → Return to Menu



Borrow Book



Select a member:

ommkar

ommkar

Somnath

Subham

Return Book

User selects "4. Return Book"

↓
Clear Screen → Prompt for Book Title → Search Book List

↓
If Book Not Found → Show Error → Return to Menu

↓
If Book Found → Prompt for Member Name → Search Member List

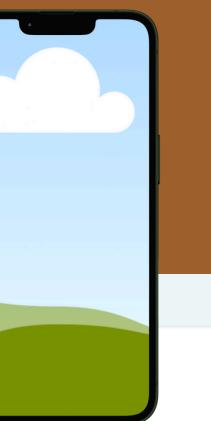
↓
If Member Not Found → Show Error → Return to Menu

↓
If Member Found → Validate Return (Check Member's Borrowed List)

↓
If Valid → Update Book Status + Remove from Member's List → Show Success

↓
If Invalid → Show Failure → Return to Menu

Full ui



Library Management System

Add Book

Book added: The god of small Things by Arundhati Roy
Member added: ommkar
Member added: somnath
Member added: subham
Member added: satyajit

Add Member

Book List:
The god of small Things by Arundhati Roy (Available)

Member List:

ommkar
somnath
subham
satyajit

Borrow Book

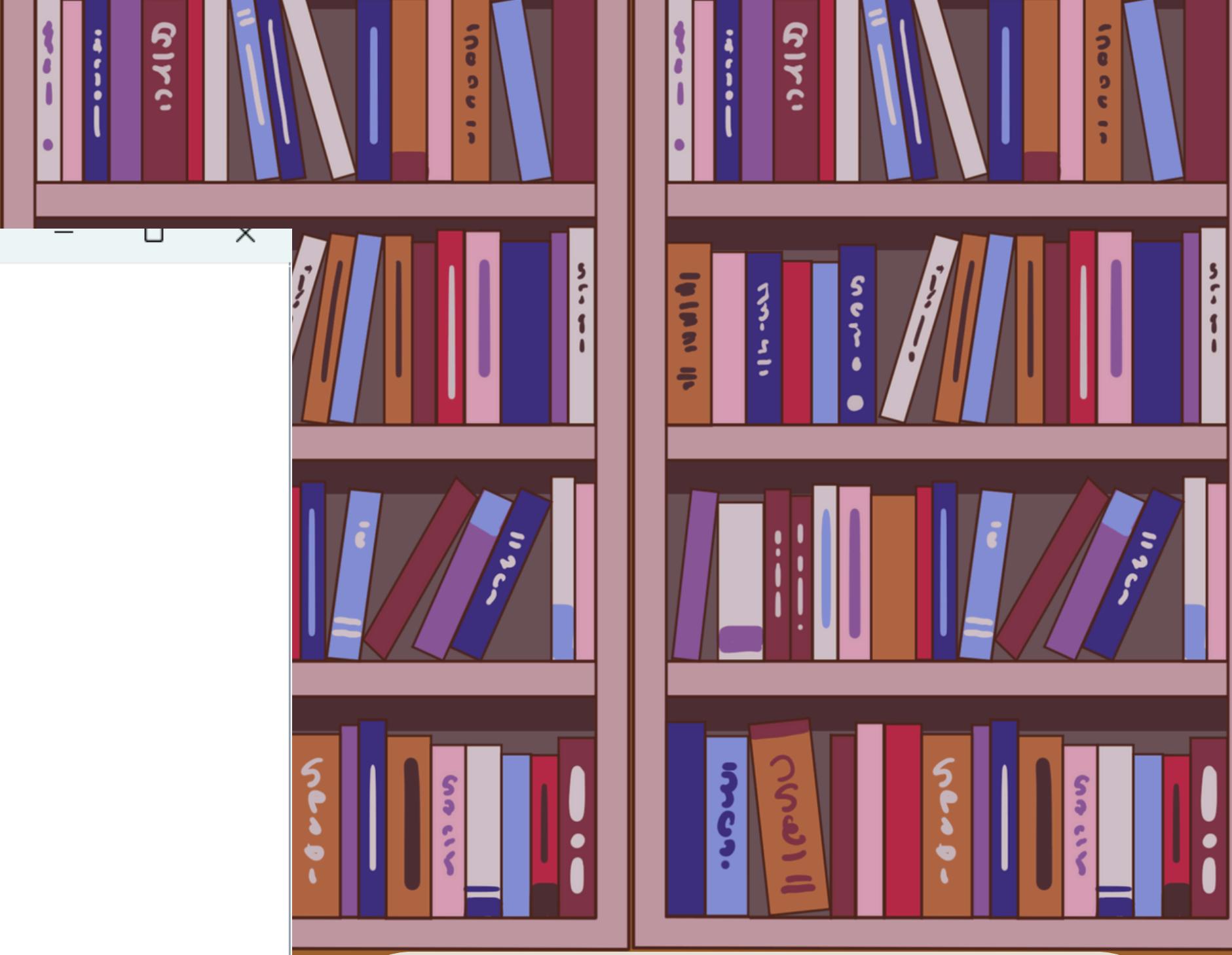
Book borrowed: The god of small Things by Arundhati Roy to ommkar
Return book functionality to be implemented

Return Book

List Books

List Members

Exit



Code for view :-

<https://onlinegdb.com/vF-EiKqNj>



THANK YOU

