



(CSE231) Advanced Computer Programming
Sophomore CESS
SPRING 2022
Library Management System

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Overview:

The library contains tens of thousands of books and members which must be organized in order to prevent chaos. Write JAVA program that allow performance of the actions needed to manage the library in a simple and comfortable way. The actions will include addition/removal of books, addition/removal of members, member and book searches, and much more.

Description:

Functions:

- User Login (Username, Password):
 1. **Librarians:**
 - Addition Book From The Library
 - Removal Book From The Library
 - Addition User From The Library
 - Removal User From The Library
 - Search Books OR Members
 - Addition Book-Order List
 - Removal Book-Order List
 - Blocking Users Who Don't Return On Due Date
 - Rent A Book
 2. **Librarians:**
 - Search Books OR Users
 - Addition Book-Order List
 - Rent A Book
- For each user (**Reader/Librarian**) exists a **unique Id and password**, this allows an unambiguous recognition of the user, so that the system can prevent from users access to information which they are not allowed to access.
- Person should have
(**ID , Password , Type , FirstName , LastName , Address , CellPhone , Email , isBlocked**).

UML Diagrams:

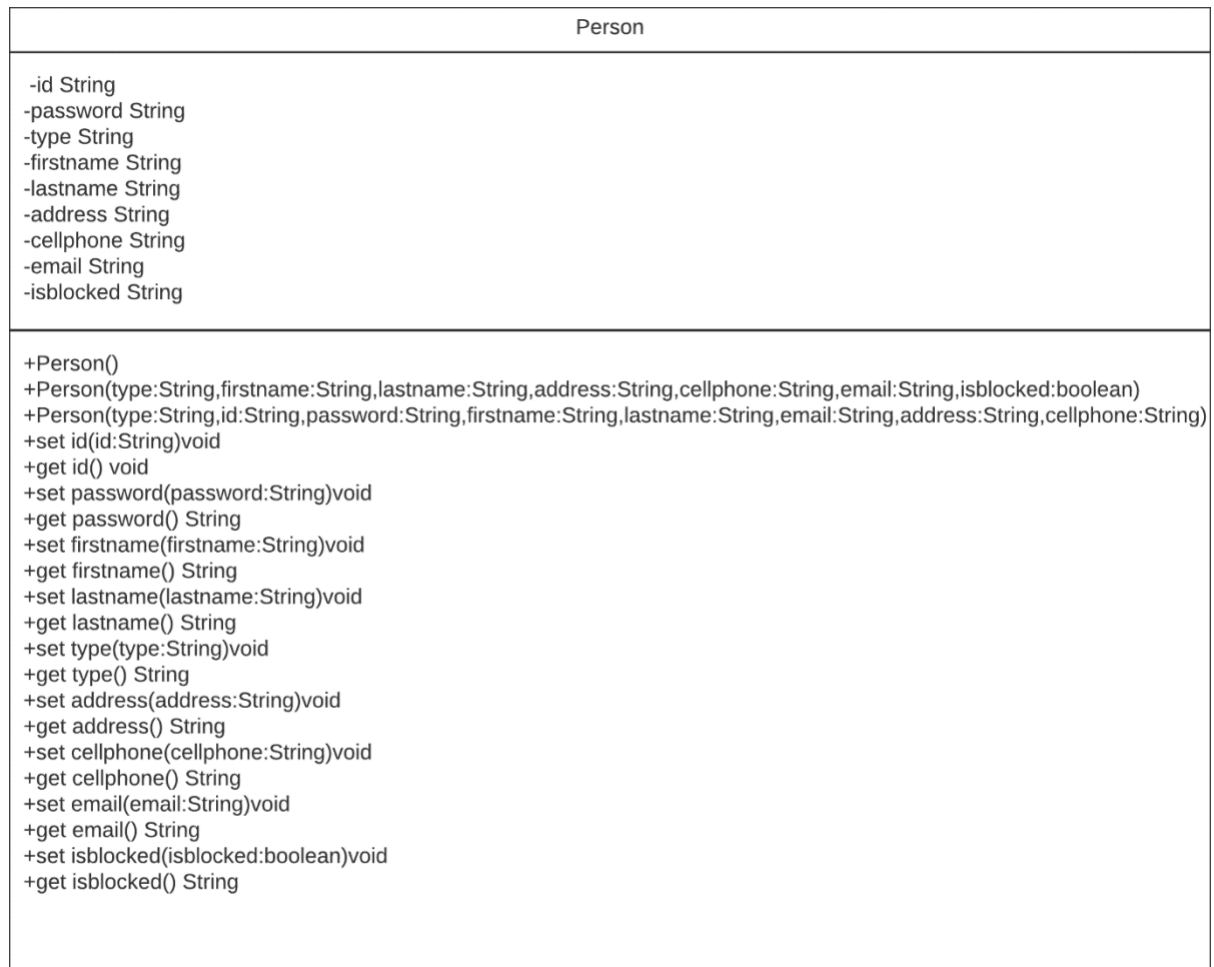


Figure 1: Person UML Diagram

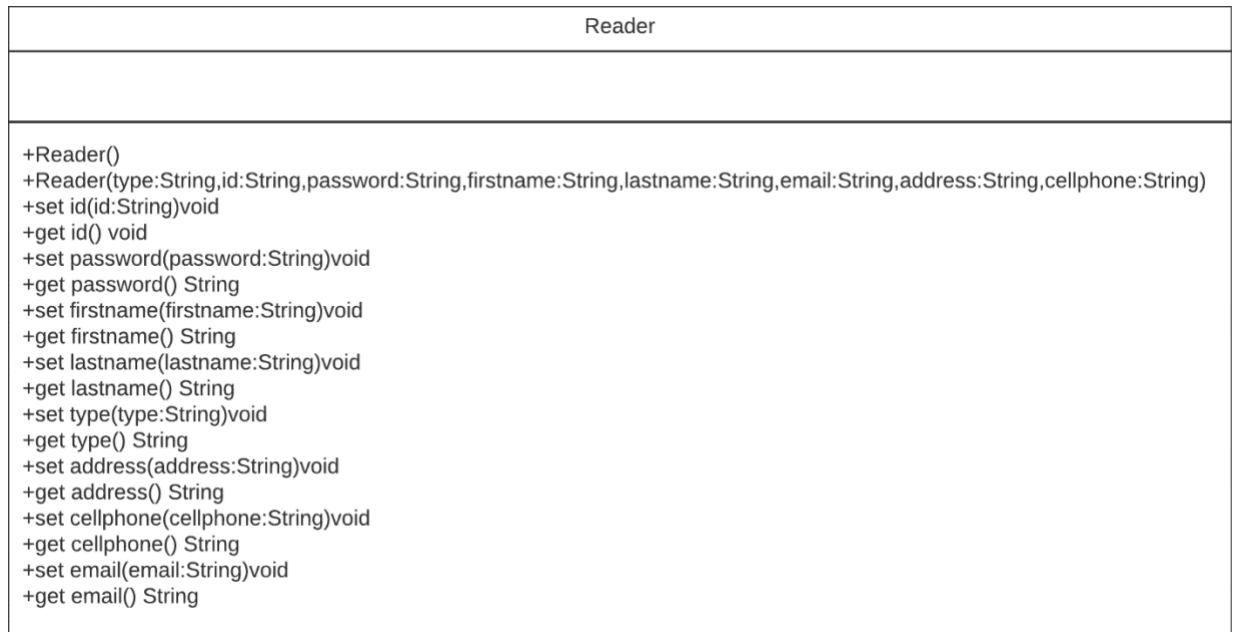


Figure 2: Reader UML Diagram

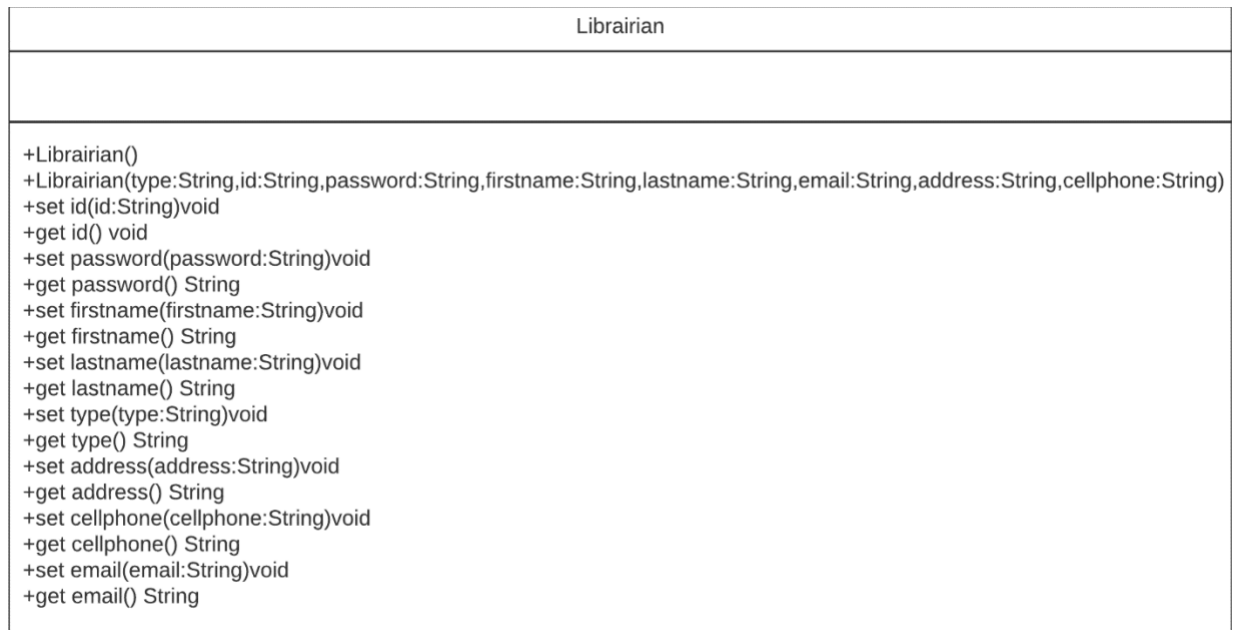


Figure 3: Librarian UML Diagram

