



Library Management System

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Overview

This project aims to illustrate the basic concepts of SQL and their usage in our day to day life. The following project is a Library Management System which uses SQL concepts and has an administrator which can add/view/delete a librarian and a librarian can add/view/issue/return books.

Goals

To build an useful application using the basic concepts of MySQL

Specifications

Users of the System

1. Administrator
2. Librarian

Functional Requirements

- **Administrator**
 1. Can add/view/delete librarian.
 2. Can logout of the server.
- **Librarian**
 1. Can add/view books.
 2. Can issue books.
 3. View issued books.
 4. Return books.
 5. Can logout of the server.

Tools to be used

1. Use any IDE to develop the project. It may be Eclipse /Myeclipse / Netbeans etc.
2. MySQL for the database.

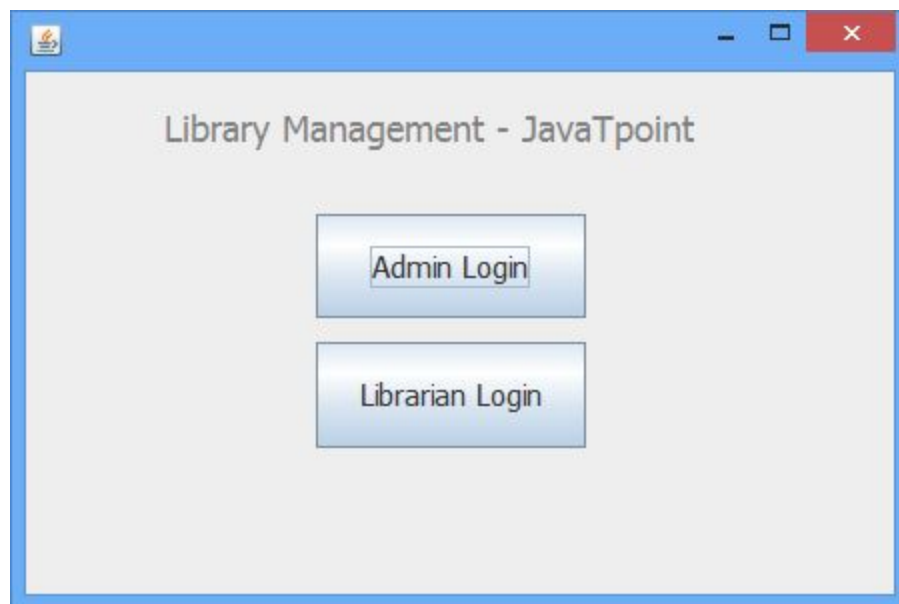
Front End and Back End

1. **Front End** : Java Swing
2. **Back End** : MySQL

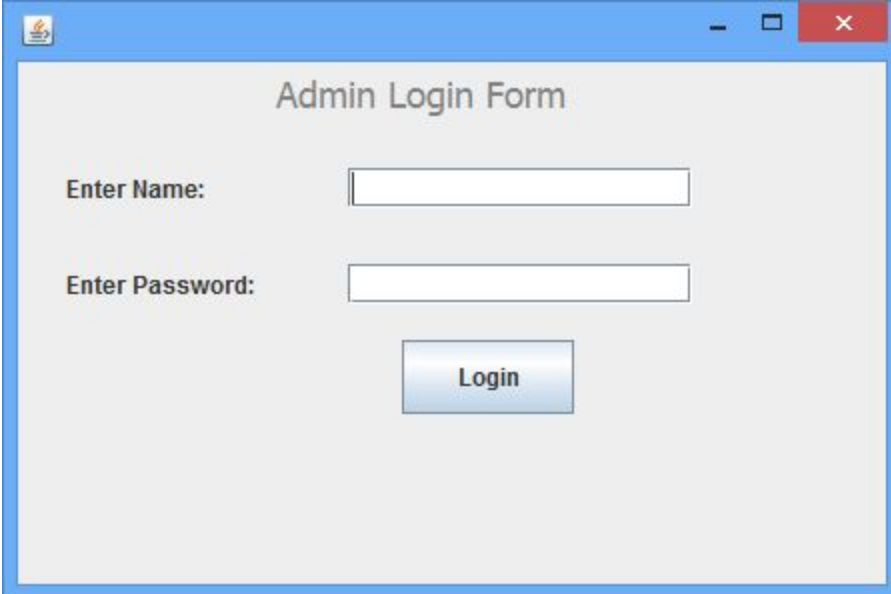
How project works?

The following screenshots will illustrate the working of the project systematically.

