

01.

# LMS GROUP-2

## Final Report

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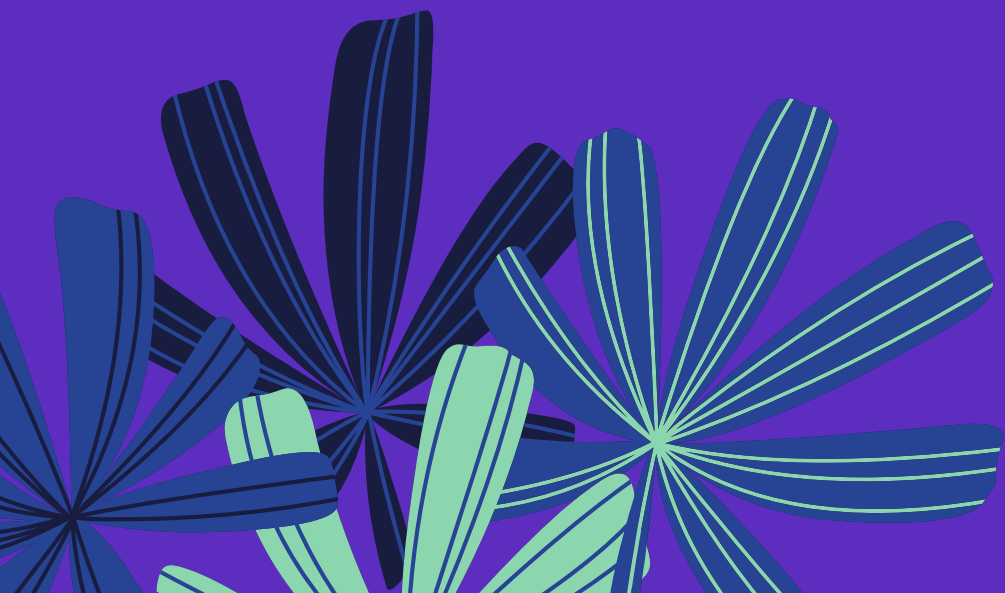


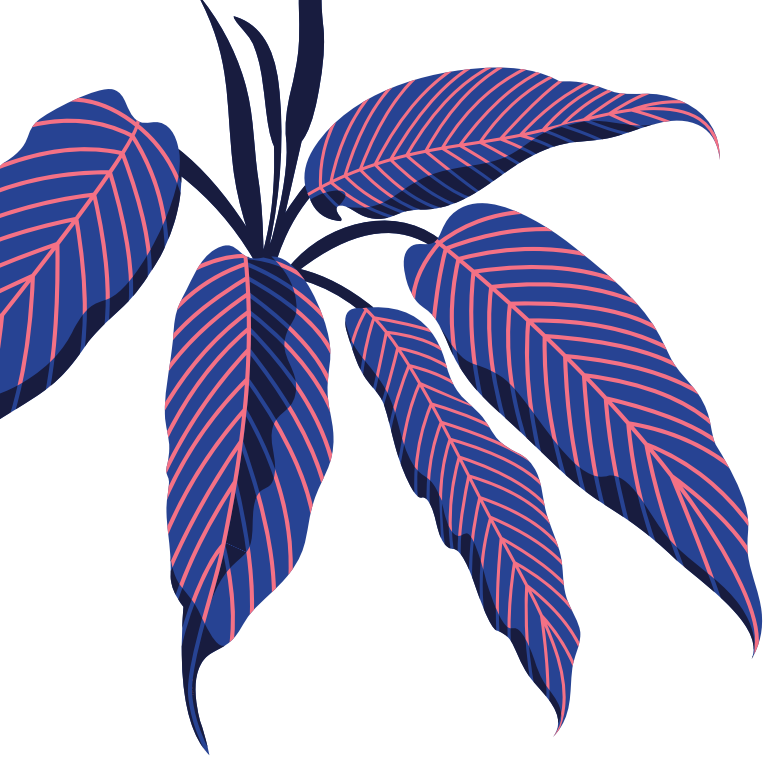
03.

# The Library Management System

## THE TEAM

1. 19z215 - Gunaal R
2. 19z218 - Johanna Smriti
3. 19z225 - Keerthna M
4. 19z237 - Balasubramanian S
5. 19z246 - Sri Raja Vignesh S
6. 19z259 - Vikneshwar A





# Introduction

04.

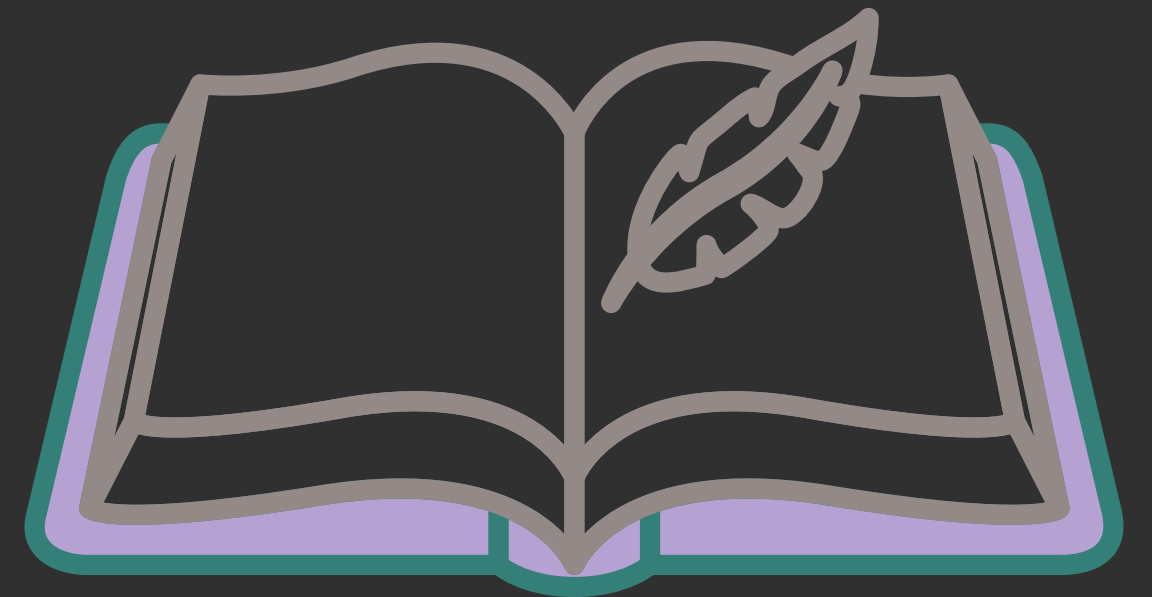
A college library management is a project that manages and stores books information electronically according to students' needs. The system helps both students and library managers to keep a constant track of all the books available in the library.