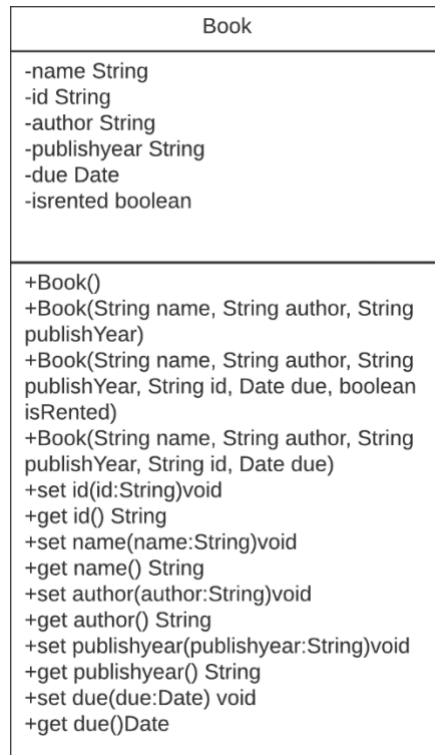


Figure 4: Book UML Diagram

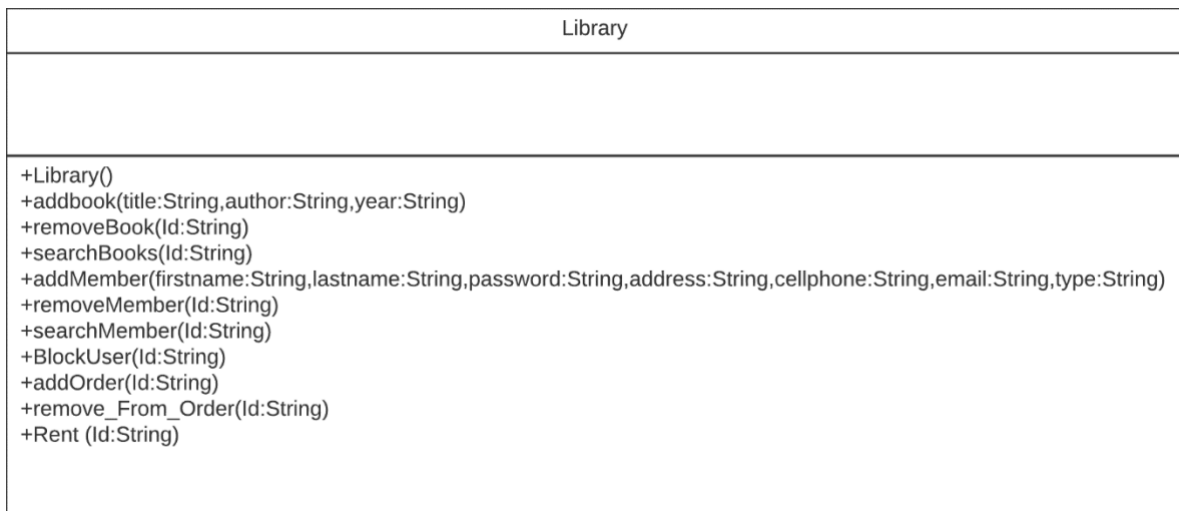


Figure 5: Library UML Diagram

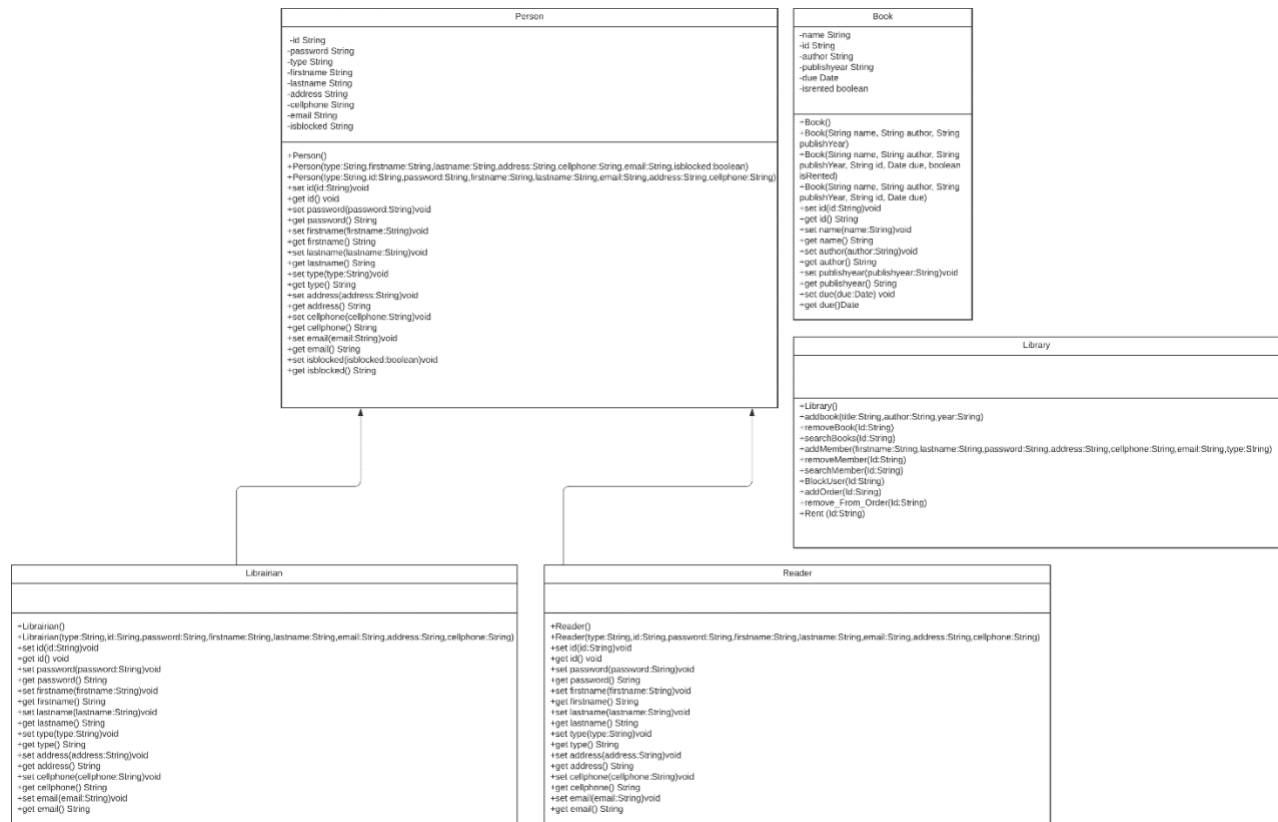


Figure 6: Full UML Diagram

How To Use Our Program:

1- Welcome Page

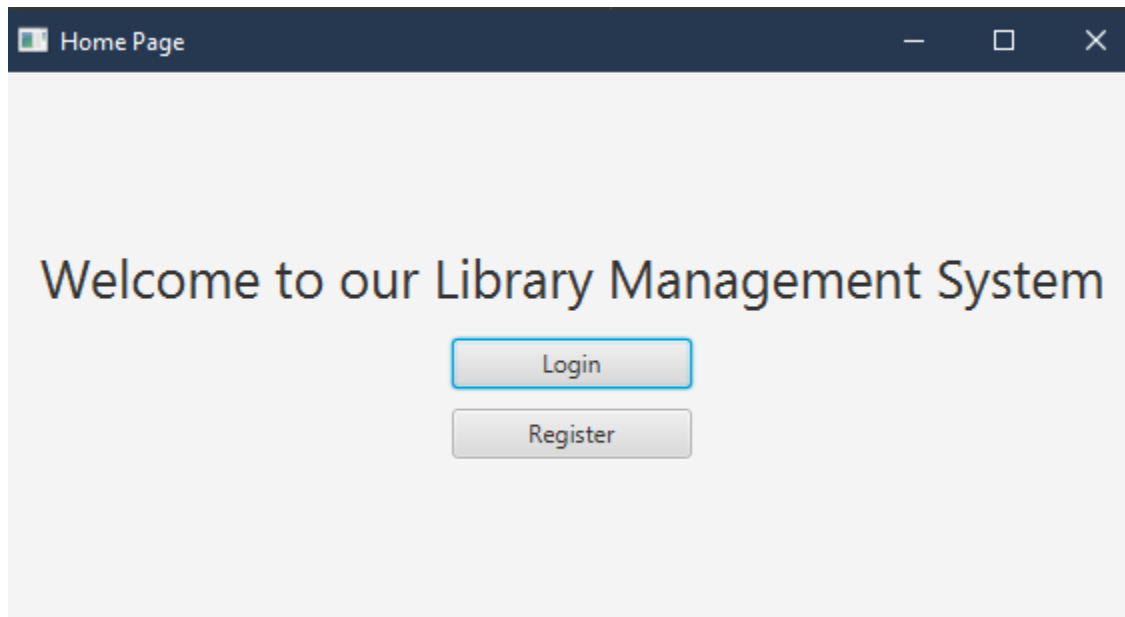
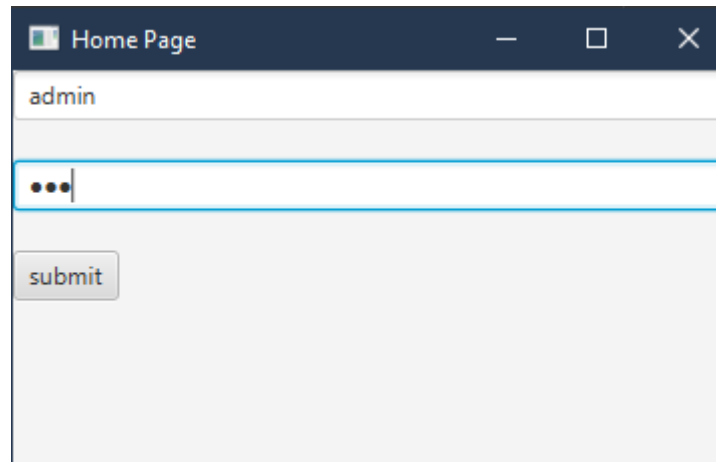


Figure 7: Welcome Page

- 1- Click On **Login**: If You **Have An Account Already** (Admin/User)
- 2- Click On **Register**: To **Create An Account** (User)

2- Login Page



Home Page

admin

...

