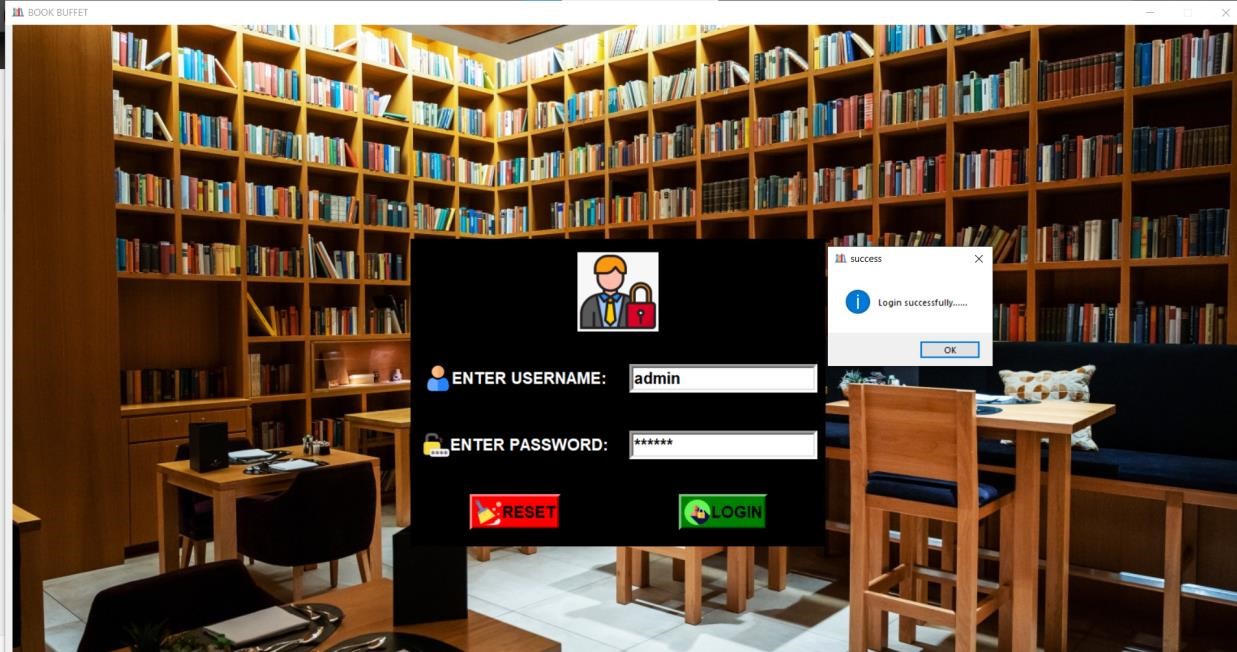
**1. Login Page**



This is the first interface which is going to display when the app is opened. It includes 2 entry fields to enter username and password and 2 buttons, one to reset both the fields to empty and a login button to logged-in into the system.

Username and password are predefined, and user should enter both credentials correctly to log onto the system successfully. If the user enters any of the two credentials incorrect it will prompt the user to enter correct details. If the user left any of the two fields empty it will prompt a message to fill out required details.

Following details needs to be entered to logged-in successfully:

**Username: admin**

**Password: shruti**

## 2. Dashboard Page

After successful login dashboard page appears. The left side panel contains multiple options to choose one operation to perform at a time. On the top it displays a welcome message to the admin. On the top right corner, the current date and time is displayed.

Below there is a list of currently available books in the library. It is displayed in a tabular format with all the relevant details about the book including its price, name of the author, title, its unique ID to refer to that book and available copies of it.