# Problem Statement

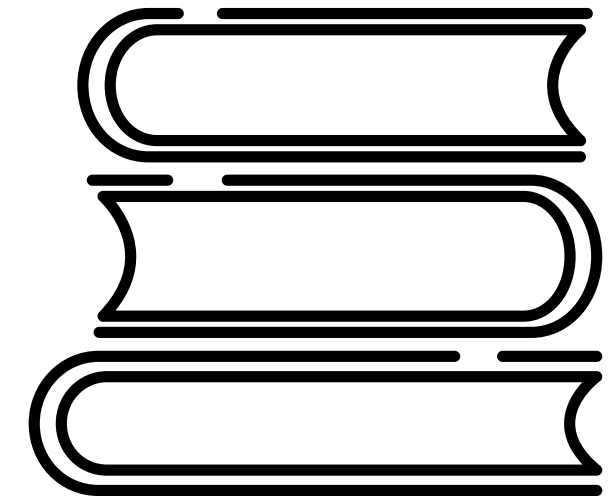
05.

In the 21st century, where everything is digitalised and automatised, it is not hard to notice that a lot of libraries still stick to the traditional notebook & pen system for maintaining library records.

The ***Library Management System*** we've designed is an attempt to modernise the libraries, by adding a touch of automation to the library management activities like, making borrow & return entries, maintaining user information and a lists of all the books available



# 06. Objective



The primary objective of the application is to create a robust, responsive, light-weight, cross-platform software, which reduces the manual work of the librarian extensively, by smoothening the library activities eliminating room for errors in details.



## Librarian

To reduce the strain in making manual entries  
and maintaining physical records

## Student

To avoid physical presence of the student  
for every menial library procedure

# Requirements Gathering

07.

## MODULES

### Admin Portal

Dashboard

Borrow portal

Return portal

View records

- All books
- Books issued
- Books returned

### Student Portal

Login

Borrow history

Return history

# ADMIN PORTAL

08.

This module consists of the functionalities available to the admin/librarian .  
It's further divided into six modules as listed below

## Dashboard

This module allows the admin/librarian to view,

1. The total number of books available in the library
2. The number of books lent out
3. The number books to be returned, which are past their due dates

The librarian can also easily reach the *borrow & return* modules from this module.



# ADMIN PORTAL

09.

## Borrow

This module allows the admin/librarian to issue a book by entering the corresponding, **student roll number, book Id.**

After pressing **ADD ENTRY**, the admin can review details of the book before confirming the entry.

## Return

This module allows the admin/librarian to add a return entry by specifying the corresponding, **student roll number.**

Once the roll number is entered the user is prompted to select the book to be returned from a list of books currently lent out to that particular student, after which the admin can check for a fine, which is calculated with respect to the due date and return date.

Finally on pressing the **Return button**, the book return process is completed and the same is reflected on to the database.

# ADMIN PORTAL

10.

## VIEW BOOK RECORDS

This functionality allows the user to view three different records namely, *books*, *books issued*, *books returned*.

### Books

This module allows the admin to view all the books available in the database.

The details displayed are:  
**Book ID, Title, Author name**

### Books issued

This module allows the Admin to view all the books issued currently

The details displayed are:  
**Book ID, Roll number, Title, Issue date, Due date**

### Books returned

This module allows the Admin to view all the books returned.

The details displayed are:  
**Book ID, Roll number, Title, Issue date, Return date, Fine paid**

# Student portal

11.

This module contains all the functionalities a student can perform in the application.  
Its further divided into three modules as listed below

## Login

This module allows the student to log in.

The student uses his/her roll number as username and password to login

## Borrow history

This module allows the student to view the details of the books they have borrowed, and not returned

The details displayed are:

**Book ID, Book Title, Author name, Issue date, Due date**

## Return history

This module allows the student to view the details of the books they have returned.

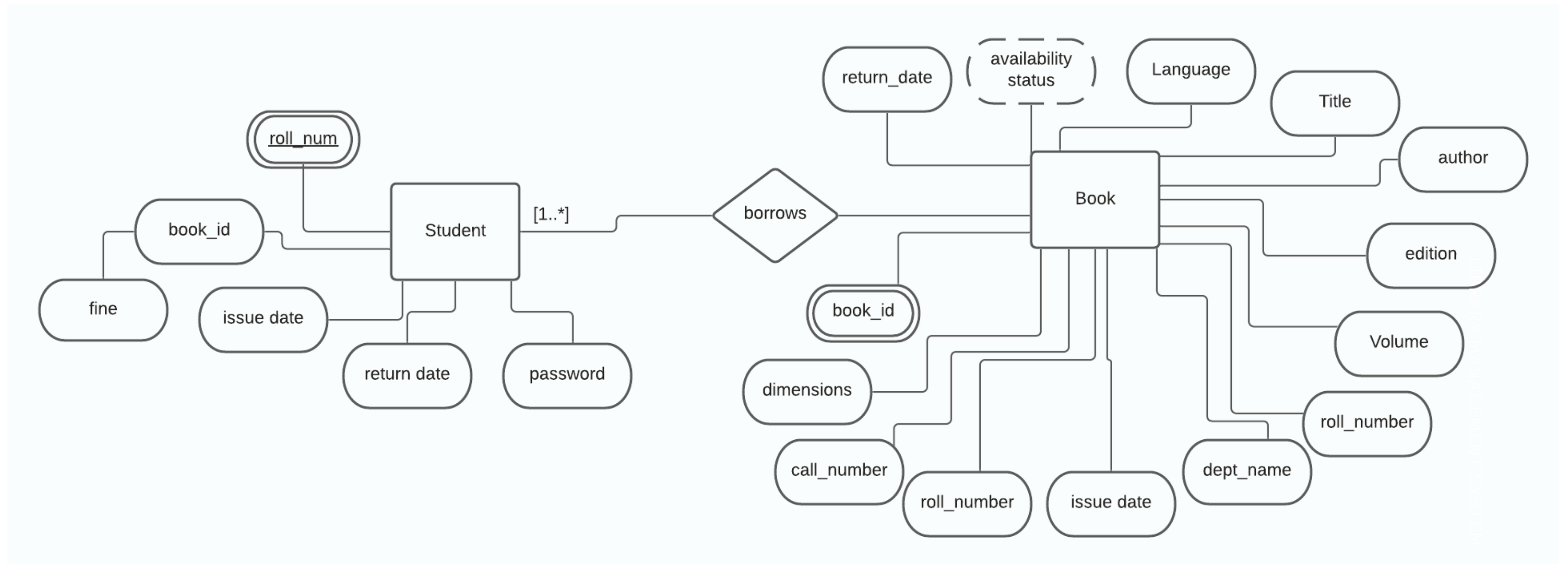
The details displayed are:

