

LIBRARY BOOKS ISSUE AND RENEWAL

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ABOUT:

It is an application which performs the basic operations in a library.

Performs the following functionalities:

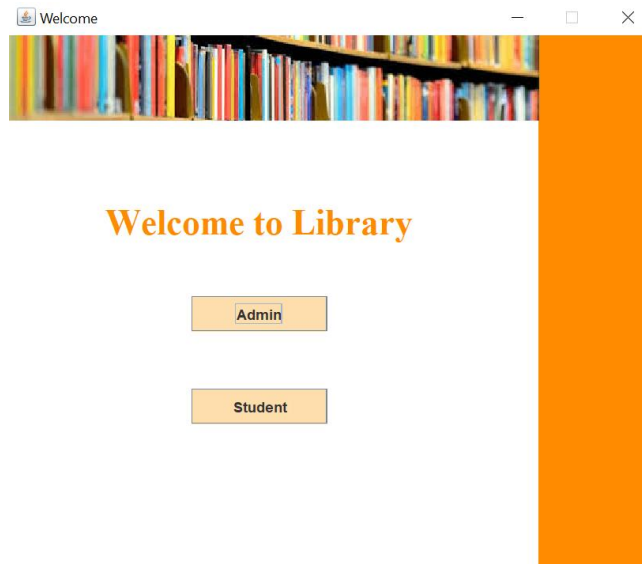
- Search for the book's availability.
- Admins have special authorities.
- Issuing a book.
- Add a new book.
- Return book.

DESCRIPTION:

1. I included the following swing features to my GUI:
 - JPanel
 - JButton
 - JLabel
 - JTable
 - JTextField
 - JComboBox and many other.
2. I used files to store the data of books and updated it whenever a book is added, issued and returned. (book.csv)
3. I used different classes for different frames and all those are embedded in a java library. We can import the library to get access to all the classes.
4. I used a different class to implement multithreading. Just to show that we can run the same application simultaneously (Test.java file is for multithreading).
5. I used the following OOPs concepts:
 - Classes
 - Objects
 - Inheritance
 - Encapsulation and others
6. All the Exceptions are handled.

OVERVIEW:

1. Start the application by running Welcome.java file. You will get the following frame. It contains a header image which I placed on a separate panel and side orange stripe. It contains 2 buttons. (Welcome.java)
 - **Admin**: It will lead us to admins page.
 - **Student**: It will lead us to student's page.

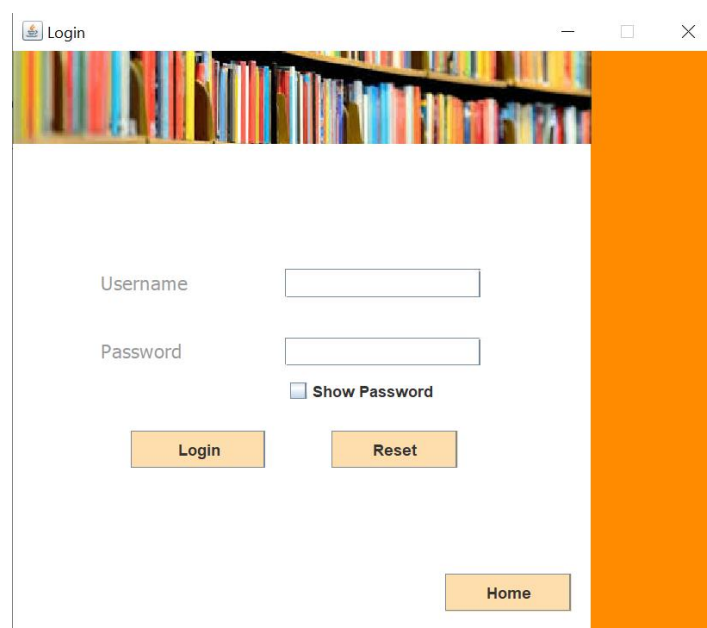


2. On clicking **Admin** button, we'll get the frame where we can login. For this project I added only one admin account. (Admin_login.java)

Username: Admin

Password: passwd123

Home button will lead us to the Home page.