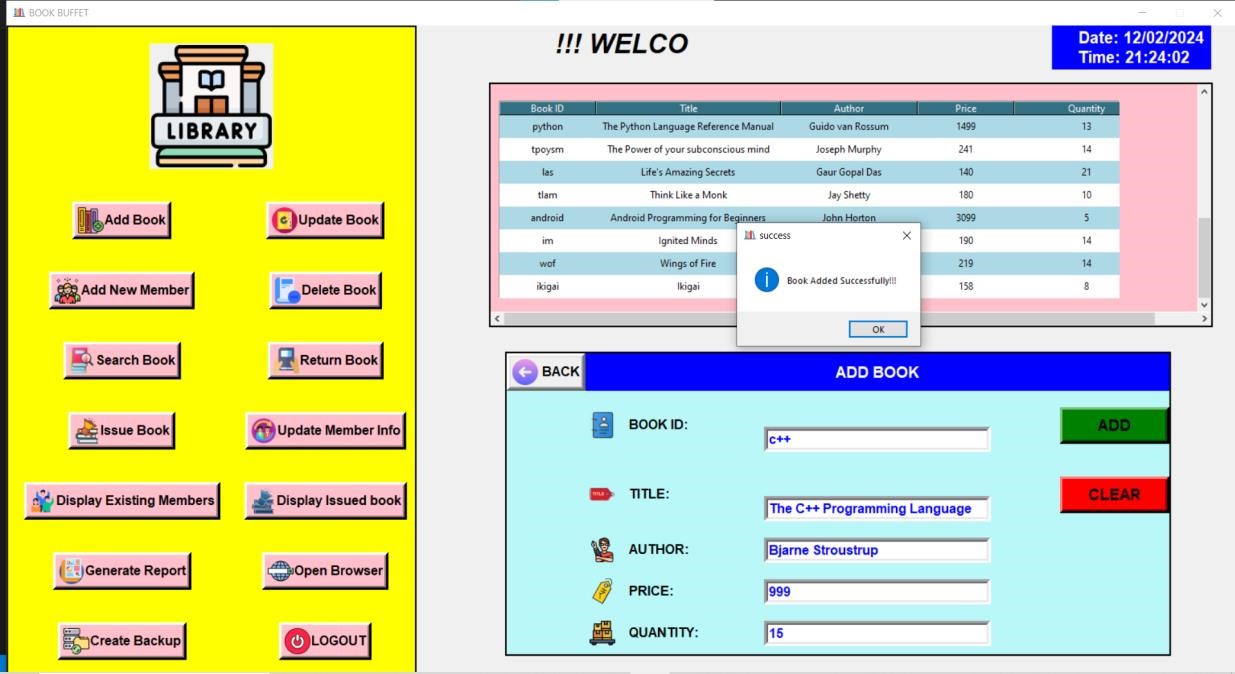


### 3) Add Book

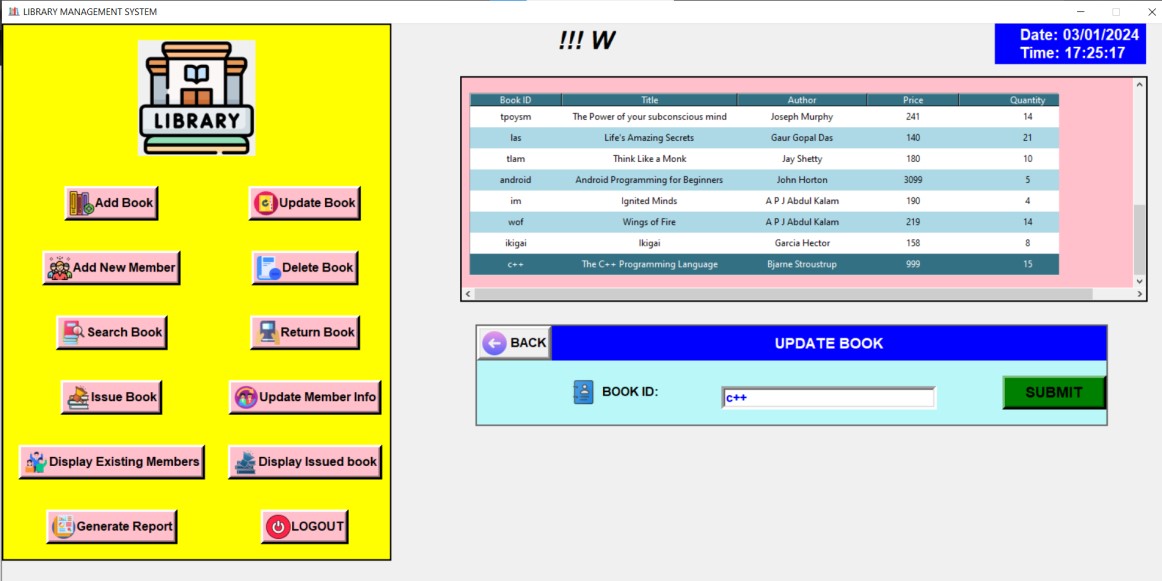
When the Add book button is clicked it displays a frame to enter the details about the book to add in the library’s database. Users can clear the fields by clicking the clear button all at once. If the user enters a character/letter in place of a number in the Price and Quantity field, it will throw an error with an appropriate message.

All the fields are required to be filled out otherwise it will not be going to proceed further and displays a warning message. When the user enters all the fields correctly and clicks on the add button it will prompt a success message and the book details are added in the library database and user can see that added book at the end of the table.

There is a back button on the left side of the heading to go back.

