

Advanced Digital Library

A digital library management system to perform CRUD operations on student details and book details, and issue and return book by valid admin user

Technologies Used: **Java Swing, MySQL, JDBC connector**

OBJECTIVE

- **Log In**/Sign Up to the application
- To **fetch details** from back-end MySQL tables and perform **CRUD** (Create, Read, Uppdate, Deleate) operations on them.
- Tables/Components:
 - Users – stores details of all the admins/librarians/staffs who signs up to the application.
 - Student Details – stores academic details of all the students registered.
 - Book Details – keeps track of all the books (names, authors etc) and their respective availabilities, so that when any book gets out of stock, immediate indent can be done.
 - Issued Book Details – stores information of all the books issued along with the student issued to, status of issue (pending/returned) and issue date and due date.
- To **show details** of issued books as and required, given a range of date or all the records.
- **Log Out** of application when necessary actions performed.

functions

1. Sign Up
2. Log In
3. Manage Books
 1. ADD
 2. UPDATE
 3. DELETE
4. Manage Students
 1. ADD
 2. UPDATE
 3. DELETE
5. Issue Book
 1. Display Student and Book details Alongside
 2. Check validity and book availability
6. Return Book
 1. Don't accept if already returned or not issued at all
7. View All Issued Books Record (pending and returned)
8. View only issued books (pending)
9. View Defaulters List (who has not returned within due date)
10. Log Out

SIGN UP - successful

The image shows a successful sign-up process. On the left, a white banner displays the text "Welcome To" and "Advanced Digit". In the center, a "Message" dialog box with a blue information icon and the text "Signed Up Successfully!" is shown. The "OK" button in this dialog is circled in red, with an arrow pointing to it from the right. On the right, a "Signup Page" form is displayed. The form has the title "Signup Page" and the subtitle "Create New Account". It contains four input fields: "Username *" with the value "ahana", "Password *" with the value "ahana", "Email Id *" with the value "ahana@gmail.com", and "Contact No. *" with the value "2455656598". Below these fields are two buttons: "Sign Up" and "Login". The "Login" button is circled in red, with an arrow pointing to it from the right. Above the "Login" button is a link that says "Already have an account? Login here". At the top right of the form, a red circle highlights a close button (an 'X' icon), with an arrow pointing to it from the right. Another red arrow points from the "OK" button in the message box to the "Login" button on the form. A final red arrow points from the "Login" button to the text "If you already have an account with us, please login".

Click cross button to close the window

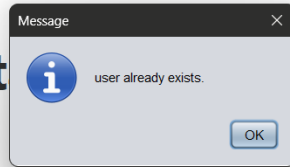
Clicking "OK" will redirect the page to login page

If you already have an account with us, please login

To create new account, enter valid mandatory personal details, success message will pop after successful sign up.

SIGN UP - failure

Welcome To
Advanced Digit



Signup Page
Create New Account

Username *
ahana

Password *
enter password...

Email Id *
enter valid email id...

Contact No. *
enter contact number...

Sign Up

Already have an account? Login here

Login

"ahana" username already
used to sign up before

CONDITION 2

When all the fields are not filled, error shows as all fields are mandatory to be recorded.

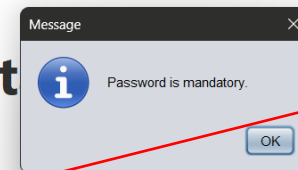
CONDITION 1

When you try to sign up with already existing username. Pop up generated saying "user already exists".

In that case, head over to login with your already existing credentials.

"password" field is left empty,
which is a mandatory field.

Welcome To
Advanced Digit



Signup Page
Create New Account

Username *
abasu

Password *
enter password...