submit

If you are an **ADMIN**

Username	admin
Password	123

If you are an **USER**

Username	user
Password	987

Librarian Section

3- Function List Page

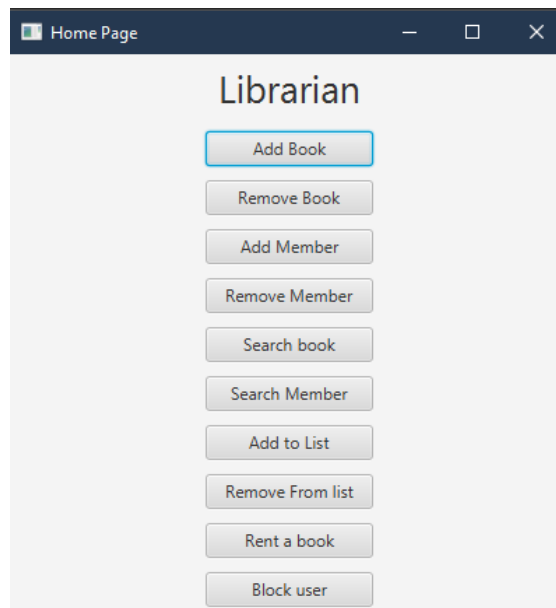


Figure 8: Function List Page

4- Add Book Page

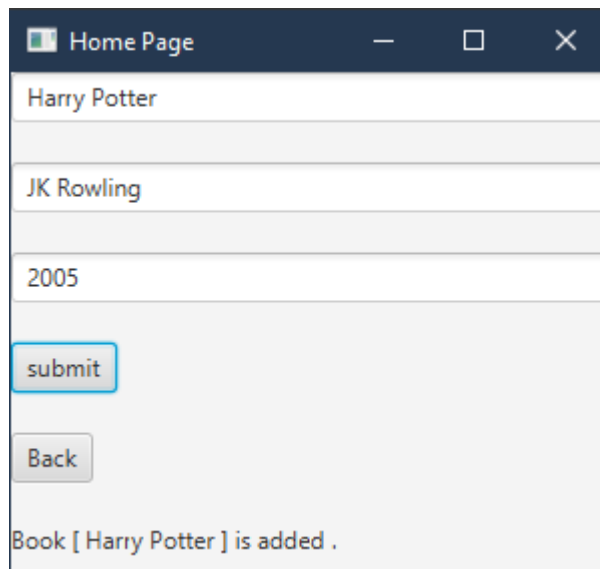
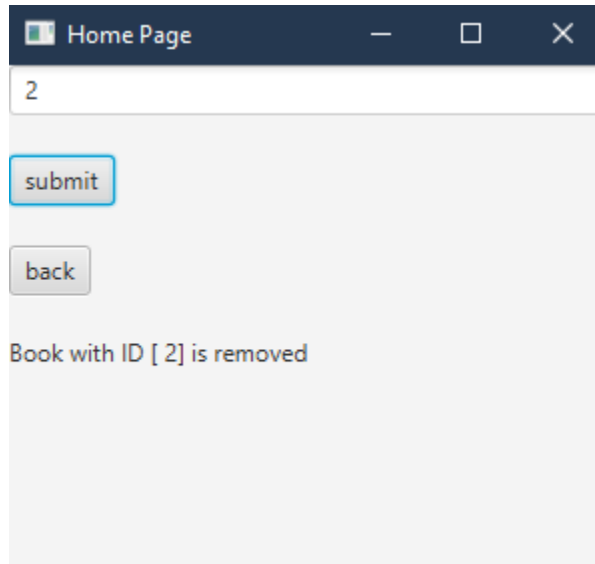


Figure 9: Add Book Page

- Enter The Data For The **Book** In This Order:
 1. Book Name
 2. Author Name
 3. Date Authored

5- Remove Book Page



Home Page

2

submit

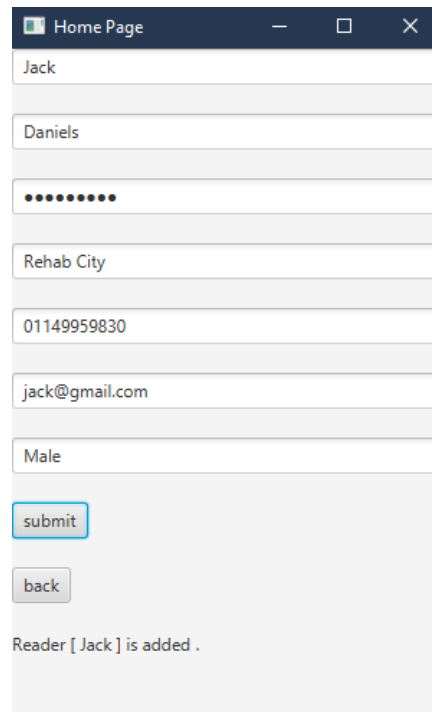
back

Book with ID [2] is removed

Figure 10: Remove Book Page

- Enter The **Book ID** To **Delete It From The List**

6- Add Member Page



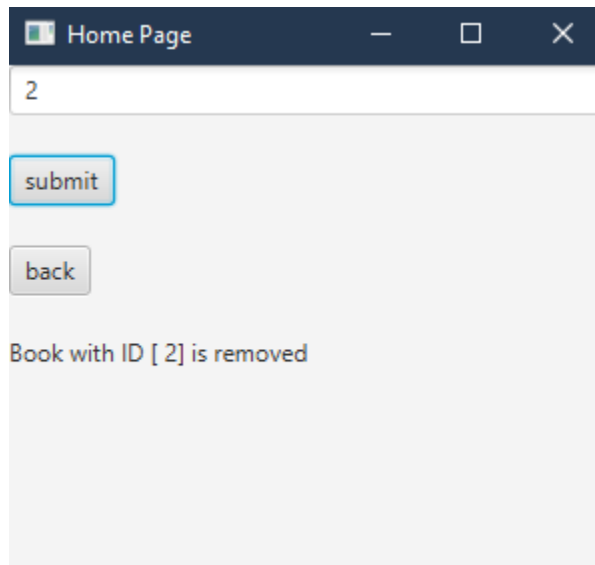
The screenshot shows a web browser window titled 'Home Page'. The form contains the following fields and controls:

- First Name: Jack
- Second Name: Daniels
- Password: (represented by 10 dots)
- Address: Rehab City
- Cell Phone: 01149959830
- Email: jack@gmail.com
- Gender: Male
- submit button (highlighted with a blue border)
- back button
- Feedback message: Reader [Jack] is added .

