A Library Management System

Road Map

* **Data to be stored prior:**

1. Book Details in book table
2. Members data already added by librarian.
3. 7 librarian data already added by admin.
4. Make attributes of other tables (giving them structure)
5. Adding id and book name in review list

* **MODES:**
* Admin
* Librarian
* Reader or Member
* **ADMIN MODE Features:**
* To add librarian information
* To view database
* **Librarian mode features:**

First he will login to his id and it will be verified from the librarian list.

* Add book details.
* Update book details.
* Delete book details.
* Send some imp notifications to all members (any update or new rule added)
* Send notifications to return the …… book.
* Declare reader of the month by using issued table
* Decide number of due dates, fines, library rooms number and other imp details.

In short declare rules, add information, and keep check.

* **Member Mode Features:**

**First he will login.**

* Issue a Book
* Ask him Yandra of book if we are incorporating three book lists.
* Allow him to search book from title or authors name.
* Go to that book. update the number of copies (- operator)
* Display the due date to the user. He must return the book by that day.
* Show confirmation message **that congratulation book has been issued**.
* Return a Book
* Ask book id he want to return /or ask name.
* Update the copy list (+ operator overloading could be done)
* Show confirmation message.
* Ask him to give a book review. Ask name, short or detail view /add his view in column. If that book already has a view update it.
* See his details (from member list)
* Want to know book review.
* Ask book name.
* He wants short review or detailed view.
* Library room booking

Ask library room id

Show him the table of that room

Ask him slot he wants to book

Check if that slot is available. If not rejection message

Add the slot he wants to book in the booked slots.

Confirmation message.

* Reserve a Book:

Id, name, update the reserved column and minus the copies available

* Unreserve a Book;

Ask Id, name, update the reserved column and minus the copies available

* **Different tables of single database:**

1) **Books details** =3 tables /1 table

* Art and Religion
* Fiction Books
* Academic Books

Table Title: Fiction Books

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ISBN** | **Book Name** | **Due Date** | **Copies** | **Reserved copies** | **Author** |
| 1 | Harry Potter | 15 days | 2 |  | J.K .Rowling |
| 2 | Percy Jackson; Part 1 | 30 days | 1 |  | Rick Riordan |

**2)Librarian List**

|  |  |  |
| --- | --- | --- |
| **ID** | **Password** | Name |
| 0745 |  |  |
| 0744 |  |  |

**3)Member List:**

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Password | Name | Email Address |
|  |  |  |  |
|  |  |  |  |

4)Reader List:

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Password** | **Name** | **Email Address** |
|  |  |  |  |
|  |  |  |  |

5) Book Review List

ISBN AND NAME SHOULD BE SAME AS BOOK LIST.MADE A COPY OF THESE TWO THINGS IN REVIEW LIST.

|  |  |  |  |
| --- | --- | --- | --- |
| **ISBN** | **name** | **Short review(good/better/best)** | **Detailed review** |
| 1) | Harry Potter Part 1 | best | Writing style,story,twist |
|  |  |  |  |
|  |  |  |  |

IT WOULD BE THE RECENT VIEW .(IF TWO PEOPLE GIVE REVIEW OF A BOOK THE PREVIOUS ONE WOULD BE OVERWRITED.)

**6) Issued Books List For Members:**

If due date of books are different in book list then due-date can be incorporated .If due date of member is more than simple reader than two lists could be incorporated.

|  |  |  |
| --- | --- | --- |
| Taken By | ID OF BOOK | Due- Date |
|  |  |  |
|  |  |  |

**7) Issued Books List For Readers:**

|  |  |  |
| --- | --- | --- |
| Taken By | ID OF BOOK | Due- Date |
|  |  |  |
|  |  |  |

8)Library Room list

All rooms can be booked from 8pm to 4pm.(time should be less so there are not so many slots to take care of or library rooms should be max 3.

Suppose only three slots are available for all rooms

|  |  |  |  |
| --- | --- | --- | --- |
| Room ID | Capacity of students | Already Booked slots | Your Booking |
| 1 | 20 | 8-9 | 10-11 |
| 1 | 20 | 9-10 |  |
| 1 | 20 | 10-11(new slot added here) |  |
|  |  |  |  |

* Total tables:3
* Total tables with extras considering:8
* **OOP concepts usage logic**

Some thoughts:

* For fine calculations, we will have to go run time, we can display fine rs when book is issued along with due date that if you cross due date there would be fine of rs 10 per date.
* The name of book stored in book table is in small letters and if we are getting name for user we will convert it in small letters
* Specifying format of each input and error handling for inputs