**Book ID, Book Title, Author name, Issue date, Return date, Fine Paid**

# Design

12.

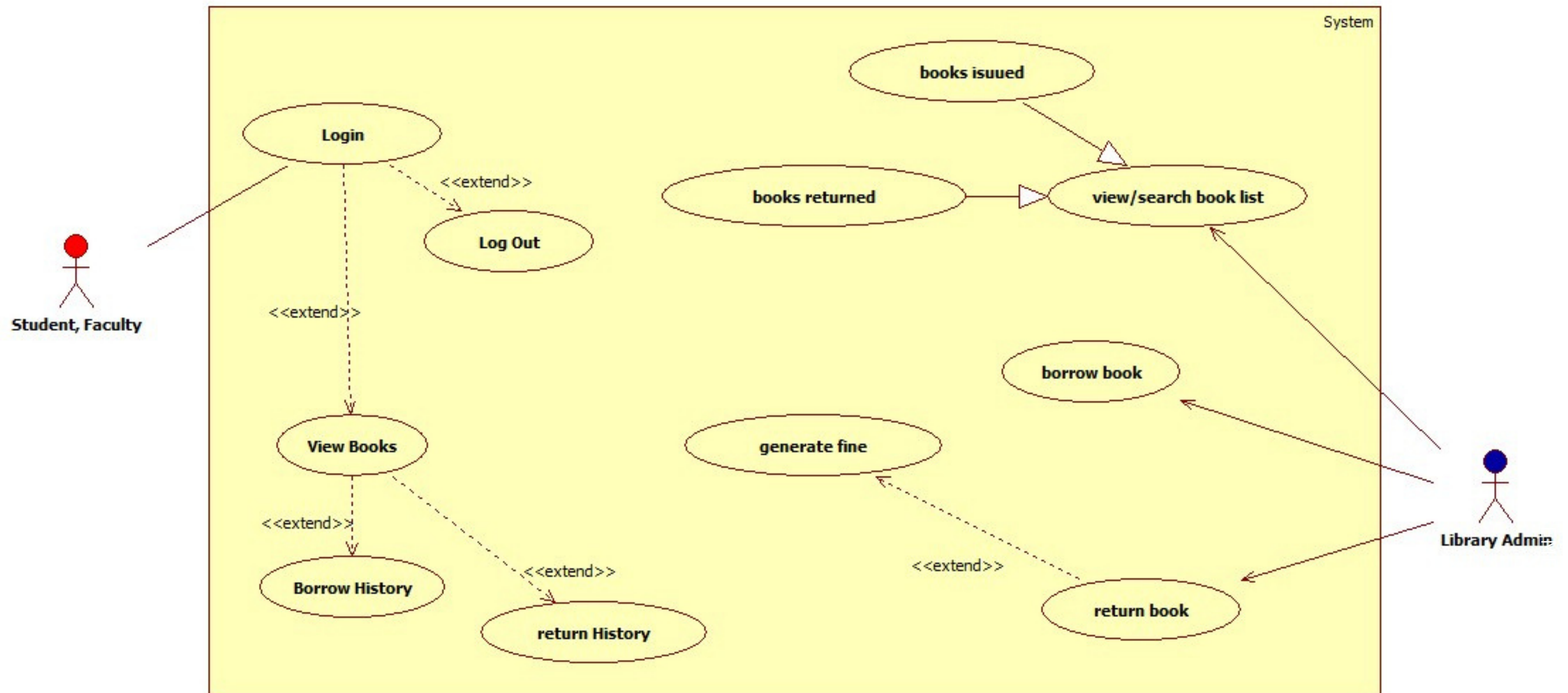
## ER DIAGRAM



# Design

12.