Figure 11: Add Members Page

- Enter The Data For The **Member** In This Order:
 1. First Name
 2. Second Name
 3. Password
 4. Address
 5. Cell Phone
 6. Email
 7. Type (Male/Female)

7- Remove Member Page

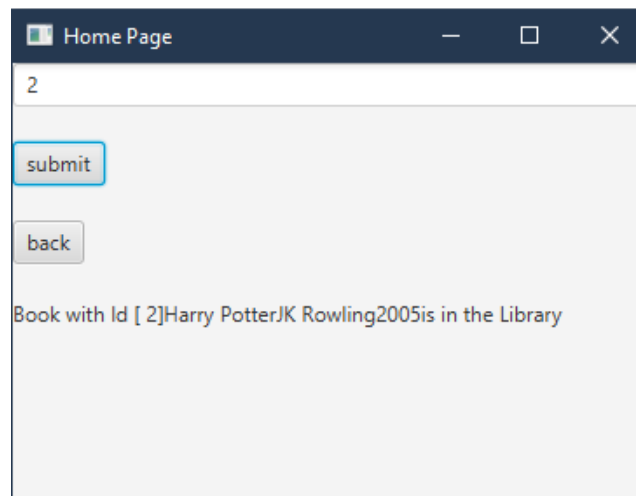


A screenshot of a web application window titled "Home Page". The window has a dark blue header bar with standard window controls (minimize, maximize, close). Below the header, there is a text input field containing the number "2". Below the input field, there are two buttons: a blue "submit" button and a grey "back" button. At the bottom of the page, the text "Book with ID [2] is removed" is displayed.

Figure 12: Remove Member Page

- Enter The **Member ID To Delete It From The List**

8- Search Book Page

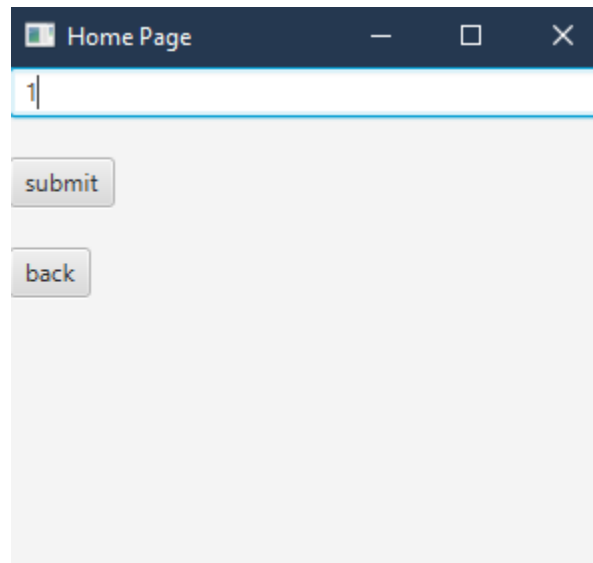


A screenshot of a web application window titled "Home Page". The window has a dark blue header bar with standard window controls (minimize, maximize, close). Below the header, there is a text input field containing the number "2". Below the input field, there are two buttons: a blue "submit" button and a grey "back" button. At the bottom of the page, the text "Book with Id [2]Harry PotterJK Rowling2005is in the Library" is displayed.

Figure 13: Search Book Page

- Enter The **Book ID To View Book From List**

8- Search Member Page

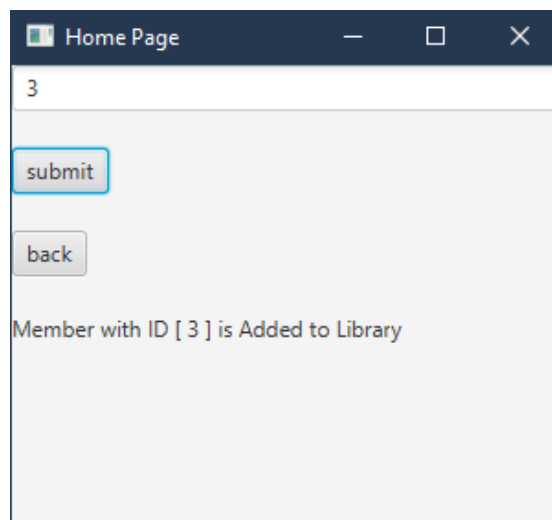


A web browser window titled "Home Page" with standard minimize, maximize, and close buttons. Below the title bar is a search input field containing the number "1". Underneath the input field are two buttons: "submit" and "back".

Figure 14: Search Member Page

- Enter The **Member ID** To **View Member From List**

9- Add Member List Page



A web browser window titled "Home Page" with standard minimize, maximize, and close buttons. Below the title bar is an input field containing the number "3". Underneath the input field are two buttons: "submit" and "back". Below these buttons, a message is displayed: "Member with ID [3] is Added to Library".