- Home Screen



- Admin Login form

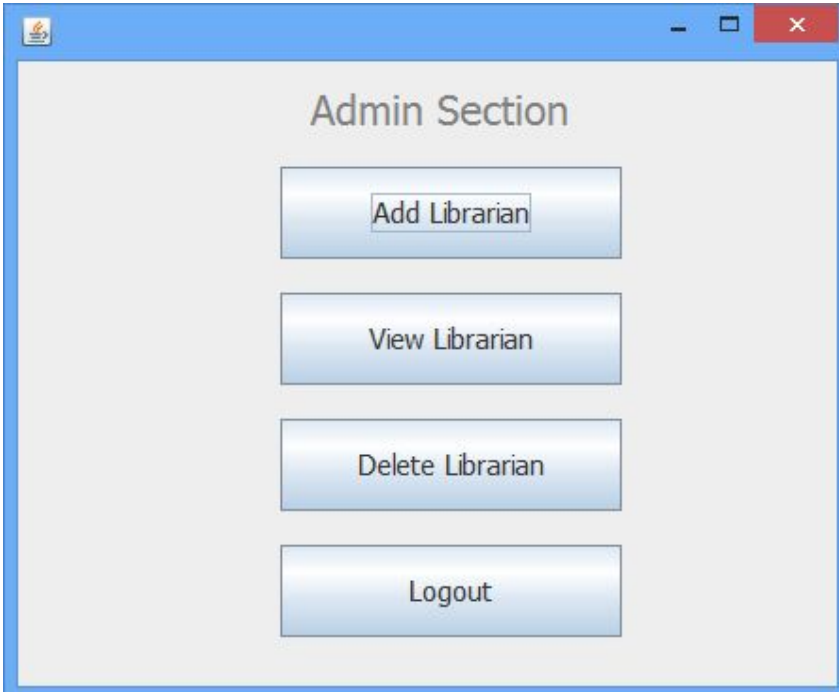


A screenshot of a Java Swing window titled "Admin Login Form". The window has a blue title bar with standard Windows-style controls (minimize, maximize, close). The main content area is light gray and contains the following elements:

- The title "Admin Login Form" centered at the top.
- A label "Enter Name:" followed by a text input field.
- A label "Enter Password:" followed by a text input field.
- A "Login" button centered below the password field.

(Write name and password: It must be **admin** for name and **admin123** for password)

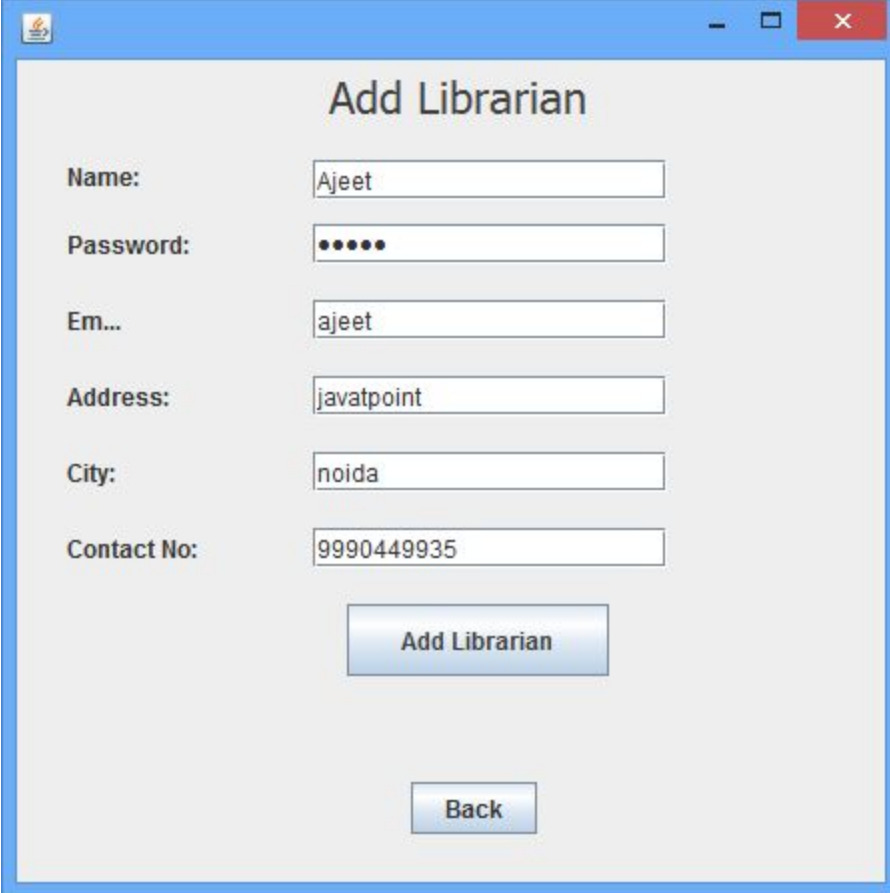
- Admin Section



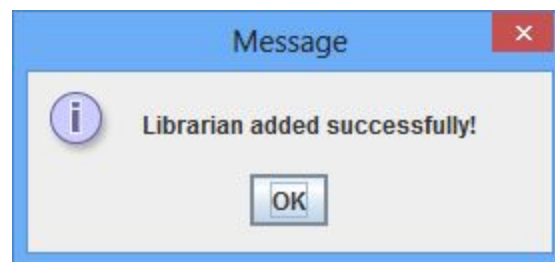
A screenshot of a Java Swing window titled "Admin Section". The window has a blue title bar with standard Windows-style controls (minimize, maximize, close). The main content area is light gray and contains the following elements:

- The title "Admin Section" centered at the top.
- Four buttons stacked vertically in the center: "Add Librarian", "View Librarian", "Delete Librarian", and "Logout".