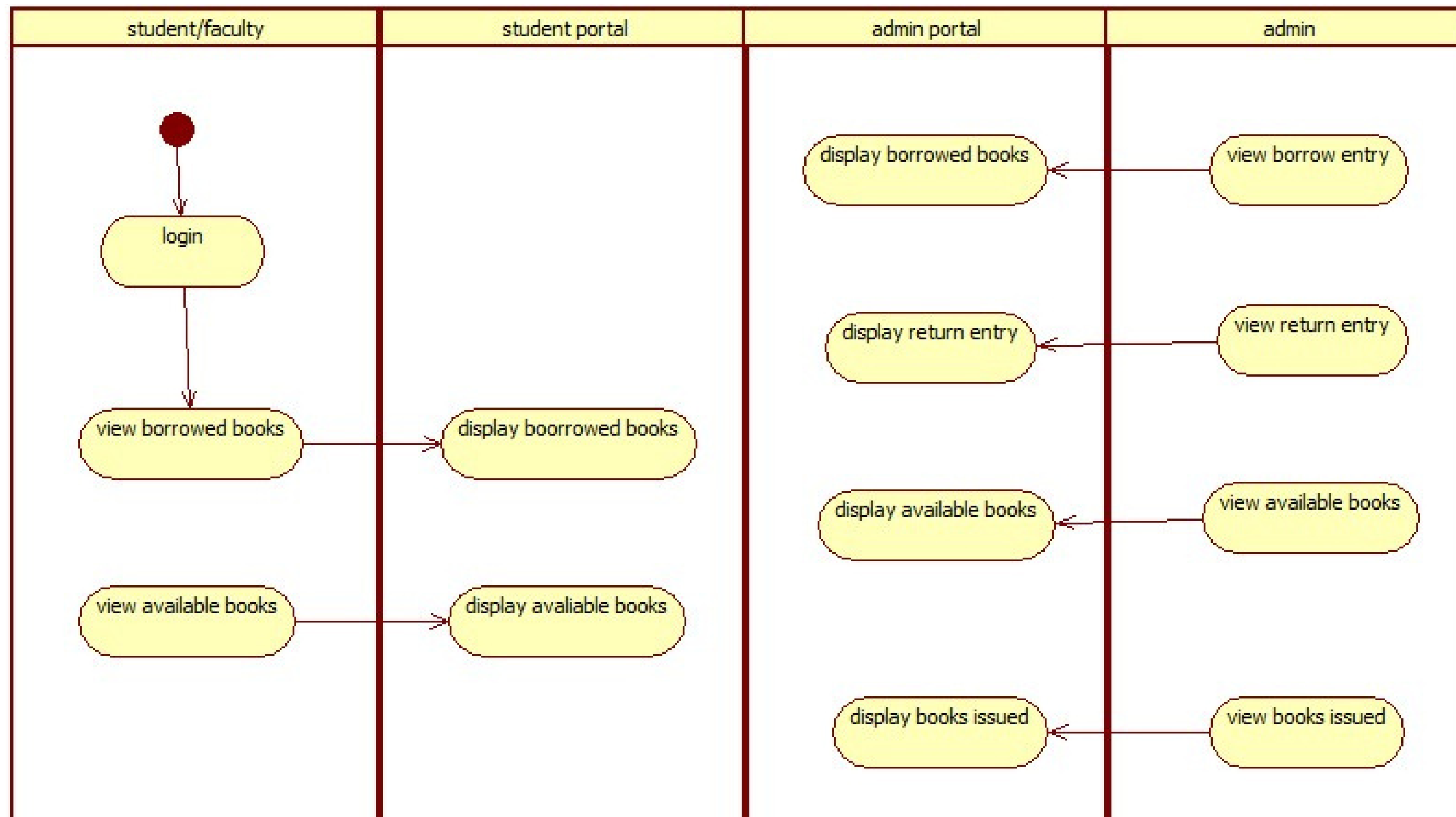
## USE CASE



# Design

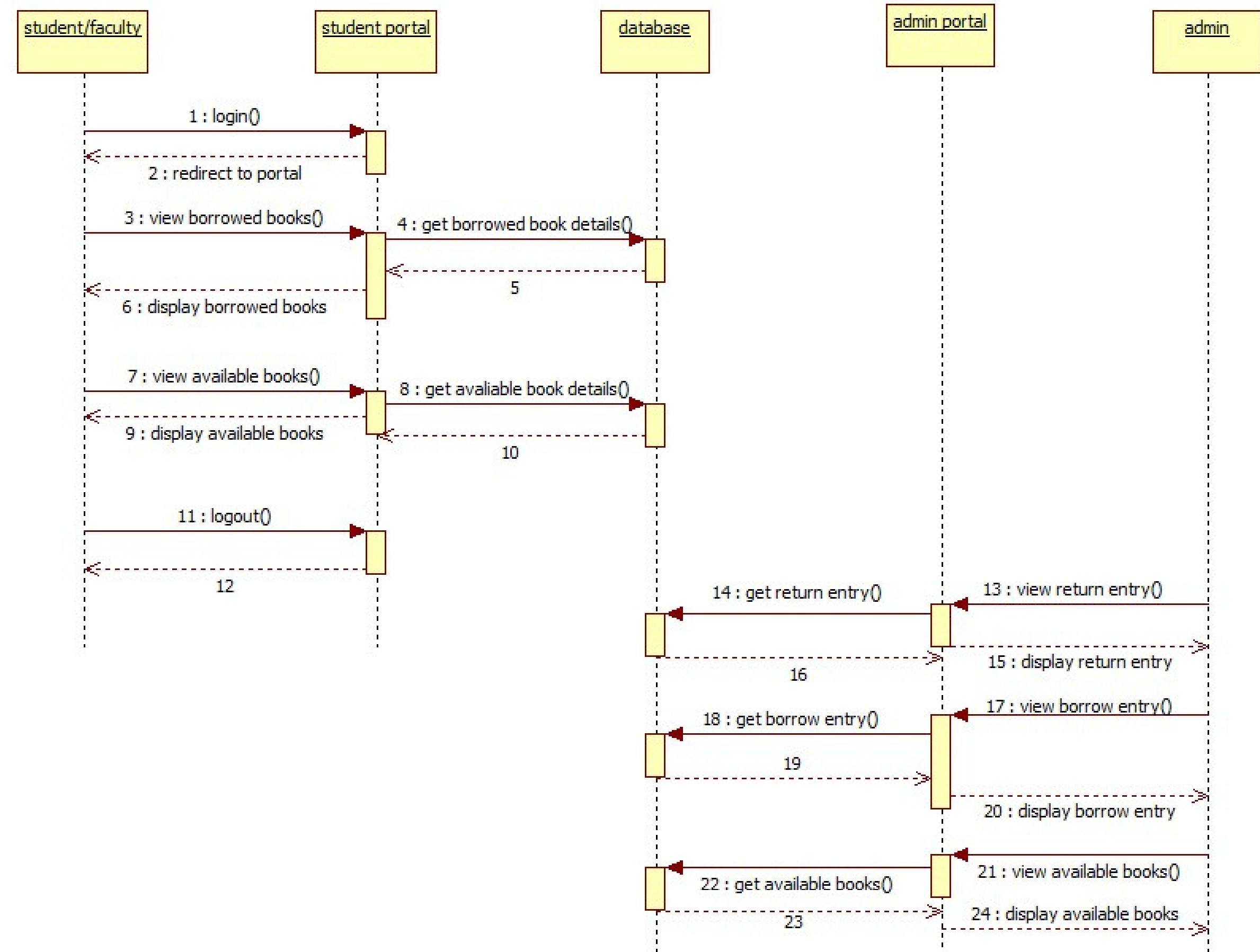
13.