Figure 15: Add Member To List

- Enter The **Member ID** To **Add Member To Order List**

10- Remove Member List Page

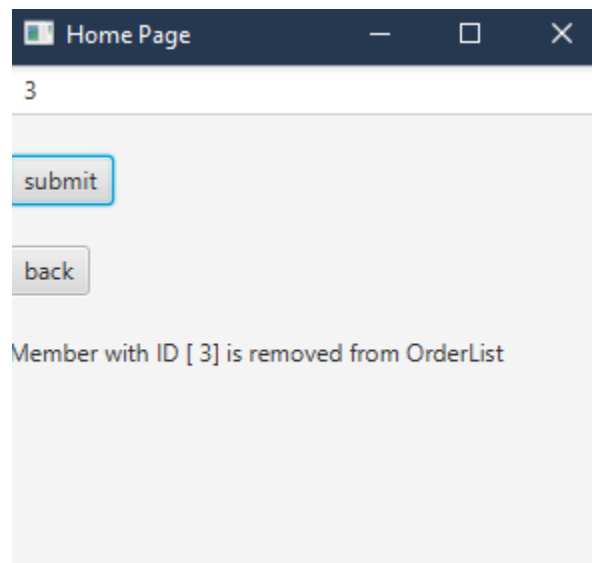
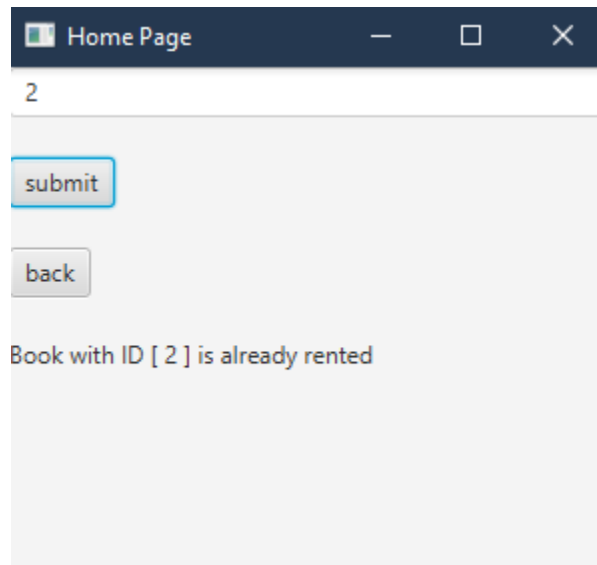


Figure 16: Remove Member Page

- Enter The **Member ID** To **Remove Member From Order List**

11- Rent Book Page

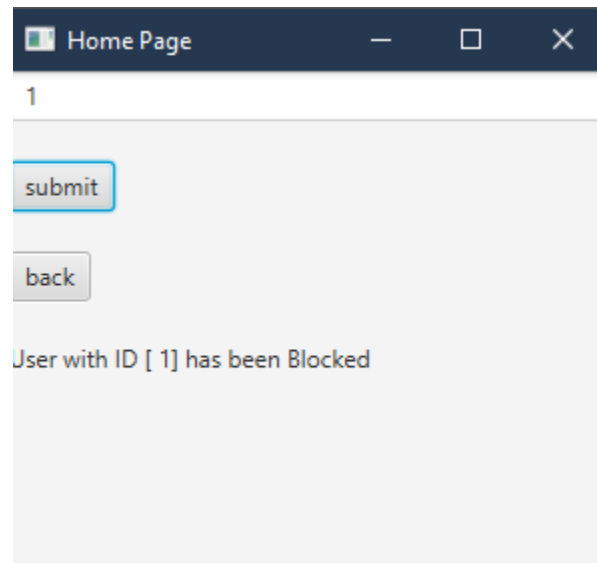


A screenshot of a web browser window titled "Home Page". The address bar shows the number "2". Below the address bar, there is a "submit" button and a "back" button. The main content area displays the message "Book with ID [2] is already rented".

Figure 17: Rent Book Page

- Enter The **Book ID** To **Rent It From The Library**

12- Block User Page



A screenshot of a web browser window titled "Home Page". The address bar shows the number "1". Below the address bar, there is a "submit" button and a "back" button. The main content area displays the message "User with ID [1] has been Blocked".