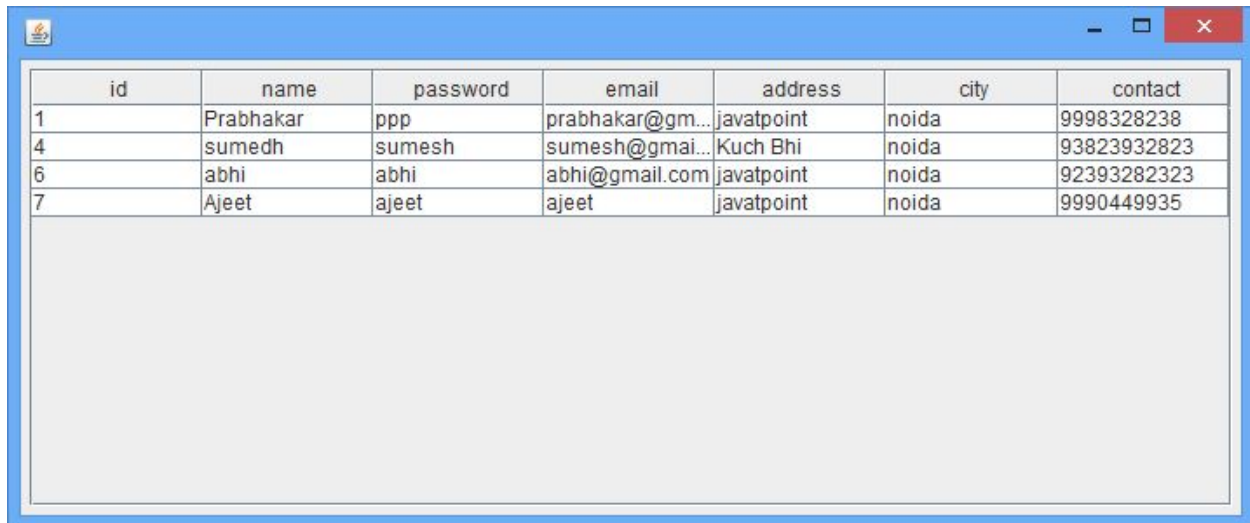
- Adding a Librarian



A screenshot of a Java Swing window titled "Add Librarian". The window has a blue title bar with standard OS controls. The main content area is light gray and contains several text input fields with labels to their left: "Name:" with the value "Ajeet", "Password:" with masked characters "•••••", "Em..." (Email) with the value "ajeet", "Address:" with the value "javatpoint", "City:" with the value "noida", and "Contact No:" with the value "9990449935". Below the input fields are two buttons: "Add Librarian" and "Back".



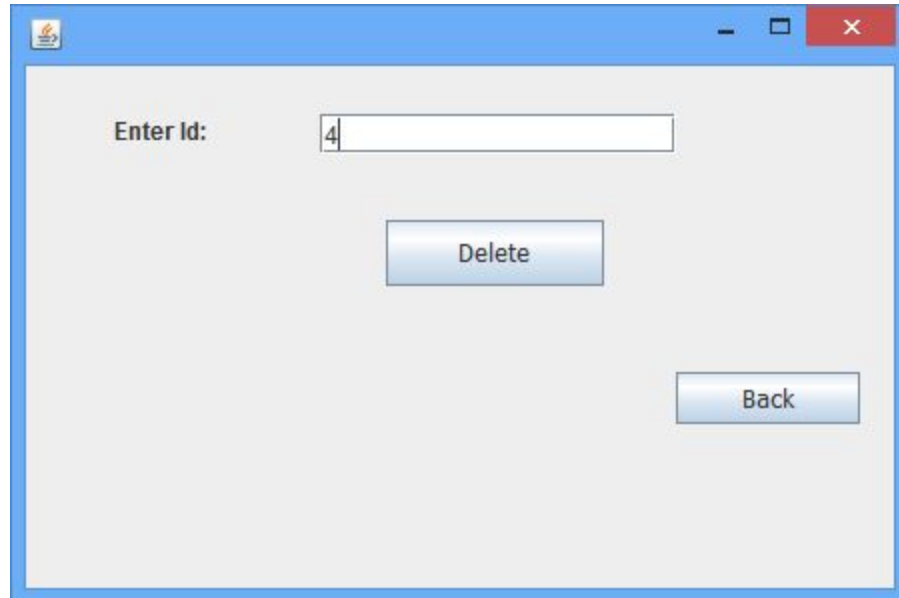
- Viewing the records of librarian



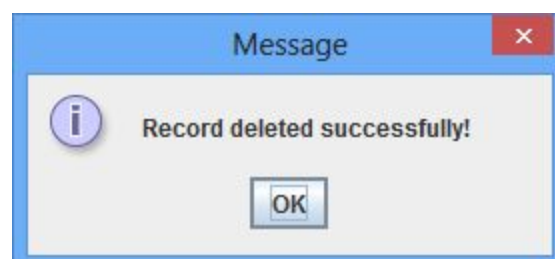
A screenshot of a Java Swing window with a blue title bar and standard window controls. The window contains a table with 7 columns: id, name, password, email, address, city, and contact. The table has 4 data rows. Below the table is a large, empty rectangular area.

