



Library Management System – Documentation

Project Overview

The Library Management System (LMS) is designed to manage a digital library platform, enabling administrators to manage books, members, and transactions efficiently. It ensures that only valid university users (with college email IDs) can access the system, maintaining the security and authenticity of records.

◆ Key Features

1. Member Management

- **Add Member:**
 - Only users with a valid college email ID can be added.
- **Remove Member:**
 - Members can be removed only if their email ID belongs to the college domain.
- **Modify Member Details:**
 - Update name, email ID, and password

2. Book Management

- **Add Book:**
 - Add new books to the library and specify the number of copies.
- **Remove Book:**
 - Books that are issued can be removed post-return.
- **Modify Book Details:**
 - Change title, author, availability, and other metadata.

3. Sign-Up System

- **Successful Sign-Up:**
 - Users must have a college email ID.

- **Invalid Email Block:**
 - Signup is restricted if the email does not match the university domain.

4. Book Issuing System

- Issue books to registered users.

5. Fine Management

- **Add Fine Rules:**
 - Set and update fine-related rules.
- **Modify Fine Rules:**
 - Includes allowed days, fine per day, and exit settings.

6. Subject Management

- Add subjects to categorize books.

7. Administrator Management

- **Add New Admin:**
 - Register new administrators to handle system operations.
- **Modify Admin Details:**
 - Update admin name, email, and password.

8. Issue Records

- **Modify Issue Records:**
 - Update data related to issued books.

◆ Data Modification Modules

The system allows modification of the following datasets:

1. **Admin Details**
2. **Member Details**
3. **Book Details**
4. **Fine Rules**
5. **Issue Records**

1. Add Member
2. Add Book
3. Add Book Copies
4. Signup
5. Issue Book
6. Add Fine Rule
7. Add Subject
8. Add Admin
9. remove member
10. remove book
11. modify
0. Exit

Add only if they have clg mail id

ID:23

Name:srijana

email id:

srijana@gmail.com

user is not allowed to enter

Since there mail is university mail so they have been added

```
0. EXIT  
1  
ID:23  
Name:srijana  
email id:  
ssrijana@vitap.ac.in  
Role (student/teacher): student  
A new member has been added:  
    id:23  
    name:srijana  
    email address:ssrijana@vitap.ac.in
```

2 : to add book

```
2  
Title:  
    python  
Author:  
    chalie  
ISBN: 23242525564532  
Subject: python  
Quantity: 2  
Total number of book with same ISBN:  
1  
? A Book has been added with:  
Title: python  
Author: chalie  
ISBN: 23242525564532  
Subject: python  
Quantity: 2  
Total number of copies with same ISBN: 2
```

Add copies of a book in the library

```
3
ISBN to add copies: 235887654323
total number of books right now in the library is :
10
total_number_of_book_with_isbn:
5
total number of copis added is:
2
total number of books in the library is :12
total number of elements with given isbn in the library is 7
```

4: Signup

A: successfull signup

B: if it doesn't use clg mail id then you cant signup

```
Name: srijana
Email: ssrijana@vitap.ac.in
role (student/teacher):
student
Password: srijana
Signup successful.
```

```
Name: sriijana
Email: srij@gmail.com
role (student/teacher):
stududent
you cant login as this mail id does not belongs to our university
```

5: issue book

```
5  
Member ID: 23  
ISBN: 2453535363626  
Book issued.
```

6: adding fine rules

```
6  
Allowed days: 10  
Fine per day: 15  
Fine rule added.
```

7: adding subject in the library

```
7  
Subject Name: python  
Department: computer science  
Subject added.
```

8: adding new admin in the administration

```
8  
Name: srijana  
Email: ssrijana@gmail.com  
Password: ssrjan  
Admin added.
```

9 to remove any member from the data,

A – same if there mail belongs to ckg then only they would be the part of the library hence qe can directly remove them

```
9
enter the id of the member:
3
name of the guy to remove:
srk
enter the mail of him:
srj@vitap.ac.in
role of the member (student/teacher):
student
srk has been removed from the library
```

10: remove the book if someone issued the book

```
10
title of the book
python
name of the author:
eric matthes
subjec name:
python
enter the isbn number
1263839294384
total number of books available
10
quantity_with_same_number
5
pythonbook has been issued by someone so the total number of books in th library is 9 and quantity of that book currently available is 4
```

11: to modify

There are 5 different set of data which should be modified

1.modify admin details (modify name, mail, password)