Figure 18: Block User Page

- Enter The **User ID** To **Block From Renting**

Reader Section

13- User Function List Page

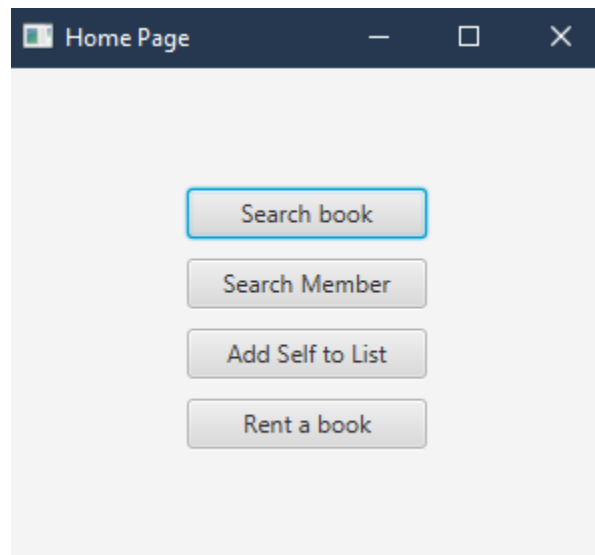


Figure 19: User Functions Page

14- User Search Book Page

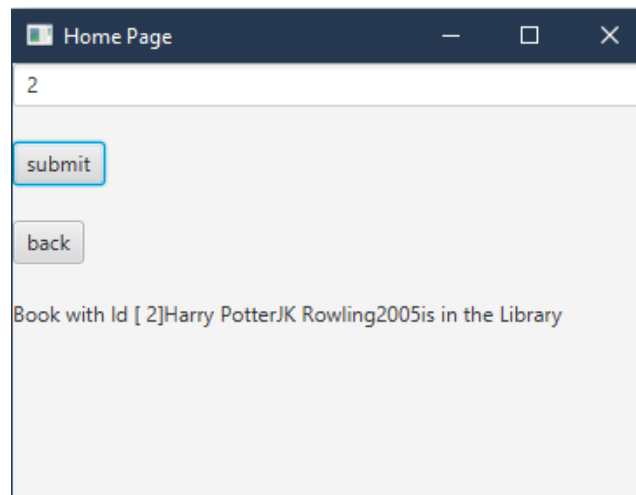
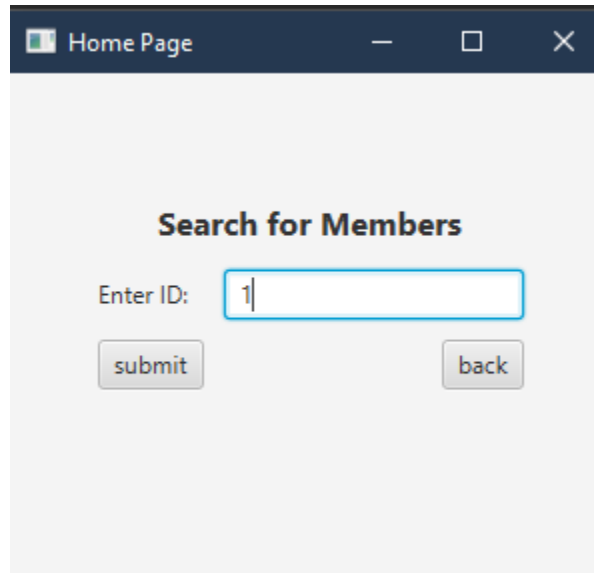


Figure 20: Search Book Page

- Enter The **Book ID** To **View Book From List**

15- User Search Member Page



Home Page

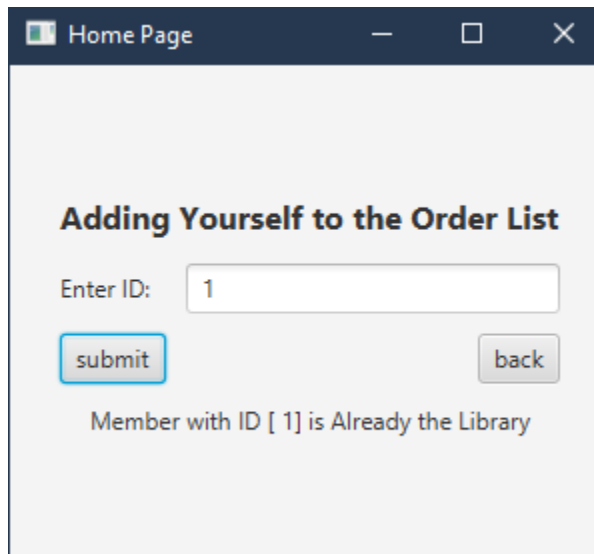
Search for Members

Enter ID:

Figure 21: User Search Member Page

- Enter The **Member ID** To **View Member From List**

16- User Add Self To List Page



Home Page

Adding Yourself to the Order List

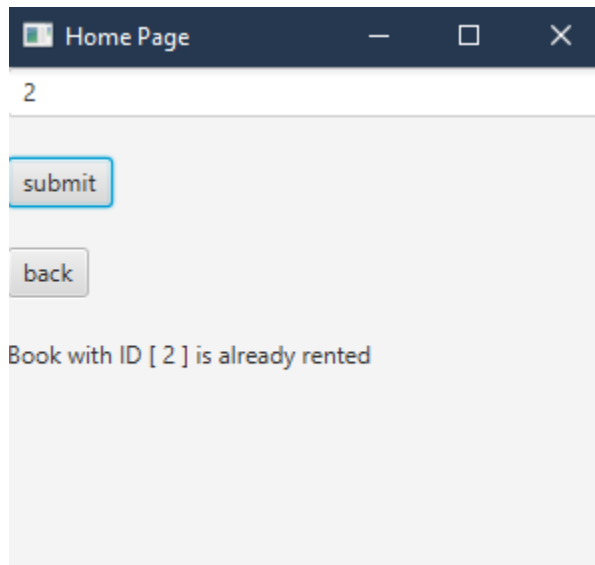
Enter ID:

Member with ID [1] is Already the Library

Figure 22: User Add Self To List

- Enter The **Member ID** To **Add Member To Order List**

17- User Rent Book Page



The screenshot shows a web browser window titled "Home Page". Inside the browser, there is a text input field containing the number "2". Below the input field are two buttons: a blue "submit" button and a grey "back" button. Below the buttons, a message is displayed: "Book with ID [2] is already rented".

Figure 23: User Rent Book Page

- Enter The **Book ID** To **Rent It From The Library**