

**Department of Computer Science**  
**Software Engineering (CSC342)**  
**Tutorial 6**  
**(Use Case Modeling)**

**Situation:** Libraries allow members to borrow books for a defined time period. Typically, a library operates in the following manner:

When a borrow request is made, it must be checked that a copy of the title requested is available. If a copy is available, the librarian must ensure that the borrow request is made by a valid member. This is done by asking for the member's card by the library staff member, which is checked for expiry date and number of books already issued. In case the card has expired, it is returned without an entry and no book is issued, otherwise an entry for issue date and expected return date is made and the book and card are returned.

When a book is returned, the return date is noted and in case it is greater than the expected return date, a fine is charged, whose record is maintained.

- a) **Question:** Write at least 2 functional requirements of the library system along with the use case model.
- b) Write elaborated use case for the functional requirements that you have already identified in previous part.

**(For Home Work)**

**Situation (Continued):** Besides borrow and return of books, a library must also handle the addition and removal of members and purchase of new books. To become a member, a person must submit his particulars on the membership form obtained from the library, along with the library membership fee. Library administrator can register/update/delete a library user. He can view and print the outstanding books also. He can also add/update/view the information of a specific book.

- c) **Question:** Write at least 2 more functional requirements of the library system. Update the previous use case model to accommodate the new requirements.
- d) Write elaborated use case (for the two new use cases) for the above system.