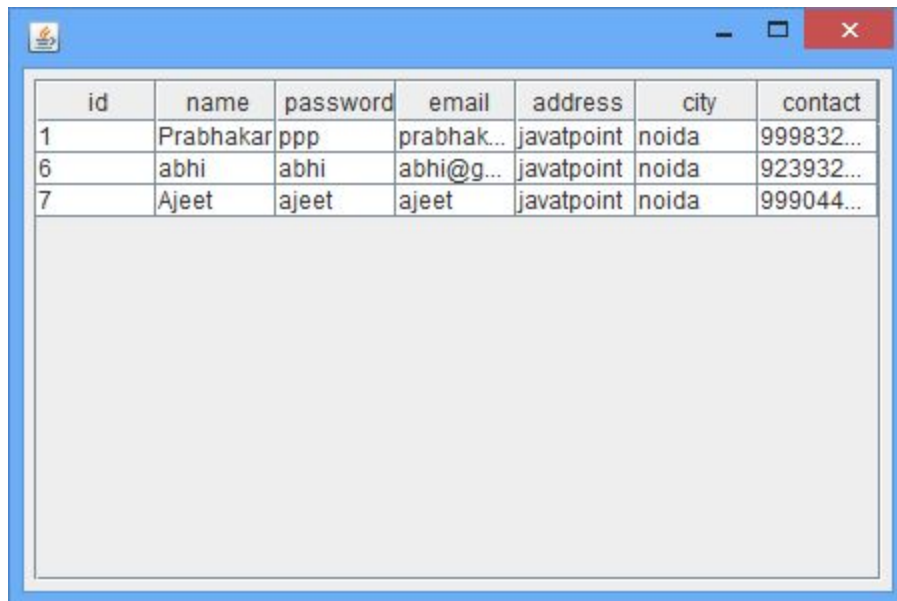
id	name	password	email	address	city	contact
1	Prabhakar	ppp	prabhakar@gm...	javatpoint	noida	9998328238
4	sumedh	sumesh	sumesh@gmai...	Kuch Bhi	noida	93823932823
6	abhi	abhi	abhi@gmail.com	javatpoint	noida	92393282323
7	Ajeet	ajeet	ajeet	javatpoint	noida	9990449935

- Deleting a Librarian



A screenshot of a Java Swing window with a blue title bar and standard window controls. The window has a light gray background. It contains a label "Enter Id:" followed by a text input field containing the number "4". Below the input field is a "Delete" button. At the bottom right of the window is a "Back" button.



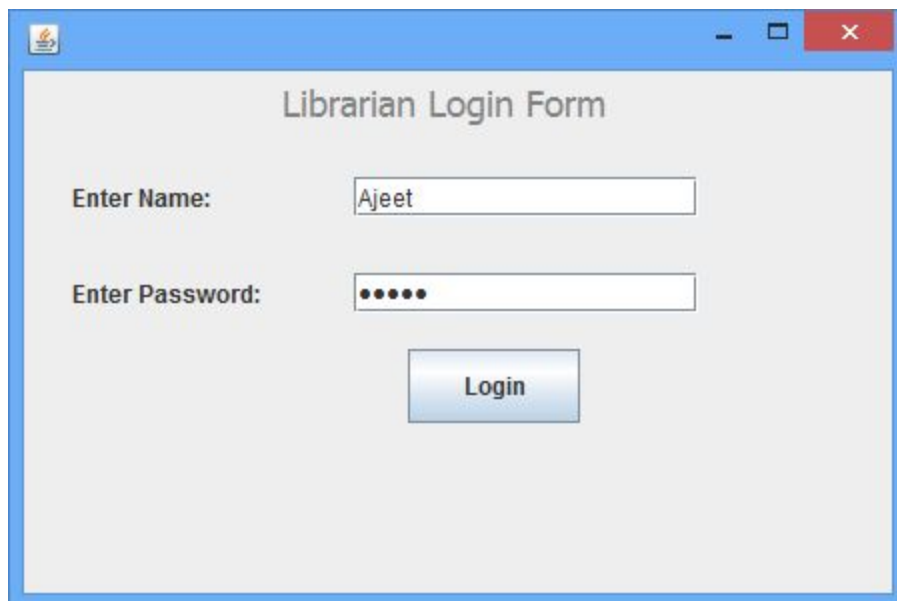


A screenshot of a Java Swing window with a blue title bar and standard window controls. Inside the window is a table with 7 columns: id, name, password, email, address, city, and contact. The table contains three rows of data. Below the table is a large, empty rectangular area.

id	name	password	email	address	city	contact
1	Prabhakar	ppp	prabhak...	javatpoint	noida	999832...
6	abhi	abhi	abhi@g...	javatpoint	noida	923932...
7	Ajeet	ajeet	ajeet	javatpoint	noida	999044...

(Table without the deleted record)

- Librarian Login



A screenshot of a Java Swing window titled "Librarian Login Form". The window has a blue title bar and standard window controls. The form contains two labels: "Enter Name:" and "Enter Password:". The "Enter Name:" label is followed by a text input field containing the text "Ajeet". The "Enter Password:" label is followed by a password input field with six dots. Below these fields is a "Login" button.