Email Id *
abc@gmail.com

Contact No. *
1255463224

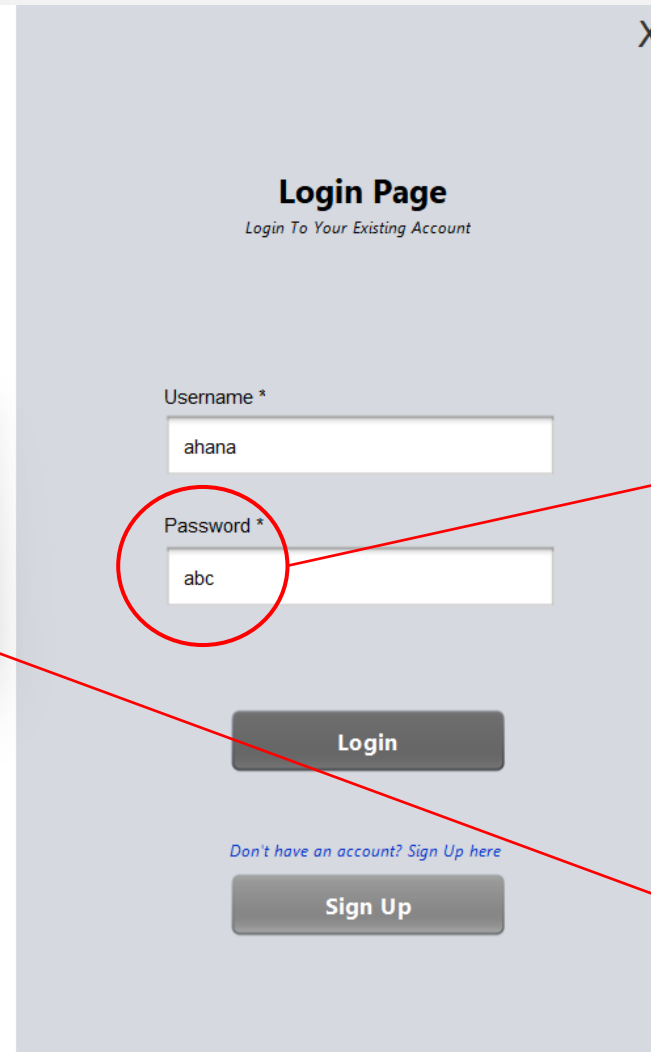
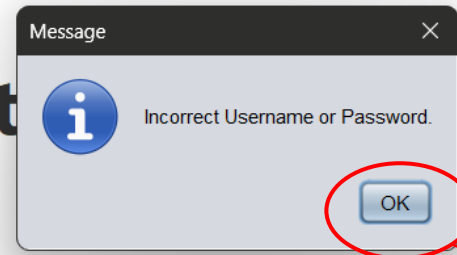
Sign Up