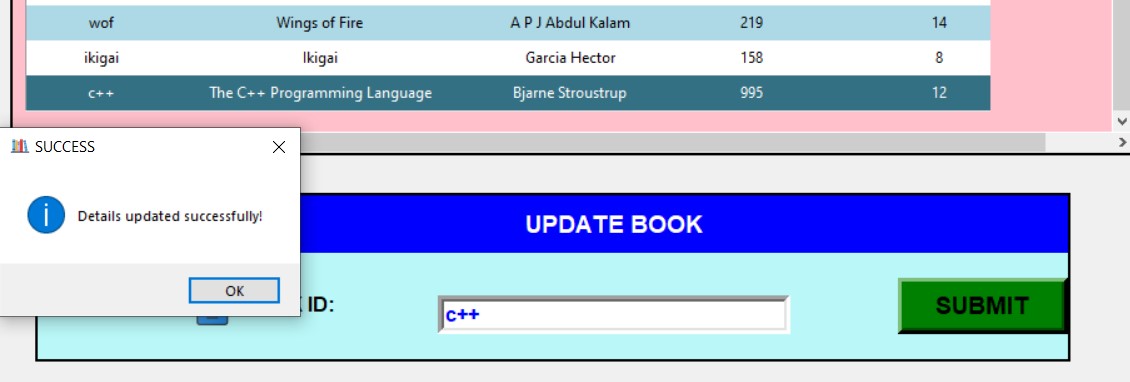
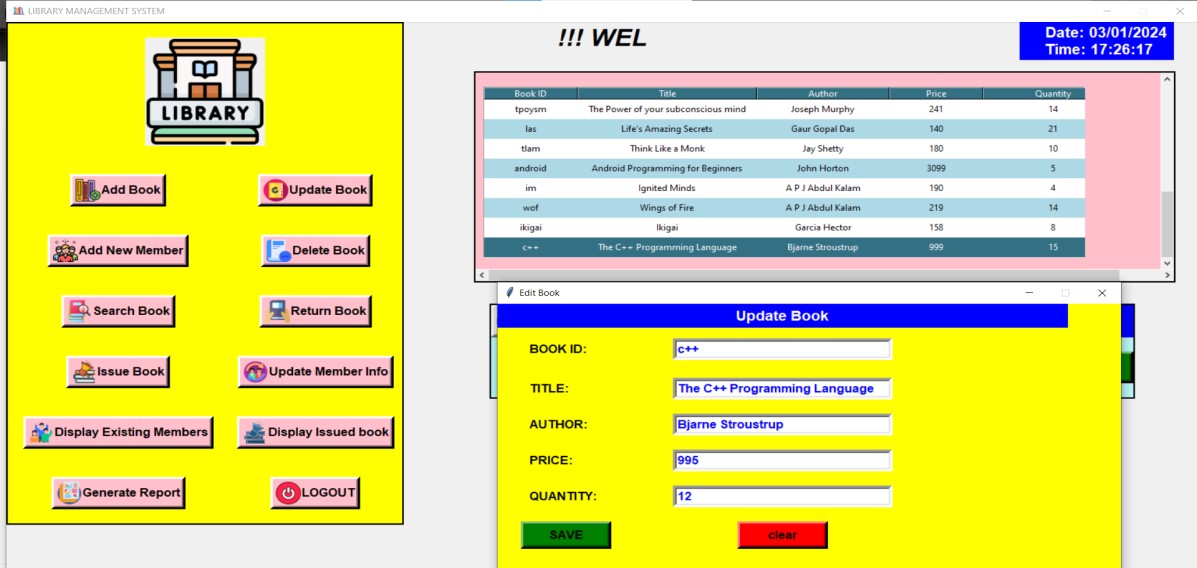


### 4) Update Book

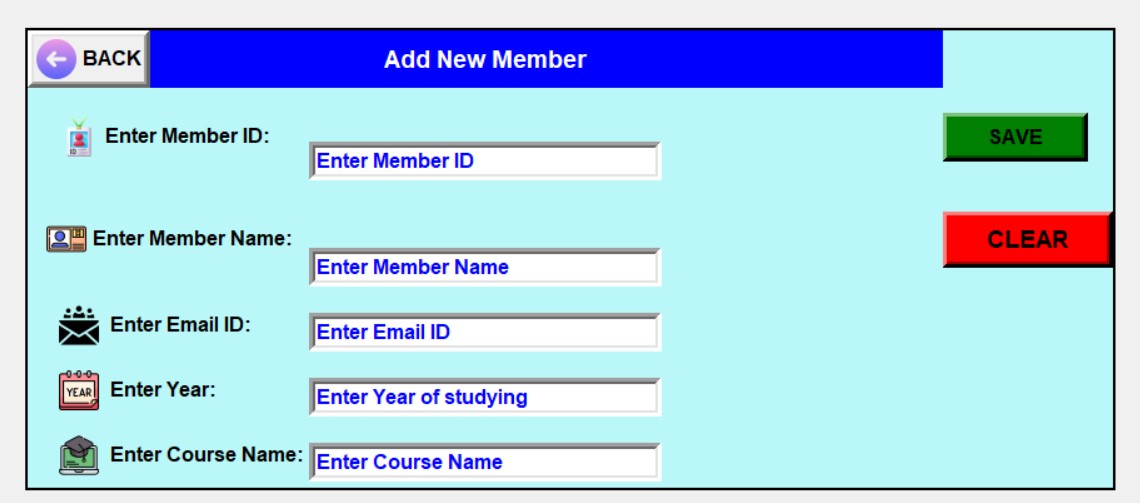


Users should enter the correct ID of the book to update which is present in library otherwise it will throw an error that the book does not exist in the database also this field should not be empty as it will not be able to proceed further for updating.