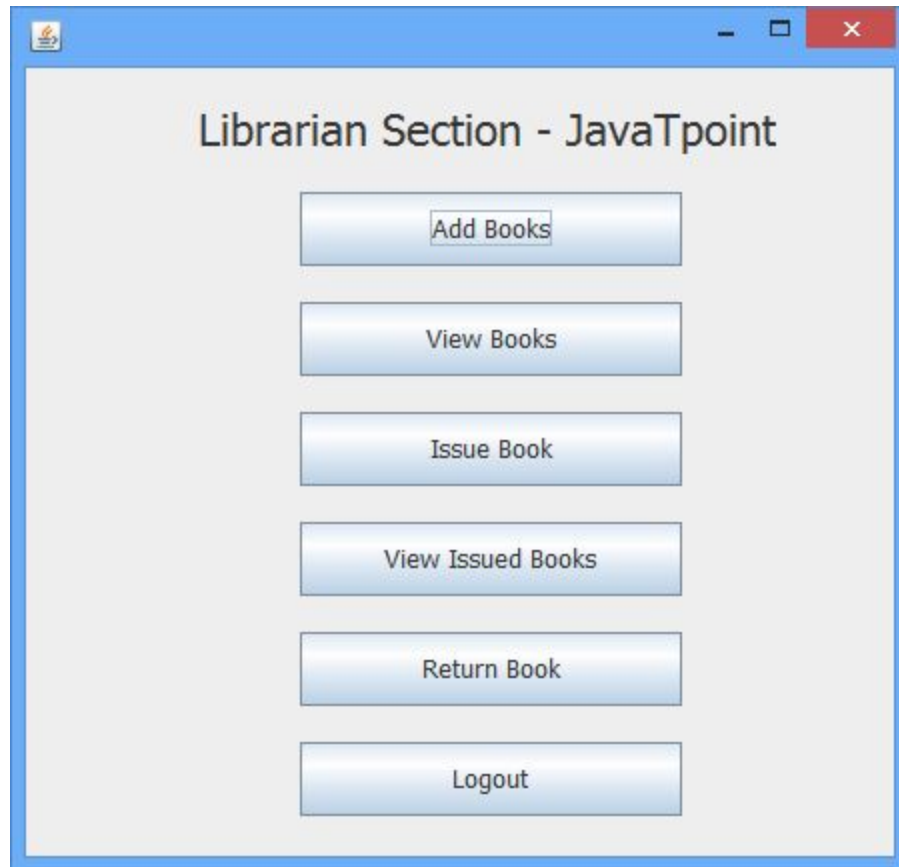
Librarian Login Form

Enter Name:

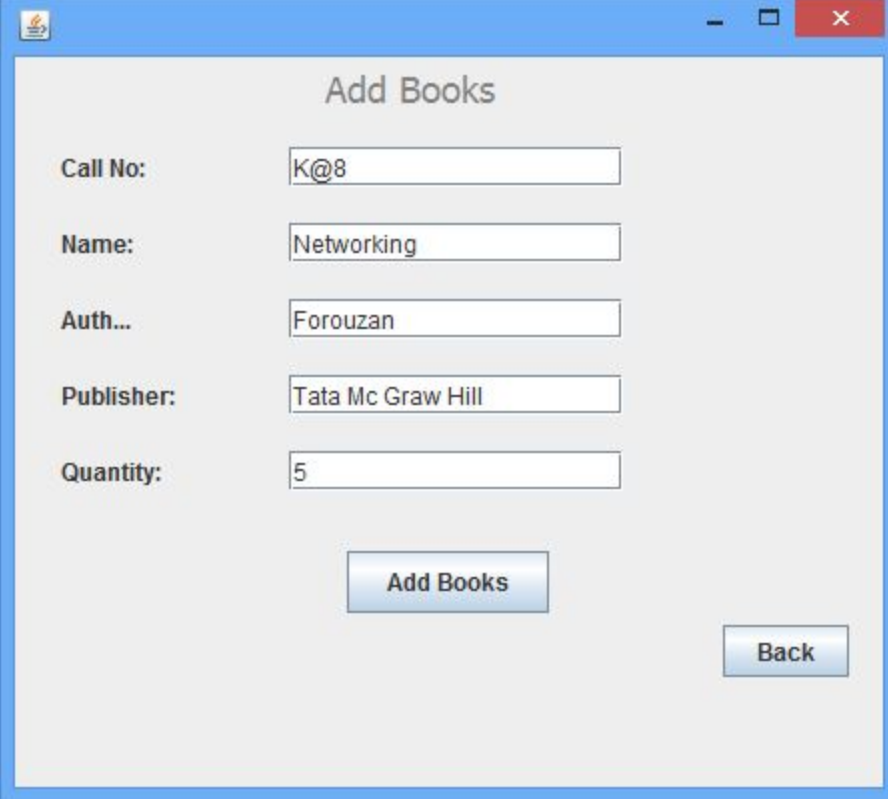
Enter Password:

