

MANAGEMENT INFORMATION SYSTEM

LAB EXPERIMENT : 10

10) Draw a use case diagram for Library Management System is an automation system used to manage a library and the different resource management required in it like cataloging of books, allowing check out and return of books, invoicing, user management, etc. The user can search for books details using few book properties (Book ID, Title, Author, and Publisher). Searching should return details about all the book copies that match the search query.

Aim:

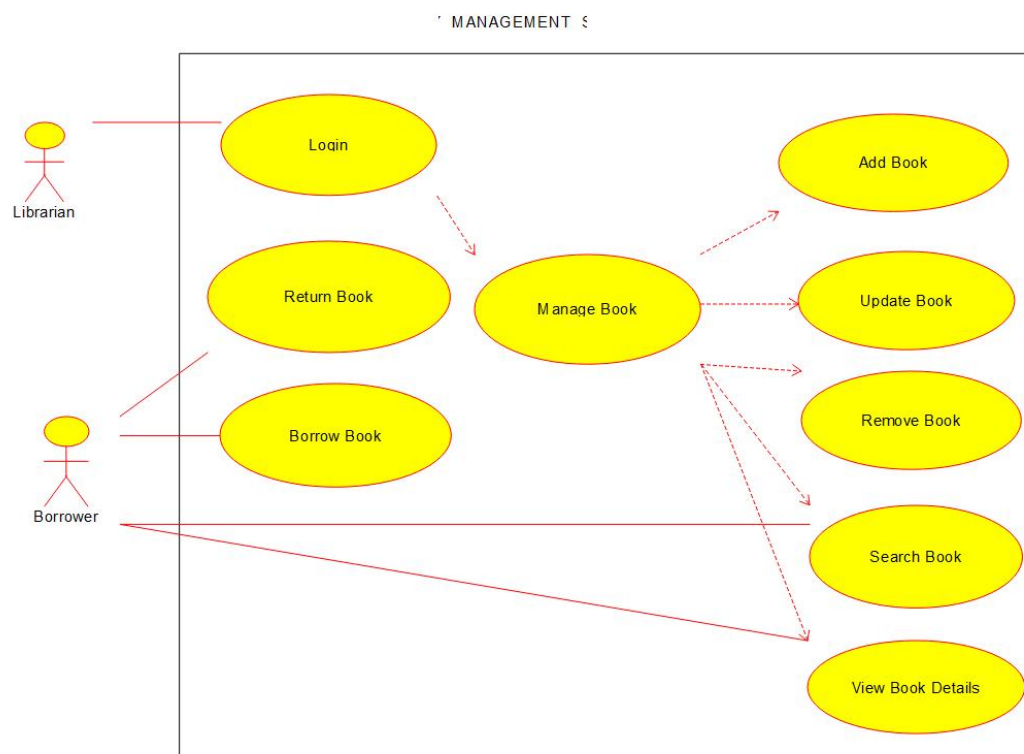
To develop a **Use Case Diagram** for a **Library Management System**, which automates library operations such as cataloging, book searches, checkouts, returns, invoicing, and user management.

Procedure:

- **Identify the Actors (Users)**
 - **Librarian:** Manages books, issues/returns books, handles invoices.
 - **Member (User):** Searches, borrows, and returns books.
 - **System:** Automates invoicing, catalog management.
- **Identify the Use Cases (Functionalities)**
 - **Book Search:** Users can search books by Book ID, Title, Author, or Publisher.
 - **Book Issue:** Librarian issues books to members.
 - **Book Return:** Members return books, system updates availability.
 - **Book Catalog Management:** Librarian adds, updates, or removes books.
 - **User Management:** Librarian registers new members.
 - **Invoicing & Fine Calculation:** System generates invoices for overdue books.
- **Define Relationships**
 - **Members** → Search Books, Borrow Books, Return Books.
 - **Librarian** → Manages Books, Issues Books, Handles User Management.

- **System** → Automates overdue fines and invoicing.
- **Draw the Use Case Diagram**
 - Represent **actors** (stick figures).
 - Show **use cases** (ovals) with relationships.
 - Connect actors to use cases using **lines** to show interactions.

Output:



Use case diagram

Result:

A **UML Use Case Diagram** will be created based on the above analysis.