

Draw the Use Case, Class diagram of the scenario and also draw the sequence diagrams of all the use cases.

Library Management System

- Admin User can search Librarian, view description of a selected Librarian, add Librarian, update Librarian and delete Librarian.
- Its shows the activity flow of editing, adding and updating of Student
- User will be able to search and generate report of Issues, Books, Address
- All objects such as (Librarian, Student, Address) are interlinked
- Its shows the full description and flow of Librarian, Books, Address, Issues, Student

The relationships between and among the actors and the use cases of Library Management System:

- **Super Admin Entity** : Use cases of Super Admin are Manage Student, Manage Books, Manage Issues, Manage Librarian, Manage Member, Manage Address, Manage Users and Full Library Management System Operations
- **System User Entity** : Use cases of System User are Manage Student, Manage Books, Manage Issues, Manage Librarian, Manage Member, Manage Address
- **Librarian Entity** : Use cases of Librarian are Search Books, Allot Books, Return Books, Manage Students
- **Student Entity** : Use cases of Student are Request for Books, Return Books, Check History

This is the **Login Activity Diagram of Library Management System**, which shows the flows of Login Activity, where admin will be able to login using their username and password. After login user can manage all the operations on Issues, Librarian, Student, Address, Books. All the pages such as Student, Address, Books are secure and user can access these page after login.

Classes and their attributes of Library Management System Class Diagram:

- **Student Attributes** : student_id, student_college_id, student_name, student_mobile, student_email, student_username, student_password, student_address
- **Books Attributes** : book_id, book_student_id, book_name, book_author, book_publication_date, book_type, book_price, book_description
- **Issues Attributes** : issue_id, issue_book_id, issue_student_id, issue_date, issue_renewl, issue_expiry, issue_description
- **Librarian Attributes** : libraian_id, libraian_name, libraian_mobile, libraian_email, libraian_username, libraian_password, libraian_address
- **Member Attributes** : memeber_id, memeber_name, memeber_mobile, memeber_email, memeber_username, memeber_password, memeber_address
- **Address Attributes** : address_id, address_student_id, address_place, address_type, address_description

Classes and their methods of Library Management System Class Diagram:

- **Student Methods** : addStudent(), editStudent(), deleteStudent(), updateStudent(), saveStudent(), searchStudent()
- **Books Methods** : addBooks(), editBooks(), deleteBooks(), updateBooks(), saveBooks(), searchBooks()
- **Issues Methods** : addIssues(), editIssues(), deleteIssues(), updateIssues(), saveIssues(), searchIssues()
- **Librarian Methods** : addLibrarian(), editLibrarian(), deleteLibrarian(), updateLibrarian(), saveLibrarian(), searchLibrarian()
- **Member Methods** : addMember(), editMember(), deleteMember(), updateMember(), saveMember(), searchMember()
- **Address Methods** : addAddress(), editAddress(), deleteAddress(), updateAddress(), saveAddress(), searchAddress()