Login

- Librarian Section

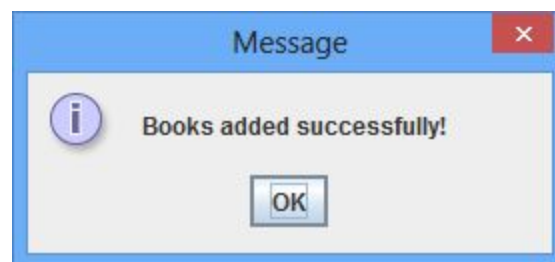


- Adding books

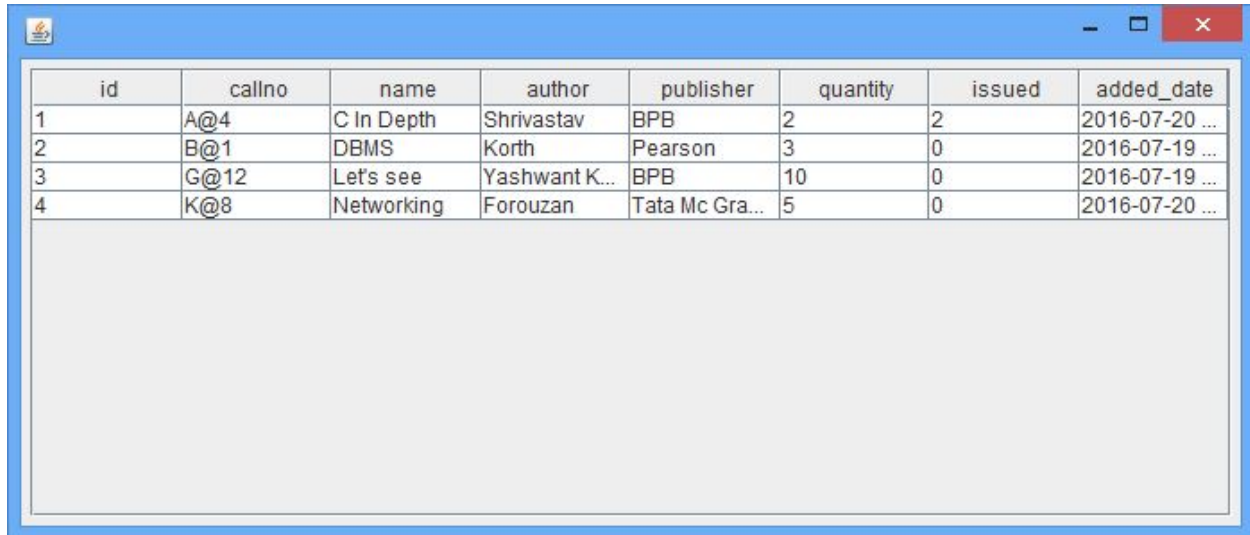


A screenshot of a Windows-style dialog box titled "Add Books". The dialog has a blue title bar with standard minimize, maximize, and close buttons. The main area is light gray and contains five labeled text input fields: "Call No:" with the value "K@8", "Name:" with "Networking", "Auth..." with "Forouzan", "Publisher:" with "Tata Mc Graw Hill", and "Quantity:" with "5". Below these fields are two buttons: "Add Books" and "Back".

Field Label	Value
Call No:	K@8
Name:	Networking
Auth...	Forouzan
Publisher:	Tata Mc Graw Hill
Quantity:	5

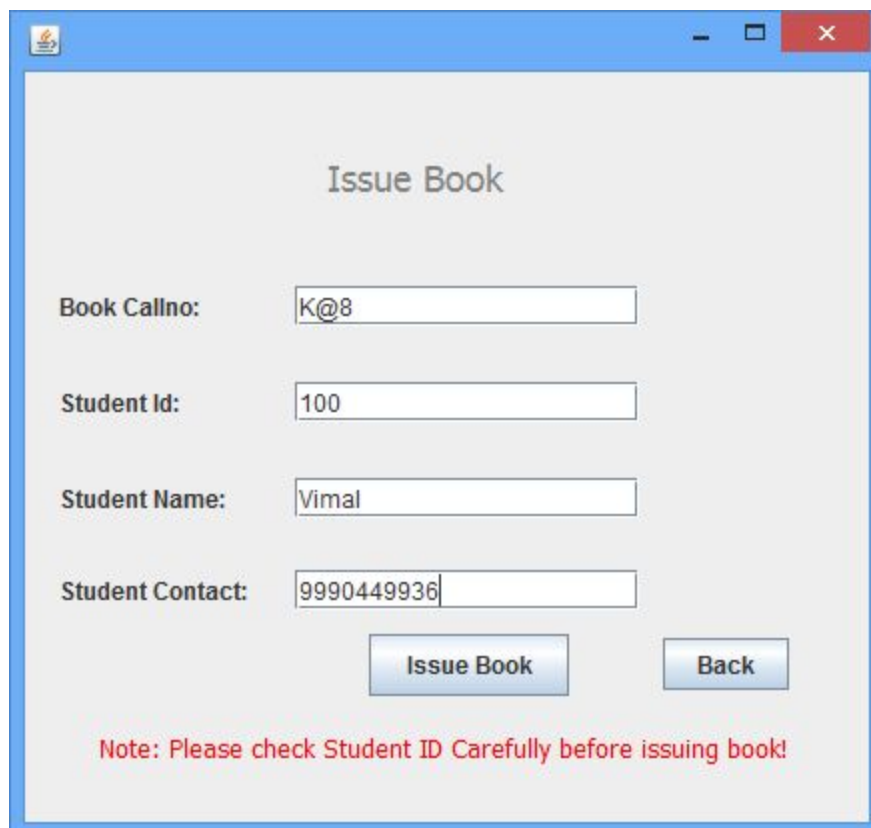


- Viewing Books



id	callno	name	author	publisher	quantity	issued	added_date
1	A@4	C In Depth	Shrivastav	BPB	2	2	2016-07-20 ...
2	B@1	DBMS	Korth	Pearson	3	0	2016-07-19 ...
3	G@12	Let's see	Yashwant K...	BPB	10	0	2016-07-19 ...
4	K@8	Networking	Forouzan	Tata Mc Gra...	5	0	2016-07-20 ...

- Issuing Books



Issue Book

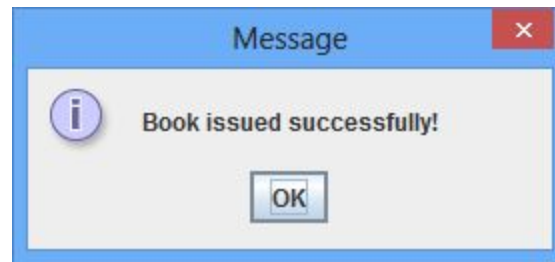
Book Callno:

Student Id:

Student Name:

Student Contact:

Note: Please check Student ID Carefully before issuing book!