When user enters the correct book ID which is present and clicks the submit button it will fetch its entire details from the database and enable the user to update necessary details. Once clicked on the save button it displays a success message and changes get reflected in the database and the user can see the change in the table.

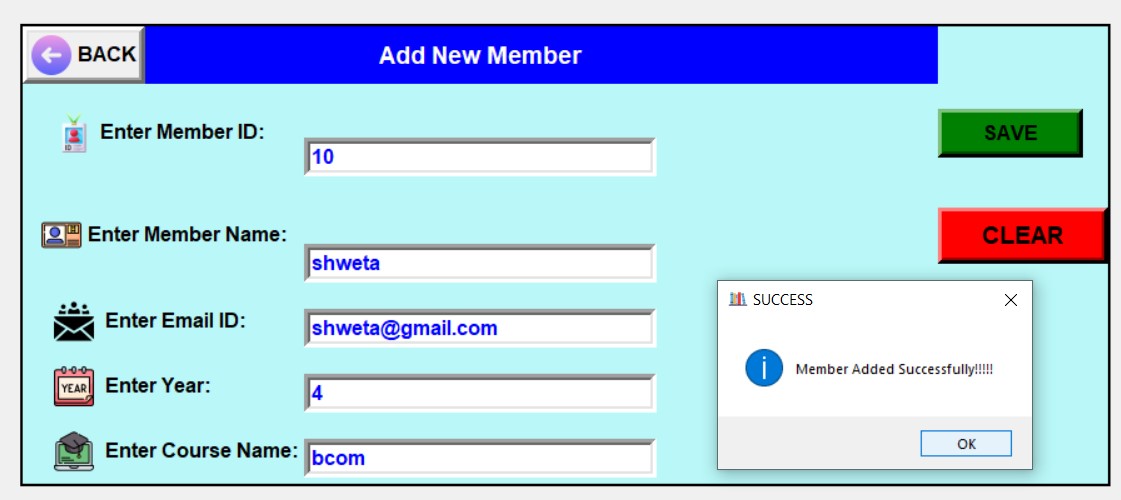


### 5) Add New Member

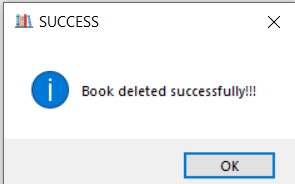
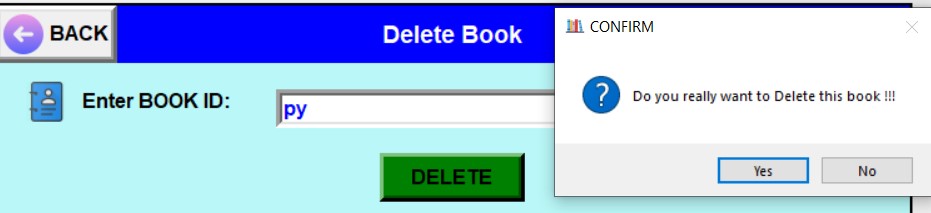


To add new members, users should enter all the fields otherwise it will display a warning message if any of the fields are left blank. Member ID and Year needs to be an integer value, if any character/string is entered then it will throw an error message. Year should be between 1 and 4 any other number other than that entered will display an error message.

Member ID should be unique for each member. Clear button clears all the fields all at once to enter new values. Save button adds new member in the library database and shows a success message upon addition.