## ACTIVITY DIAGRAM



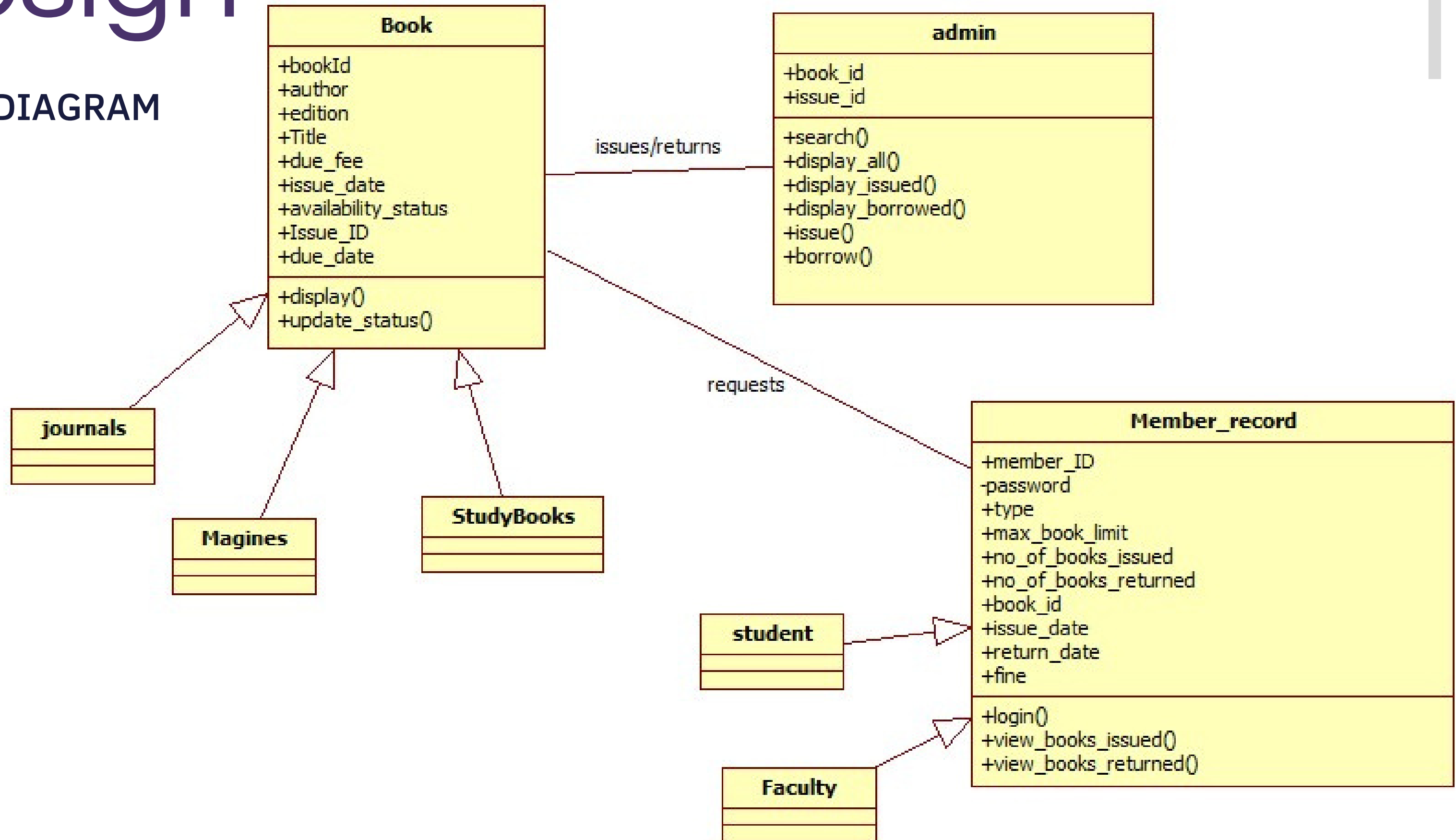
# Design

## SEQUENCE DIAGRAM



# Design

## CLASS DIAGRAM





# System requirements

16.

## Hardware

Processor: Pentium(R)

Dual-core CPU Hard Disk:  
40GB

RAM: 256 MB or more

## Software

Front-end framework: Flutter

Language: Dart

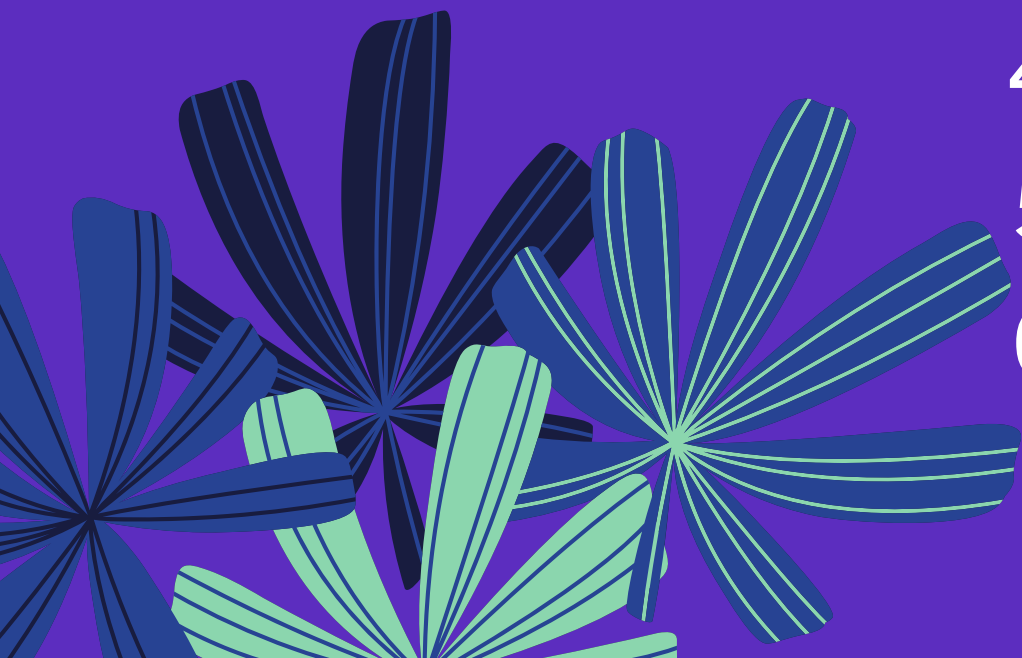
Data processing language:

Python

Database : Firebase

# 17. Contribution of the TEAM

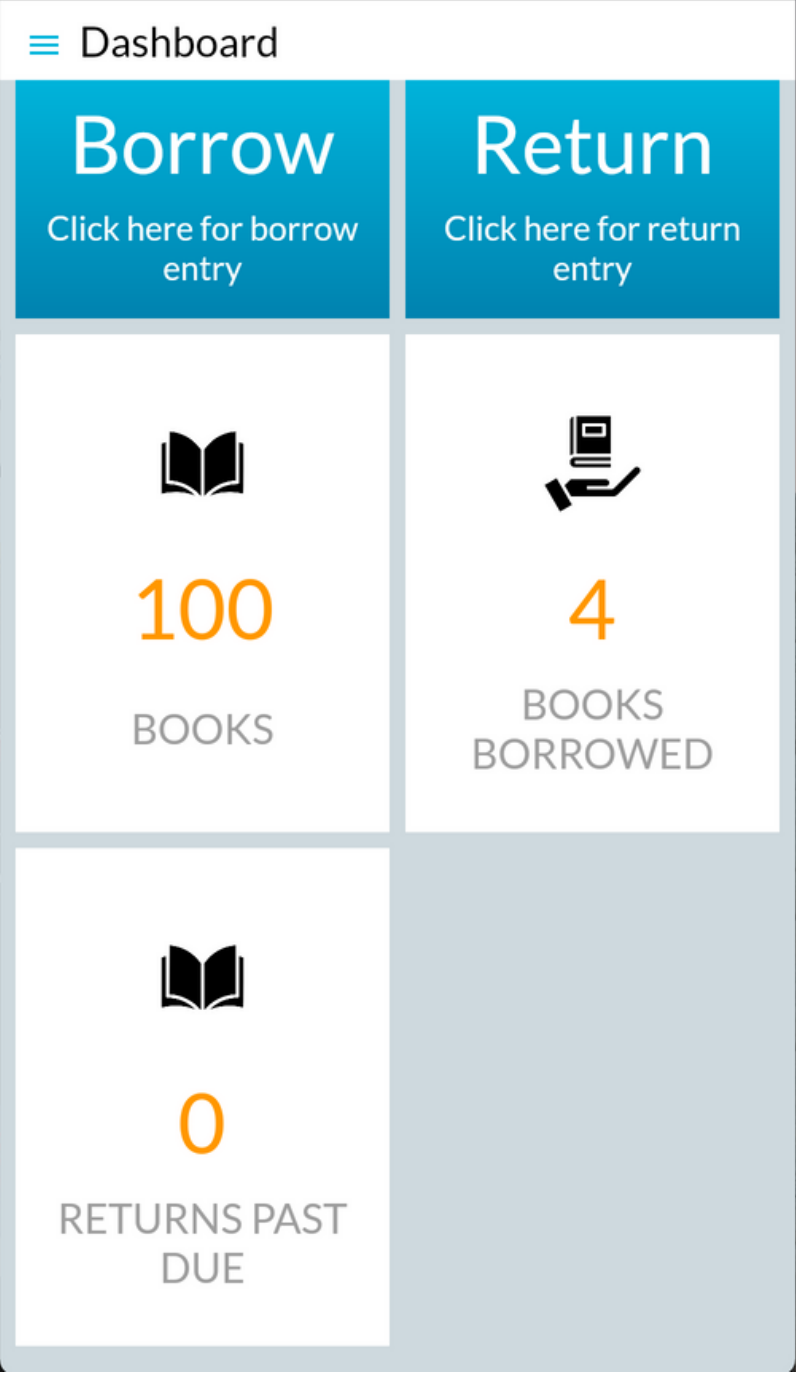
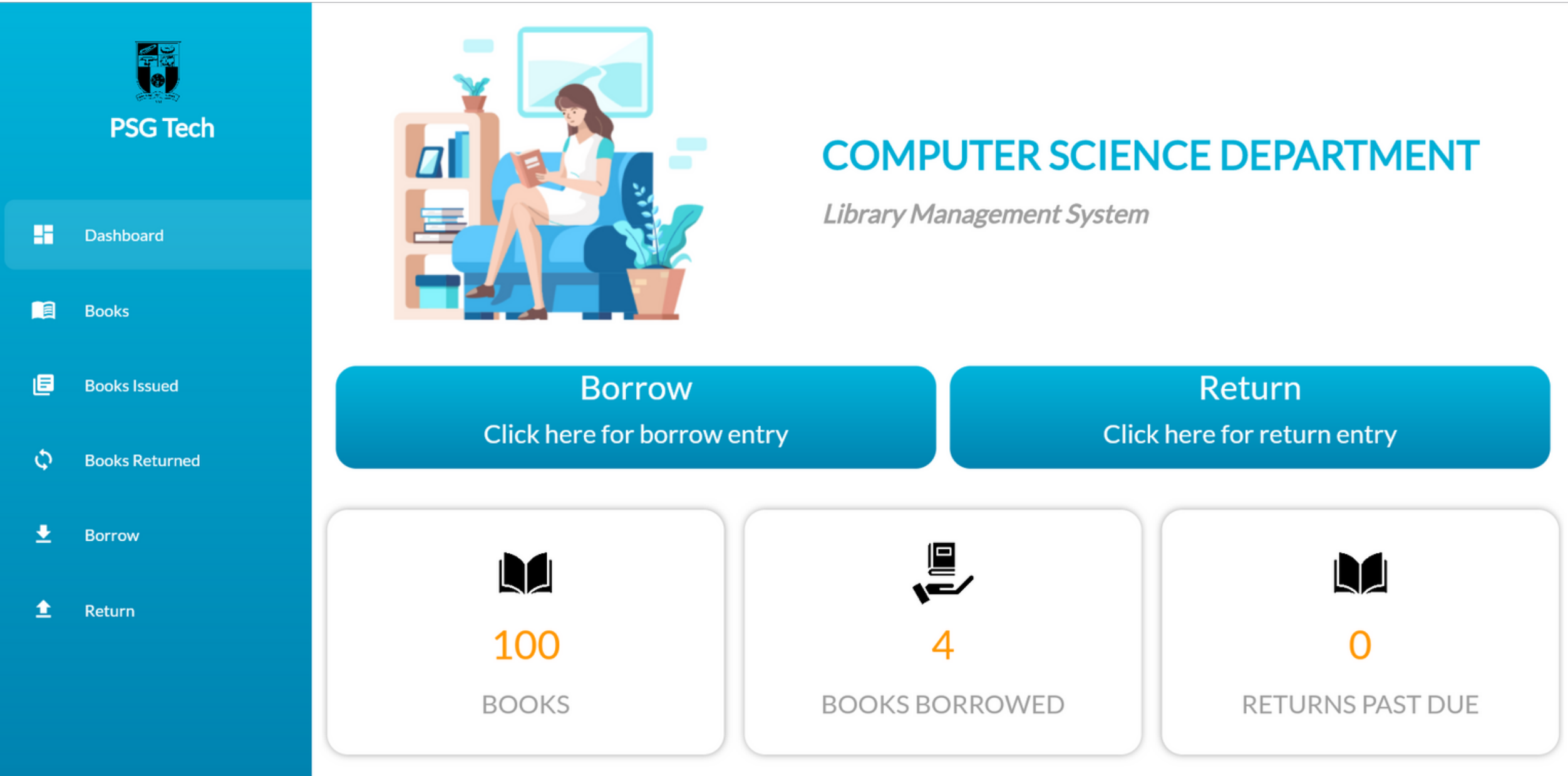
1. 19z215 - Dashboard in admin portal
2. 19z218 - Log in and Borrow history section in student portal
3. 19z225 - Menu bar and return history section in student portal
4. 19z237 - Borrow and Return section in admin portal
5. 19z246 - Firebase seeding and in app integration of DB
6. 19z259 - Books, Issued, Return tables in admin portal