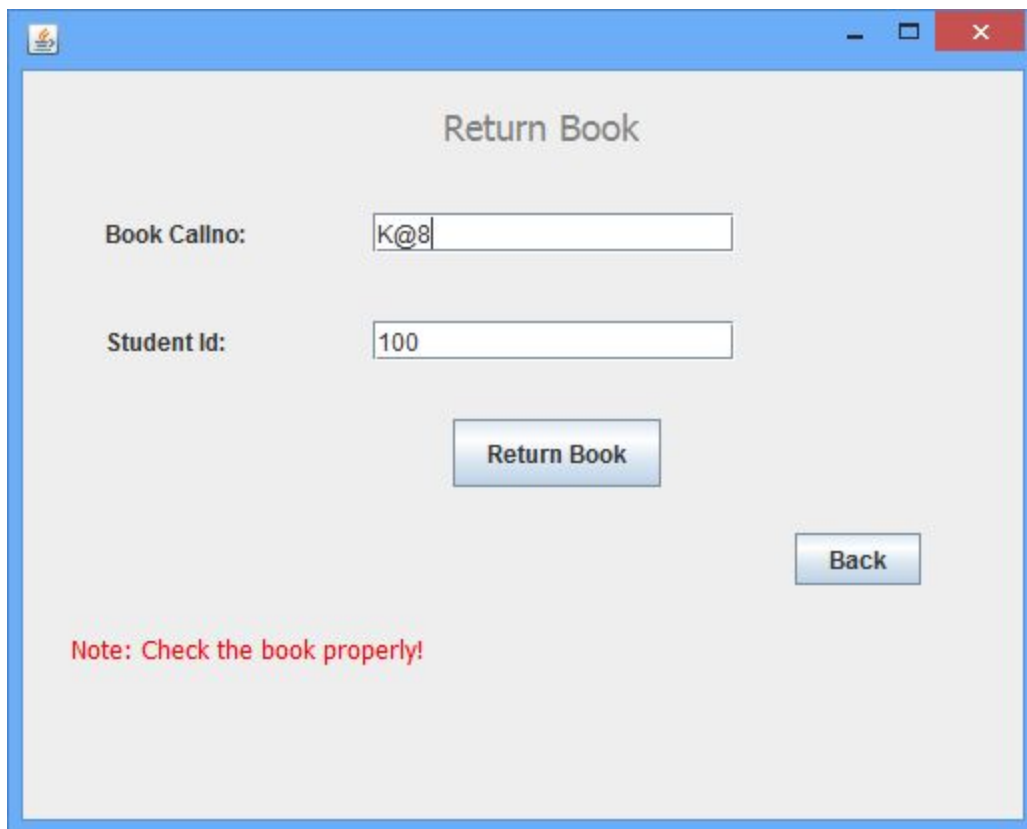
- View Issued Books

id	bookcallno	studentid	studentname	studentcontact	issueddate
4	A@4	23	kk	932992932	2016-07-20 00:13...
6	A@4	335	Sumedh	95676565756	2016-07-20 00:14...
7	A@4	87	abhishek	9329882382	2016-07-20 00:16...
8	K@8	100	Vimal	9990449936	2016-07-20 01:38...

id	callno	name	author	publisher	quantity	issued	added_date
1	A@4	C In Depth	Shrivastav	BPB	2	2	2016-07-20 ...
2	B@1	DBMS	Korth	Pearson	3	0	2016-07-19 ...
3	G@12	Let's see	Yashwant Ka...	BPB	10	0	2016-07-19 ...
4	K@8	Networking	Forouzan	Tata Mc Gra...	4	1	2016-07-20 ...

(Click on the View Books and see quantity is decremented and issued is incremented)

- Returning a book



A screenshot of a Java Swing window titled "Return Book". The window has a blue title bar with standard OS controls. The main area is light gray. It contains two labels: "Book Callno:" and "Student Id:". The "Book Callno:" text box contains "K@8" and the "Student Id:" text box contains "100". Below these are two buttons: "Return Book" and "Back". At the bottom left, there is a red text note: "Note: Check the book properly!".

Return Book

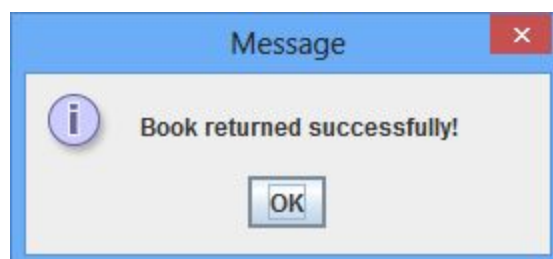
Book Callno: K@8

Student Id: 100

Return Book

Back

Note: Check the book properly!