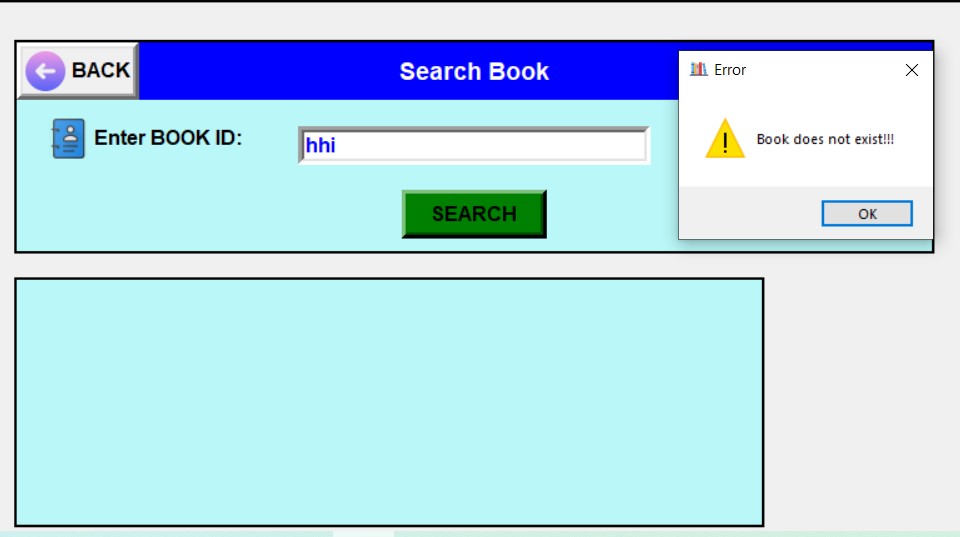
### 8. Delete Book



Users should enter the Book ID to delete all the available copies of that book which is present in library. The system checks whether the book is present in the database otherwise it will throw an error that the book does not exist in the library’s database also this field should not be empty otherwise it will prompt error message as please enter Book ID. If the book is present in the database, it will ask confirmation before deleting: Do u really want to delete this book?

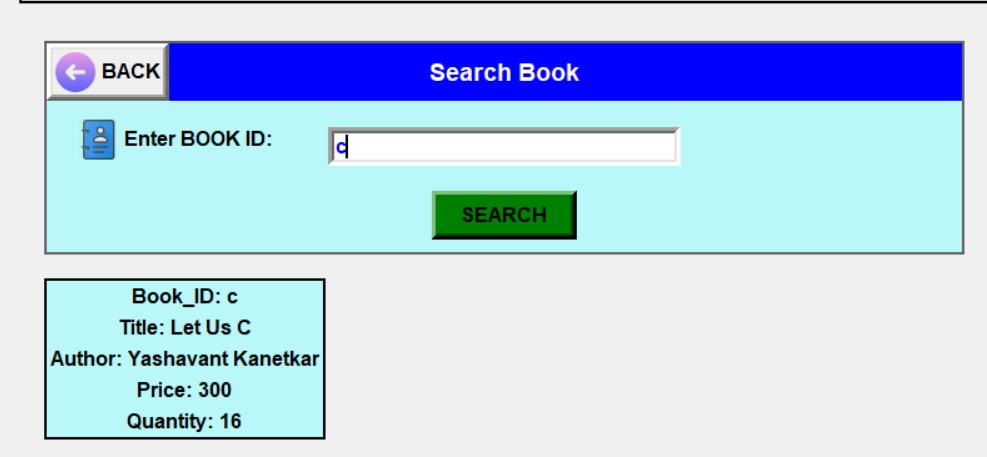
If the user clicks yes, it shows a success message and deletes the book permanently. If user click No, it displays a message as deletion cancelled.

### 9. Search Book



Users should enter a Book ID to search for the entire details of the book. If a book is not present in the database, it throws error message as book does not exist also if the field is empty, it will not be able to proceed further for search operation.

If the entered ID is present in the database, the system displays all the related details of that book.

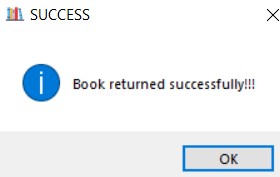
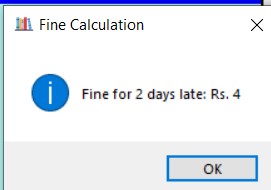
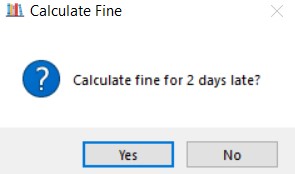
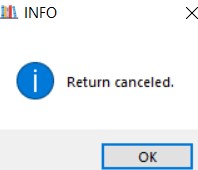
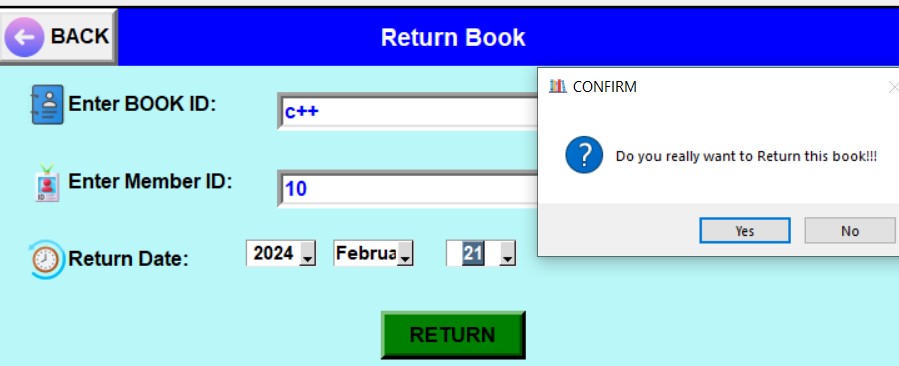


### 10. Return Book

To return a book which was issued previously to a member of the library, the user needs to enter the ID of that issued book and Member’s ID along with the return date of that book.