Already have an account? Login here

Login

LOG IN - failure

Welcome To
Advanced Digital



Login Page
Login To Your Existing Account

Username *
ahana

Password *
abc

Login

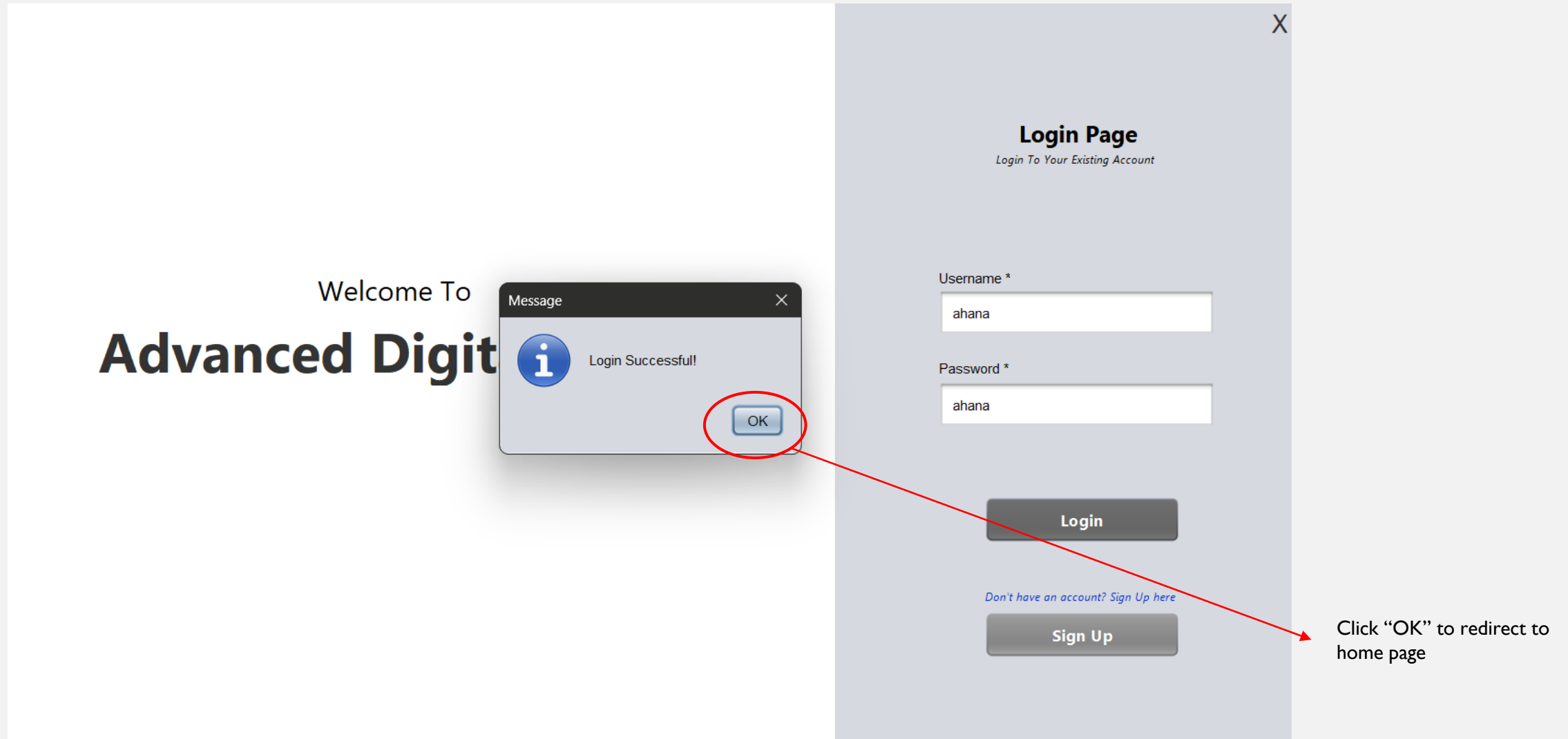
[Don't have an account? Sign Up here](#)

Sign Up

Wrong password entered

Click "OK" and rewrite the correct login credentials to successfully LOGIN

LOG IN - successful



Only when right login credentials are entered, success message pops up

HOME PAGE

Advanced Digital Library

X

Welcome, Admin

Home Page

LMS Dashboard

Features

Manage Books

Manage Students

Issue Book

Return Book

View Records

View Issued Books

Defaulter List

Logout

Student Details

Student Id	Name	Course	Branch
1	Prakash Seth	B.Tech	ECE
2	Chandrima Sen	B.Tech	IT
3	Pallab Kumar	B.Tech	IT
4	Chirag Karmakar	B.Tech	CSE

Book Details

Book Id	Name	Author	Quantity
1	The Algorithmic Leader	Mike Walsh	41
2	C Language	Dennis Ritchie	10
3	Arithmetic of Finite Fields	Liya Budaghyan	5
4	Formal Grammar	Raffaella Bernardi	10
5	Advanced Cryptography	Kenneth G. Peterson	49
7	Let Us C	Yashvant Kanetkar	200

CRUD operations on books present in library

CRUD operations on registered students

Issue a valid/available book to a registered student

Return issued book which is pending

View all records of issued books (returned or pending)

View all records of pending issued book

View students who did not return within due date

Log Out of account

Details of all students registered

Details of all books in library

Back to HOME PAGE

MANAGE BOOKS – **CRUD**

Back

Enter valid
book details

Book Id

2

Book Name

C Language

Author Name

Dennis Ritchie

Quantity

10

ADD

UPDATE

DELETE

To add a new
book to the
library stock

Update book details of
already existing book

delete deprecated
books from stock

Manage Books

Book Id	Name	Author	Quantity
1	The Algorithmic Leader	Mike Walsh	41
2	C Language	Dennis Ritchie	10
3	Arithmetic of Finite Fields	Lilya Budaghyan	5
4	Formal Grammar	Raffaella Bernardi	10
5	Advanced Cryptography	Kenneth G. Peterson	49
7	Let Us C	Yashvant Kanetkar	200