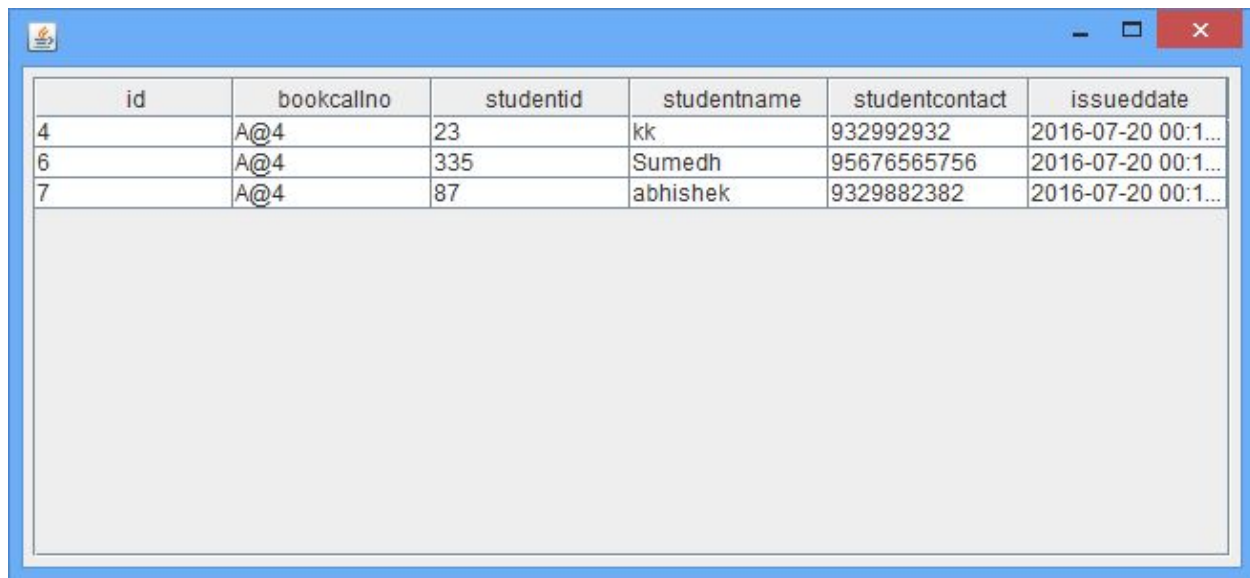


A screenshot of a Java Swing message dialog box titled "Message". It has a blue title bar with a close button. The main area is light gray. It contains an information icon (a lowercase 'i' in a circle) followed by the text "Book returned successfully!". At the bottom center is an "OK" button.

Message

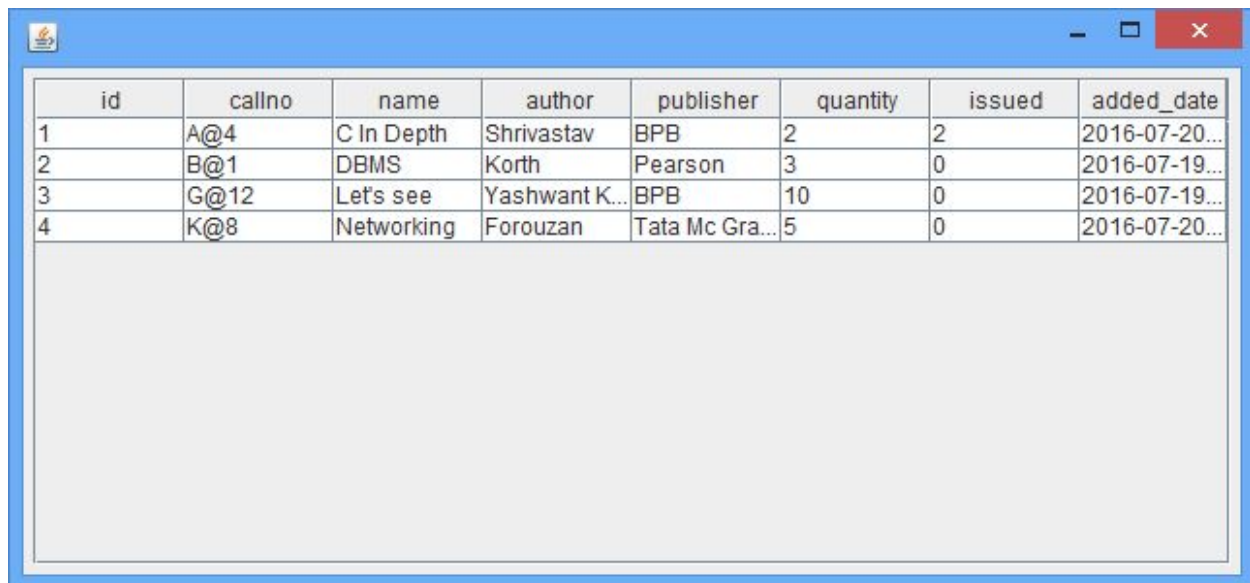
i Book returned successfully!

OK



id	bookcallno	studentid	studentname	studentcontact	issueddate
4	A@4	23	kk	932992932	2016-07-20 00:1...
6	A@4	335	Sumedh	95676565756	2016-07-20 00:1...
7	A@4	87	abhishek	9329882382	2016-07-20 00:1...

(Again click on the view issued book button, record is deleted)



id	callno	name	author	publisher	quantity	issued	added_date
1	A@4	C In Depth	Shrivastav	BPB	2	2	2016-07-20...
2	B@1	DBMS	Korth	Pearson	3	0	2016-07-19...
3	G@12	Let's see	Yashwant K...	BPB	10	0	2016-07-19...
4	K@8	Networking	Forouzan	Tata Mc Gra...	5	0	2016-07-20...

(Click on the View Books button. You can see that quantity is incremented and issued is decremented)

How to run this project?

1. Import SQL files to create tables in MySQL.
2. Import the project on the Java IDE and run it.