The system checks whether the member is a registered member or not. If not, it will display message as member does not exist. Next, it will check whether that book is issued to that specified member or not and if not, it will prompt an appropriate message.

If the book is issued to that specific member, it will ask whether you want to return this book and if yes it will calculate fine based on the return date and expected return date.



The system gets the actual return date from the GUI components (**return\_year**, **return\_month and**  **return\_date**).

Next, it will compare the actual return date with the expected return date to determine if the book is returned late.

If the book is returned late, calculate the fine based on the number of days late (fine rate is assumed to be Rs. 2 per day).

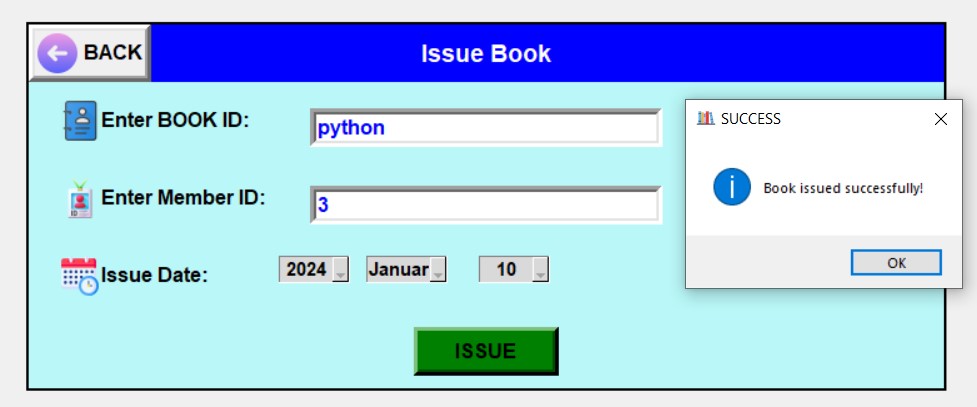
Display a confirmation message to calculate the fine and show the fine amount in a message box.

If the user confirms yes, delete the record from the "Expected\_Return\_Dates" table in the database.

If the book is returned on time, display a message indicating no fine.

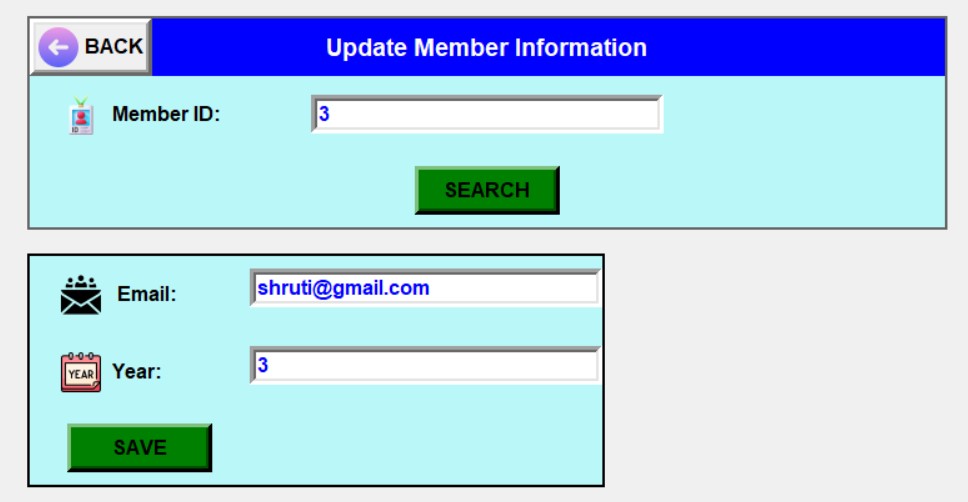
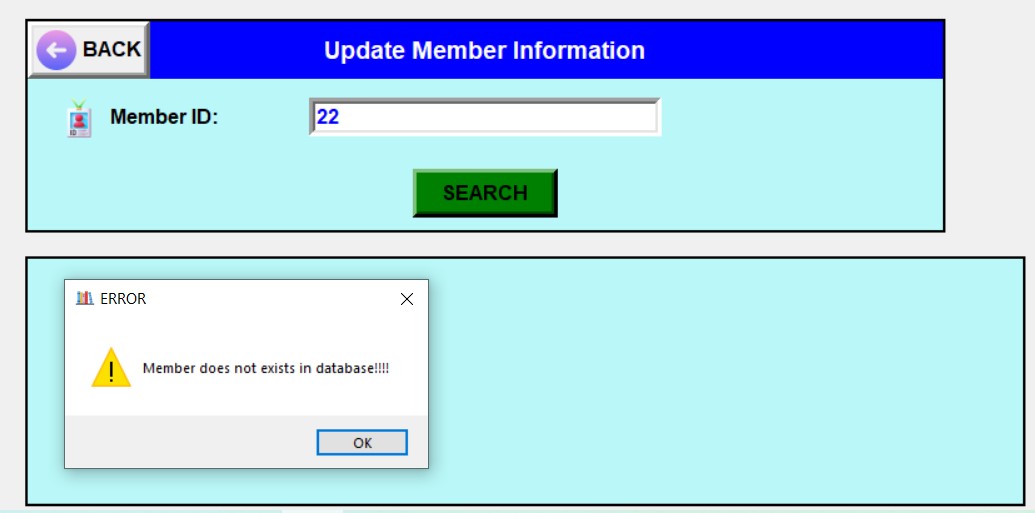
### 11. Issue book