List of all books

Back to HOME PAGE

MANAGE STUDENTS – CRUD

Back

Enter/select
valid student
details

Student Id

Aishik

Student Name

Ganguly

Select Course

B.Tech

Select Branch

CSE

ADD

UPDATE

DELETE

Add/register
new students
to log

Update student details

delete student from register

Manage Students

Student Id	Name	Course	Branch
1	Prakash Seth	B.Tech	ECE
2	Chandrima Sen	B.Tech	IT
3	Pallab Kumar	B.Tech	IT
4	Chirag Karmakar	B.Tech	CSE

List of all students

Back to HOME PAGE

ISSUE BOOK

Back

Book Details

Book ID : 7

Book Name : Let Us C

Author : Yashvant Kanetkar

Quantity : 200

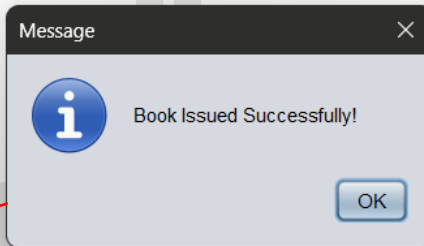
Student Details

Student ID : 3

Student Name : Pallab Kumar

Course : B.Tech

Branch : IT



Pop up message for
successful issue

Details of student to whom
the book is being issued

Issue Book

Book Id

Student Id

Issue Date

Due Date

ISSUE

Select dates

Back to HOME PAGE

RETURN BOOK

Back

Issue Details

Issue ID : 3
Book Name : The Algorithmic Leader
Student Name : Chandrima Sen
Issue Date : 2023-07-10
Due Date : 2023-07-31

Issue details
against entered
Book Id and
Student Id in right
panel

Return Book

Book Id

1

Student Id

2

Enter book id
and respective
student id

FIND

Search if the
mentioned book
is issued to the
student

RETURN

Click "Return" is
the book is issued
and pending

Back to HOME PAGE

View All Records – both pending and returned issues

Click “SEARCH” after selecting issue date and due date

Back

X

View All Records

Issue Date

select issue date

Due Date

select due date

SEARCH

Show All

Issue Id	Book Name	Student Name	Issue Date	Due Date	Status
1	C Languange	Prakash Seth	2023-07-13	2023-07-25	returned
2	The Algorithmic Leader	Prakash Seth	2023-07-10	2023-07-31	returned
3	The Algorithmic Leader	Chandrima Sen	2023-07-10	2023-07-31	pending
4	Advanced Cryptography	Chirag Karmakar	2023-07-02	2023-08-06	pending
5	Arithmetic of Finite Fields	Chirag Karmakar	2023-07-16	2023-07-20	pending
6	Let Us C	Pallab Kumar	2023-07-04	2023-07-13	pending

To view all records when no range of date mentioned

Back to HOME PAGE

View All Records – only pending

Back

X

View Issued Books

Issue Id	Book Name	Student Name	Issue Date	Due Date	Status
3	The Algorithmic Leader	Chandrima Sen	2023-07-10	2023-07-31	pending
4	Advanced Cryptography	Chirag Karmakar	2023-07-02	2023-08-06	pending
5	Arithmetic of Finite Fields	Chirag Karmakar	2023-07-16	2023-07-20	pending
6	Let Us C	Pallab Kumar	2023-07-04	2023-07-13	pending

List of books
which are issued
and pending

Back to HOME PAGE

Defaulter List

Back

X

Defaulter List

Issue Id	Book Name	Student Name	Issue Date	Due Date	Status
6	Let Us C	Pallab Kumar	2023-07-04	2023-07-13	pending

List of students
who did not return
within due date