# ADMIN PORTAL

18.


## Dashboard



# ADMIN PORTAL

19.

## Borrow



PSG Tech

Dashboard

Books

Books Issued

Books Returned

Borrow


Return

Borrow Form

Enter Roll Number

Enter Book ID Number

Add Entry



Borrow Form

Check and Confirm Book


Title	Content
AUTHOR	M MORRIS MANO
SNO	5
MATL_STATUS	MISSING
VENDORNAME	na
PAGES	-1
PUB_YEAR	2000
TITLE	COMPUTER SYSTEM ARCHITECTURE
MATL_TYPE	BOOK
DEPT_ACCNNO_OLD	B00005
CALL_NO	1.1205
ACCN_DATE	na
MATLGROUP	Lending
SUBJECTNAME	na

Confirm

# ADMIN PORTAL

20.

## Return

**PSG Tech**

Dashboard

Books

Books Issued

Books Returned

Borrow

**Return**

### Return Form

Enter Roll Number

19z225

Search for Books Borrowed

Select the Books for Return

COMPUTER SYSTEM ARCHITECTURE


DIGITAL DESIGN

Check For Fine

Book ID	Title	Date Issued	Due Date	Late Fee
3	DIGITAL DESIGN	13/11/2021	3/12/2021	No Due

Total Amount: Rs. 0

Return

Return Form

Enter Roll Number

19z225

Search for Books Borrowed

Select the Books for Return

COMPUTER SYSTEM ARCHITECTURE

DIGITAL DESIGN

Check For Fine

Book ID	Title	Date
5	COMPUTER SYSTEM ARCHITECTURE	15/
3	DIGITAL DESIGN	13/


Total Amount: Rs. 0

Return


# ADMIN PORTAL


21.


## Books





PSG Tech


 Dashboard

 Books

 Books Issued

 Books Returned

 Borrow

 Return

Sort by

Title

Author

ID

Search

×





🔍

ID	Title	Author
1	THE ESSENTIAL CLIENT/SERVER SURVIVAL GUIDE	ROBERT ORFALI, DAN HARKEY, and JERI EDWARDS
2	DATA STRUCTURES USING C AND C++	YEDIDYAH LANGSAM, MOSHE.J.AUGENSTEIN, AARON.M.TENENBAUM
3	DIGITAL DESIGN	M MORRIS MANO
4	THE C ODYSSEY UNIX - THE OPEN, BOUNDLESS C	MEETA GANDHI, TILAK SHETTY, RAJIV SHAH
5	COMPUTER SYSTEM ARCHITECTURE	M MORRIS MANO
6	AN INTRODUCTION TO DISTRIBUTED AND PARALLEL COMPUTING	JOEL M CRICHLLOW
7	TYPE AND LEARN C++ TODAY	MARTIN L RINEHART
8	PC BUYERS SURVIVAL GUIDE	HARALD BABIEL, RAINER BAIBEL
9	DIGITAL ELECTRONICS AND MICROPROCESSORS PROBLEMS AND SOLUTIONS	R P JAIN
10	EASY TO BUILD ELECTRONIC ALARMS	M C SHARMA
11	UNIX NETWORK PROGRAMMING	W RICHARD STEVENS

# ADMIN PORTAL

22.




## Books Issued

 PSG Tech		Sort by Issue 	<input type="text" value="Search"/>  		
ID	Roll Number	Title	Issue Date	Due Date	
12	19Z246	C++ PROGRAMMING LANGUAGE	2021-10-29 00:57:38.766	2021-11-18 00:57:38.766	
22	19Z289	COMPUTER ORGANISATION	2021-10-29 09:13:24.895	2021-11-18 09:13:24.895	
45	19Z246	CC:MAIL PLAIN AND SIMPLE	2021-10-29 00:51:29.319	2021-11-18 00:51:29.319	
5	19z225	COMPUTER SYSTEM ARCHITECTURE	2021-11-15 06:55:51.022	2021-12-05 06:55:51.022	

# ADMIN PORTAL

23.

