Features of the Library Management System

1. Member Registration and Authentication

- **Feature**: Members can register with the library system by providing their personal information such as name, address, phone number, and email.
- **Purpose**: Allows the library to maintain a database of its members and enables personalized services like notifications and reminders.

2. Book Search and Availability

- **Feature**: Members can search for books by title, author, category, or ISBN.
- **Purpose**: Helps members find books of interest and check their availability in the library's collection.

3. Book Loan Process

- **Feature**: Members can borrow books from the library.
- **Workflow**:
  - **Step 1: Book Selection**:
    - Member searches for a book using the library's catalog.
    - Member selects the desired book(s) they wish to borrow.
  - **Step 2: Loan Request**:
    - Member initiates a loan request through the system, indicating the book(s) they want to borrow.
    - System checks if the book is available (enough copies are available for loan).
  - **Step 3: Loan Approval (if required)**:
    - Depending on the library's policies, the loan request may require approval (e.g., if the member has overdue books or reached the maximum number of allowed loans).
    - If approval is required, the librarian or system admin reviews the request and either approves or denies it.
  - **Step 4: Loan Confirmation**:
    - Once approved, the system records the loan details:
      - `BookID`: Identifies the book being loaned.
      - `MemberID`: Identifies the member borrowing the book.
      - `IssueDate`: Date when the book is issued to the member.
      - `DueDate`: Date by which the book must be returned.
    - Copies of the book are marked as "on loan" in the database, reducing the available count.
  - **Step 5: Book Issuance**:
    - The member receives the book(s) from the library.
    - The system may generate a receipt or loan slip for the member.

4. Loan Management

- **Feature**: Members can view their current loans, due dates, and manage renewals or returns.
- **Workflow**:
    - **View Loans**: Members can see a list of books currently on loan to them, along with due dates.
    - **Renewals**: Members may request to renew a book if it hasn't reached its maximum renewal limit and if there are no pending requests for the book.
    - **Returns**: Members return books to the library by the due date or earlier. They inform the librarian or use self-checkout systems if available.

5. Overdue Notifications and Fines

- **Feature**: The system automatically notifies members about overdue books and calculates fines if applicable.
- **Workflow**:
    - **Notification**: Members receive reminders (e.g., via email or SMS) as the due date approaches or if a book becomes overdue.
    - **Fines**: Fines are calculated based on library policies (e.g., per day or per week) and may accrue until the book is returned.

6. Reservation and Hold Requests

- **Feature**: Members can reserve or place holds on books that are currently checked out by others.
- **Workflow**:
    - Members can request to be notified when a reserved book becomes available.
    - Upon availability, the system notifies the member, who can then pick up the reserved book within a specified timeframe.

7. Book Return Process

- **Feature**: Members return books to the library once they've finished reading them or by the due date.
- **Workflow**:
    - Members return books to the library desk or self-checkout station.
    - The librarian or system updates the loan record, marking the book as returned and adjusting the copies available count.