To issue a book to a member the user needs to enter a valid Book ID and Member ID. User cannot change the issue date and when click on issue button it will display message as “book issued successfully”. If the book or member ID is not valid it will display message as “Invalid book id or member id”.



## 12. Update Member Information

Two frames are created to organize and display different sections of the interface. User should enter a valid member ID and if not, it will display message as “Member does not exist”. The search button retrieves member information from the database based on the provided Member ID. And if member exists it will allow to change Email ID and Year of studying and then display message as “Member details updated successfully”.



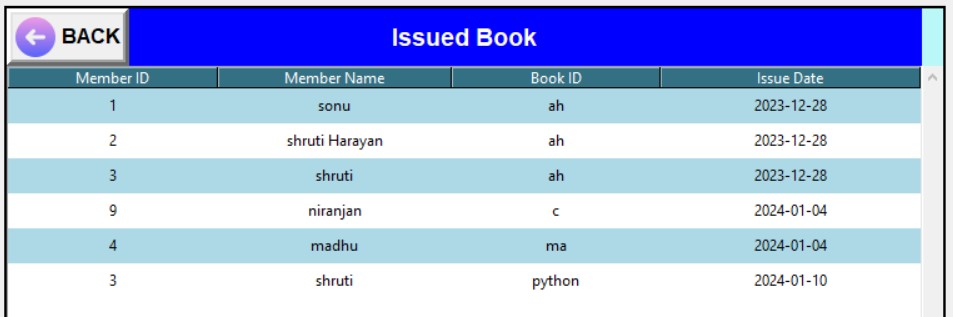
### 13. Display Existing Member

It will display all the existing members in the library in a tabular format which is created by using Treeview widget.



### 14. Display Issued Book

It will display all the books which are issued to the registered members in the library including issue date.