3. After logging in, In the next frame we'll have 4 options (Admin_page.java)

- Add book
- Issue book
- Return book
- Logout

Which is as follows:



- **Add Book**

- ID of the book will be automatically generated once we add the book.
- Use the given data to test:

Title	Author	Year	Language
The Fellowship of the Ring (The Lord of the Rings, #1)	J.R.R. Tolkien	1954	eng
Mockingjay (The Hunger Games, #3)	Suzanne Collins	2010	eng
Harry Potter and the Order of the Phoenix (Harry Potter, #5)	J.K. Rowling, Mary GrandPrA	2003	eng
The Lovely Bones	Alice Sebold	2002	eng
Harry Potter and the Chamber of Secrets (Harry Potter, #2)	J.K. Rowling, Mary GrandPrA	1998	eng

- After adding check student page of file weather data is added or not.

Hello Admin!

Add Book

Issue Book

Return Book

Logout

Enter book details

ID

No of copies

Title

Language

en-CA

Author

Year of publication

Add

- **Issue book**

- It will take only ID as input and gives the details of respective book details from the records after clicking **Check Availability** button.
- After checking the records if number of available copies are more than 0 then **Issue Book** button will be activated.
- On clicking **Issue Book** button, the book will be issued and the records will be updated.

Hello Admin!

Add Book

Issue Book

Return Book

Logout

Enter book ID

ID

Available copies

Title

Language

Author

Year of publication

Check availability

Issue

- **Return book**

- It will also take only ID as input and gives the details of respective book details from the records after clicking **Check** button.
- After checking the records if number of issued copies are more than 0 then **Return Book** button will be activated.
- On clicking **Return Book** button, the book will be issued and the records will be updated.

The screenshot shows a web application window titled "Hello Admin!". At the top, there are four buttons: "Add Book", "Issue Book", "Return Book", and "Logout". Below these buttons, the text "Enter book ID" is displayed. Underneath, there are six input fields arranged in two columns. The left column contains fields for "ID", "Title", and "Author". The right column contains fields for "Issued copies", "Language", and "Year of publication". At the bottom of the form, there are two buttons: "Check" and "Return".

- **Logout**

- On clicking **Logout** button, it asks for conformation if we really want to logout or not.
- On clicking 'yes' , It'll take us to Admins login page frame.

4. On clicking **Student** button, we'll go to student's page where we can see the list of books available in our library. (Student_page.java)

- The data is read from the file and placed in table.
- There is search option so that we can search for the book we want. It works on all the fields.
- And we can sort each column in ascending and descending orders by double clicking on the column title.

Here the frame of student's page.

Books List						
Search <input type="text"/>						
Id	Title	Language	Author	Published_year	Copies	Available Copies
1	The Hunger Games ...	eng	Suzanne Collins	2008	2	2
2	Harry Potter and the ...	eng	J.K. Rowling, Mary ...	1997	3	3
3	Twilight (Twilight, #1)	en-US	Stephenie Meyer	2005	4	4
4	To Kill a Mockingbird	eng	Harper Lee	1960	1	1
5	The Great Gatsby	eng	F. Scott Fitzgerald	1925	2	2
6	The Fault in Our Stars	eng	John Green	2012	3	3
7	The Hobbit	en-US	J.R.R. Tolkien	1937	1	1
8	The Catcher in the ...	eng	J.D. Salinger	1951	2	2
9	Angels & Demons (...)	en-CA	Dan Brown	2000	4	4
10	Pride and Prejudice	eng	Jane Austen	1813	5	5
11	The Kite Runner	eng	Khaled Hosseini	2003	6	6
12	Divergent (Divergen...	eng	Veronica Roth	2011	2	2
13	1984	eng	George Orwell, Eric...	1949	3	3
14	Animal Farm	eng	George Orwell	1945	1	1
15	The Diary of a Youn...	eng	Anne Frank, Eleanor...	1947	4	4
16	Of Mice and Men	eng	John Steinbeck	1937	2	2
17	Memoirs of a Geisha	eng	Arthur Golden	1997	5	5
18	Fifty Shades of Grey...	eng	E.L. James	2011	3	3
19	The Alchemist	eng	Paulo Coelho, Alex...	1988	2	2
Home						

CONCLUSION:

All the basic operations which are done in a library to manage books are done.