- 11.1.1. modify name of admin
- 11.1.2. modify email of admin
- 11.1.3. modify password
- 11.1.4. exit

```
1  
current name of the admin:  
sriju  
give the name it should be:  
srijana
```

the modified name of the admin is :srijana

```
2  
current email of the admin:  
srijan@gmail.com  
give the email it should be:  
srijana@vitap.ac.in
```

the modified email_id of the admin is :srijana@vitap.ac.in

```
3  
current password of the admin  
srij  
give the password it should be  
srijana
```

the modified password of the admin is :srijana

2. modify members details

- 11.2.1. modify name of member
- 11.2.2 modify email id of the member
- 11.2.3. role of the member
- 11.2.4 modify id of the member
- 11.2.5. exit

```
1
enter the member's name which is wrong:
srij
enter the correct name:
srijana
```

the modified name of the member is:srijana

```
11 2 1 modify name of member
```

```
2
enter the member's email_id which is wrong:
srijana@gmail.com
enter the correct email:
srijana@vitap.ac.in
the modified email id of the member is:srijana@vitap.ac.in
11 2 1 modify name of member
```

```
3
enter the member's role which is wrong:
12
enter the correct role :
123
```

the modified role of the member is:123

```
4
enter the member's id which is wrong:
123
enter the correct id :
232
```

the modified id of the member is:232

3.modify books details

```
1
give the title of the book which is wrong:
python
enter the correct title of the book :
python1
corrected title of the book is :python1
```

```
2
give the author of the book which is wrong:
eric
enter the correct title of the book :
eric matthes
corrected title of the book is :eric matthes
```

```
3
give the isbn of the book which is wrong:
1234567891234
enter the correct isbn of the book :
9876532123456
corrected title of the book is :9876532123456
```

```
4
enter the subject name which is wrong:
java
enter the correct name:
python
the modified name of the member is:python
11.3.1 - modified title of the book
```

```
11.3.7.7. EXIT
5
enter quantity of the total books in library
10
emter the correct no of books available of same isbn
15
modified quantity of books availability  of same isbn number is :15
```

```
6
enter given quantity of the books in library with same isbn
10
enter the correct no of books available of same isbn
15
modified quantity of books availability  of same isbn number is :15
```

4. modify FineRules

(modify alloweddays ,Fineperday , exit)

1:

```
1
enter the number of day books are allowed currently:
10
enter the modified alloweddays:
15
modified number of days books are allowed is :15
```

2:

```
2
enter the fineperday currently:
15
enter the modified alloweddays:
10
modified fine per day is :10
```

5. modify issue records

```
enter the current issuedate:
22
enter the correct issuedate:
30
the modified issuedate is:30
```

```
2
enter the current isbn:
2352543
enter the correct isbn:
876543234
the modified memberid is:876543234
```

```
11.3. modify issue records
3
11.3.1. modify title of the book:
11.3.2. modify name of the author:
11.3.3. modify isbn:
11.3.4. modify name of the subject:
11.3.5. modify the quantity of the total books in library:
11.3.6. modify total_no_of_books_with_same_isbn
11.3.7. exit
```

10: exception handling is there for each of the code

```
5
Member ID: sd
invalid input
```

11 : deletion

11.1-> deletion of the member using there id

```
1
enter the id
12
enter the name:
srij
enter the email:
srj@gmail.com
enter the role:
student
A new member has been added:
id:12
name:srij
email address:srj@gmail.com
give id__ 12 __has been deleted
```

2: DELETING THE BOOK USING THERE TITLE

```
2
enter the title of the book:
python
Author's name:
charlie
ISBN: 123456788
Subject: python
Quantity: 10
Total number of book with same ISBN:
5
books with title python has been deleated
1 delete member
```

3: deleting admin using there name

```
3
Name: srijana
Email: srij@gmail.com

Password: 123
given admind with name_ srijana _ has been deleted
```

4:DELETING THE SUBJECT USING THE NAME OF THE SUBJECT

```
4
Subject Name: PYTHON

Department: COMPUTER SCIENCE
book of PYTHONsubject has been deleted
```

5: To finally show the data

```
5. EXIT
13
1: added member are:
2. added books are :
3 added admins are :
3 added admins are :
1
```

AFTER DATABASE CONNECTION

1: show all the members

```
1
added members are---
| id: 1 | name: srijana | email id : srijana@vitap.ac.in| role student
| id: 12 | name: srij | email id : srij@vitap.ac.in| role student
| id: 1 | name: srijana | email id : srijana@vitap.ac.in| role student
| id: 2 | name: jahanavi | email id : jahanvi@vitap.ac.in| role student
| id: 2 | name: jahanavi | email id : jahanvi@vitap.ac.in| role student
2
```

After connecting it with sql :

```
ERROR 1146 (42S02): Table 'librarydb.member' doesn't exist
mysql> select * from members
      -> ;
+----+-----+-----+-----+
| id | name   | email            | role   |
+----+-----+-----+-----+
| 1  | srijana | srijana@vitap.ac.in | student |
| 76 | sanju   | sanju@vitap.ac.in  | student |
| 221 | sanjana | sanaj@vitap.ac.in | teacher |
+----+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> select * from Books
      -> ;
+-----+-----+-----+-----+-----+-----+
| title          | author | isbn        | subject | quantity | total_number_of_book_with_isbn |
+-----+-----+-----+-----+-----+-----+
| python         | robin  | 21313412134213 | python   |      10 |                      3 |
| chemistry in our environment | s chand | 32486468439103 | chemistry |      18 |                      3 |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> |
```