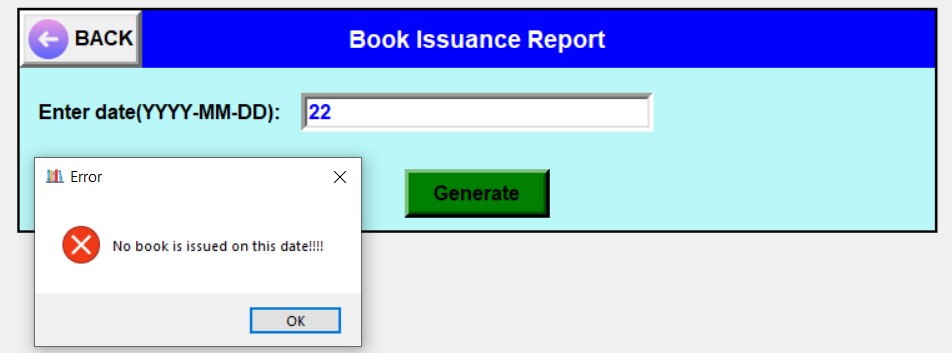


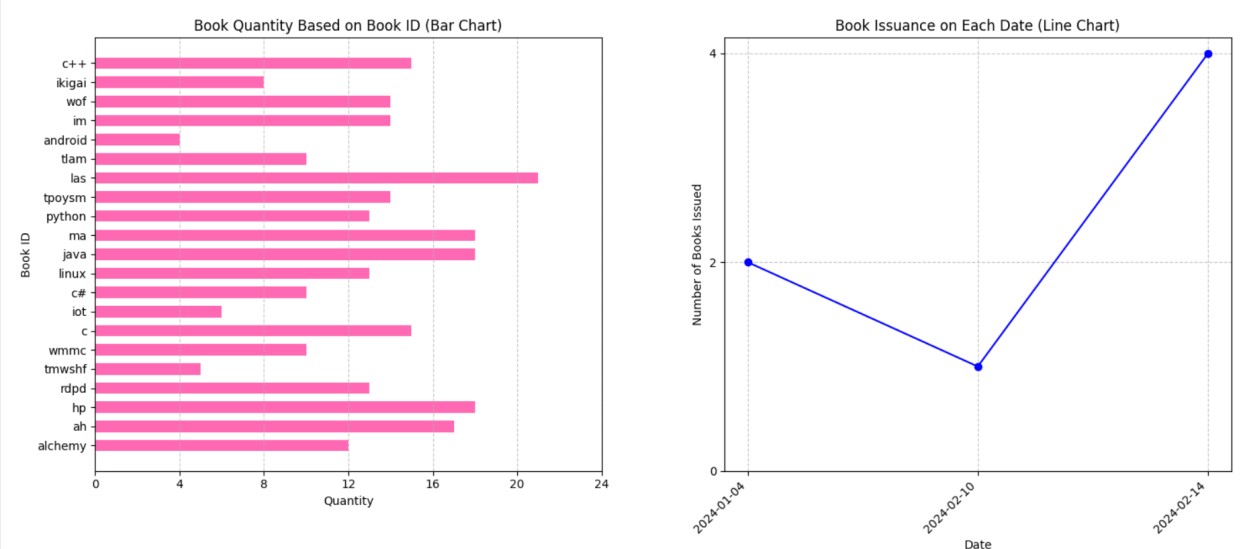
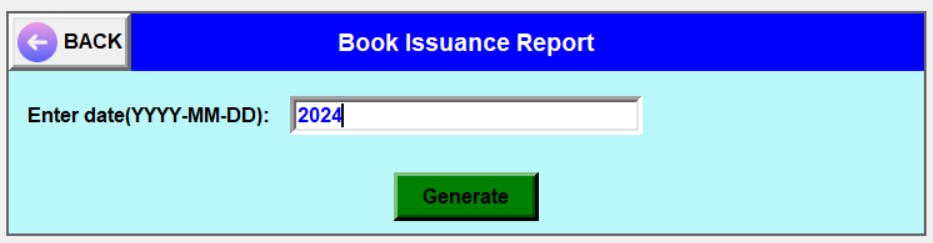
### 15. Book Issuance report

User needs to enter date in specific format to generate report on desired date. If that date is not in a valid format, it will display an error message. User can save the figure in desired location for further reference. This report includes 2 figures:

Fig 1: where user can check the quantity of all the books visually

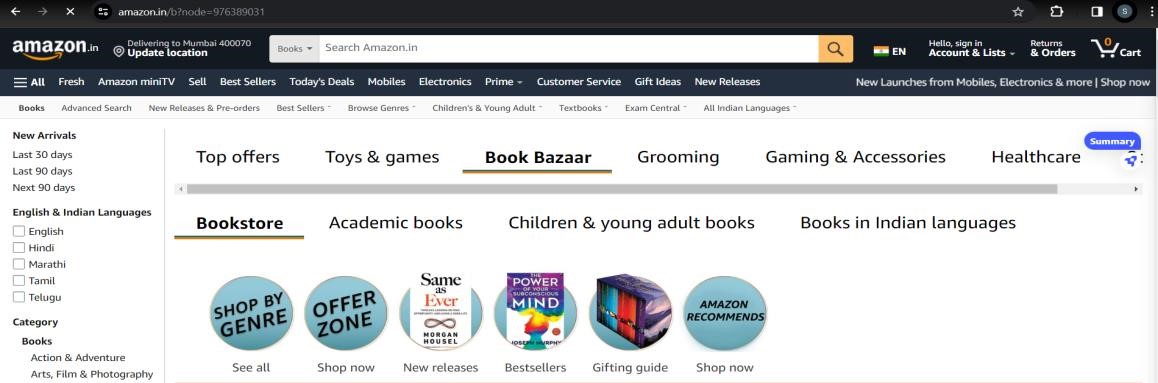
Fig 2: how many numbers of books are issued on desired date





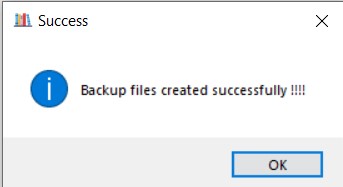
### 16. Open Browser

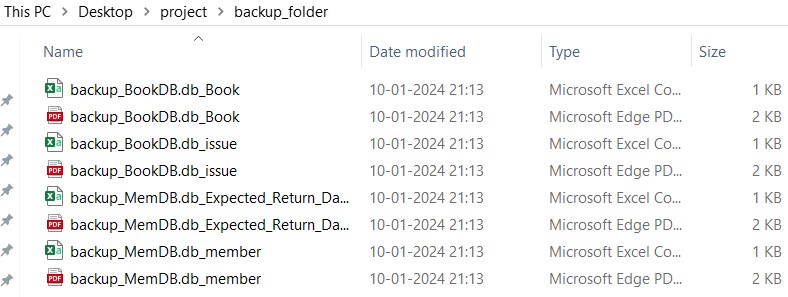
It will open Amazon website category books for the user to purchase different variety of books for the library.



### 17. Create Backup

It will create a folder name backup\_folder and backup of all databases in CSV (Excel) and PDF format and display success message after successful creation.





### 18. Logout

It will ask the user whether he wants to logout and if the user clicks No, it will display message as logout cancelled and if user clicks Yes, it will again display login Page.

