EXPERIMENT 10

AIM:

To design a **Use Case Diagram** for a **Library Management System** that automates the management of books, user operations, and other resource-related tasks such as cataloging, check-out, and return of books, as well as invoicing and user management.

PROCEDURE

Step 1: Identify Actors

- **Librarian**: Responsible for managing books, cataloging, issuing, and returning books.
- **Member (User)**: Searches for books and can check out or return them.
- **System**: Automates tasks such as generating invoices and maintaining the catalog.

Step 2: Define Use Cases

1. **Manage Books**: Librarian catalogs new books and updates inventory.
2. **Search Books**: Members and librarians search books using properties (Book ID, Title, Author, or Publisher).
3. **View Book Details**: Provides detailed information about searched books and their copies.
4. **Check Out Book**: Members check out books from the library.
5. **Return Book**: Members return borrowed books.
6. **Manage Users**: Librarian manages user records and access rights.
7. **Generate Invoice**: System generates an invoice for overdue books or fines.

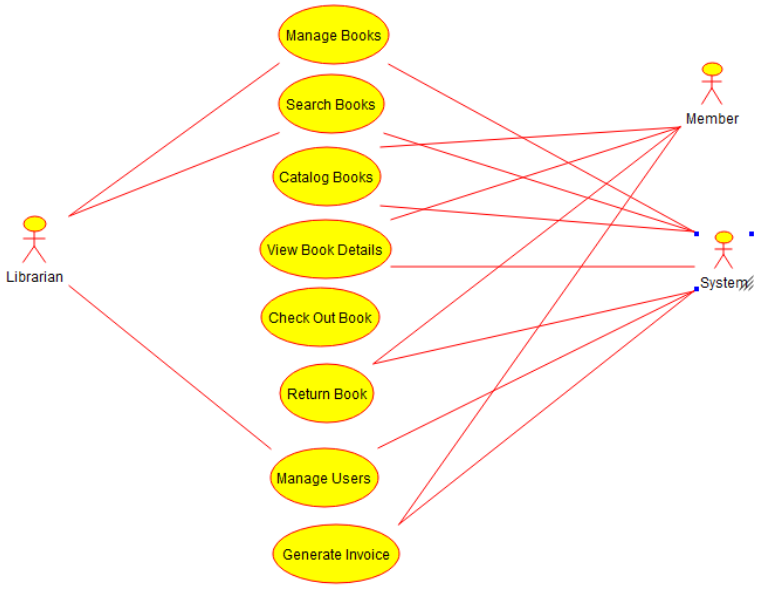
Step 3: Relationships and Interactions

- **Librarian** interacts with all use cases to manage the library operations.
- **Member** interacts with use cases like **Search Books**, **View Book Details**, **Check Out Book**, and **Return Book**.
- **System** automates tasks like **Generate Invoice** and supports other use cases.

Step 4: Create Diagram

- Use CASE tools (like Lucidchart, StarUML, or Visual Paradigm) to create a use case diagram.
- Represent actors as stick figures and use cases as ovals.
- Draw lines to show interactions between actors and use cases.

OUTPUT:



RESULT:

The **Use Case Diagram** for the Library Management System is successfully designed. It effectively models the relationships between actors (Librarian, Member, and System) and use cases (e.g., Manage Books, Search Books, Check Out Book). The diagram represents the functionality and interactions of the system, enabling efficient library operations.