## Books Returned

 PSG Tech		Sort by Issue 	Search 			
ID	Roll Number	Title	Issue Date	Due Date	Fine	
100	19Z237	COMPUTER GRAPHICS	2021-10-27 19:01:53.511	2021-11-16 19:01:53.511	0	
1	19Z237	THE ESSENTIAL CLIENT/SERVER SURVIVAL GUIDE	2021-10-27 14:08:36.380	2021-11-16 14:08:36.380	0	
1	19z237	THE ESSENTIAL CLIENT/SERVER SURVIVAL GUIDE	2021-10-27 13:45:05.011	2021-11-16 13:45:05.011	0	
12	19Z237	C++ PROGRAMMING LANGUAGE	2021-10-29 00:56:59.373	2021-11-18 00:56:59.373	0	
12	19Z246	C++ PROGRAMMING LANGUAGE	2021-10-28 17:54:00.736	2021-11-17 17:54:00.736	0	
13	19Z246	AN INTRODUCTION TO DATABASE SYSTEMS	2021-10-28 17:37:52.862	2021-11-17 17:37:52.862	0	
20	19Z237	MASTERING DATA MINING	2021-11-01 15:53:06.884	2021-11-21 15:53:06.884	0	
23	19Z246	BARRONS GRE	2021-10-29 00:43:29.413	2021-11-18 00:43:29.413	0	
25	19Z237	DATA STRUCTURES	2021-09-14 08:35:24.000	2021-10-14 08:35:24.000	90	
30	19Z237	GETTING STARTED WITH MATLAB	2021-11-13 22:53:52.055	2021-12-03 22:53:52.055	0	
3	19Z237	DIGITAL DESIGN	2021-10-01 16:47:04.000	2021-10-20 16:47:04.000	120	



# Student portal

24.

Login

### Student Portal

#### Login.

College ID


Password

✓ Submit

# Student portal

25.

## Borrow History



PSG Tech

My Borrow History

My Return History

Logout

Search


Sort by ID

ID	Title	Author	Borrow Date	Return Date
45	CC:MAIL PLAIN AND SIMPLE	CINDY RENNIE	29/10/2021	18/11/2021
12	C++ PROGRAMMING LANGUAGE	BJARNE STROUSTRUP	29/10/2021	18/11/2021


# Student portal


26.


## Return History



PSG Tech

 My Borrow History


 My Return History

 Logout

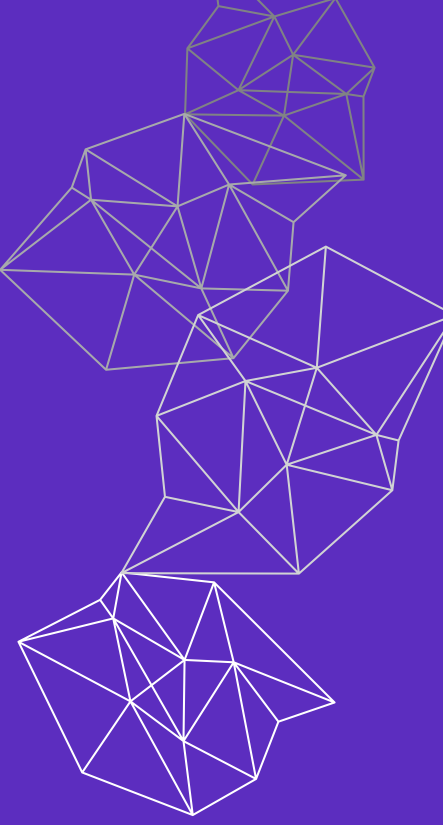
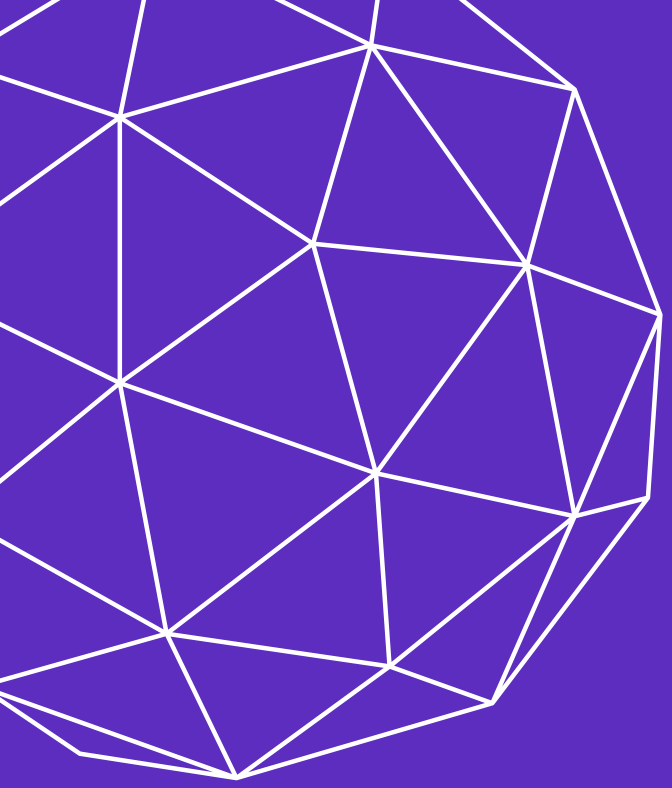
Search

Q

Sort by ID



ID	Title	Author	Borrow Date	Return Date	Fine Paid
100	COMPUTER GRAPHICS	ISRD GROUP	27/10/2021	16/11/2021	Rs. 0
98	DATA COMMUNICATION AND COMPUTER NETWORKS	ISRD GROUP	28/10/2021	17/11/2021	Rs. 0
50	FUNDAMENTALS OF DIGITAL IMAGE PROCESSING	ANIL K JAIN	29/10/2021	18/11/2021	Rs. 0
45	CC:MAIL PLAIN AND SIMPLE	CINDY RENNIE	28/10/2021	17/11/2021	Rs. 0
30	GETTING STARTED WITH MATLAB	RUDRA PRATAP	13/11/2021	3/12/2021	Rs. 0
27	DATABASE SYSTEM CONCEPTS	HENRY F KORTH, ABRAHAM SILBERSCHATZ	14/11/2021	4/12/2021	Rs. 0
25	DATA STRUCTURES	A CHITRA P T RAJAN	14/9/2021	14/10/2021	Rs. 90
20	MASTERING DATA MINING	MICHAEL J A BERRY, GORDON S LINOFF	1/11/2021	21/11/2021	Rs. 0
20	MASTERING DATA MINING	MICHAEL J A BERRY, GORDON S LINOFF	14/10/2021	2/11/2021	Rs. 60
12	C++ PROGRAMMING LANGUAGE	BJARNE STROUSTRUP	29/10/2021	18/11/2021	Rs. 0
3	DIGITAL DESIGN	M MORRIS MANO	1/10/2021	20/10/2021	Rs. 120
1	THE ESSENTIAL CLIENT/SERVER SURVIVAL GUIDE	ROBERT ORFALI, DAN HARKEY, and JERI EDWARDS	27/10/2021	16/11/2021	Rs. 0



# Thank You

27.

