

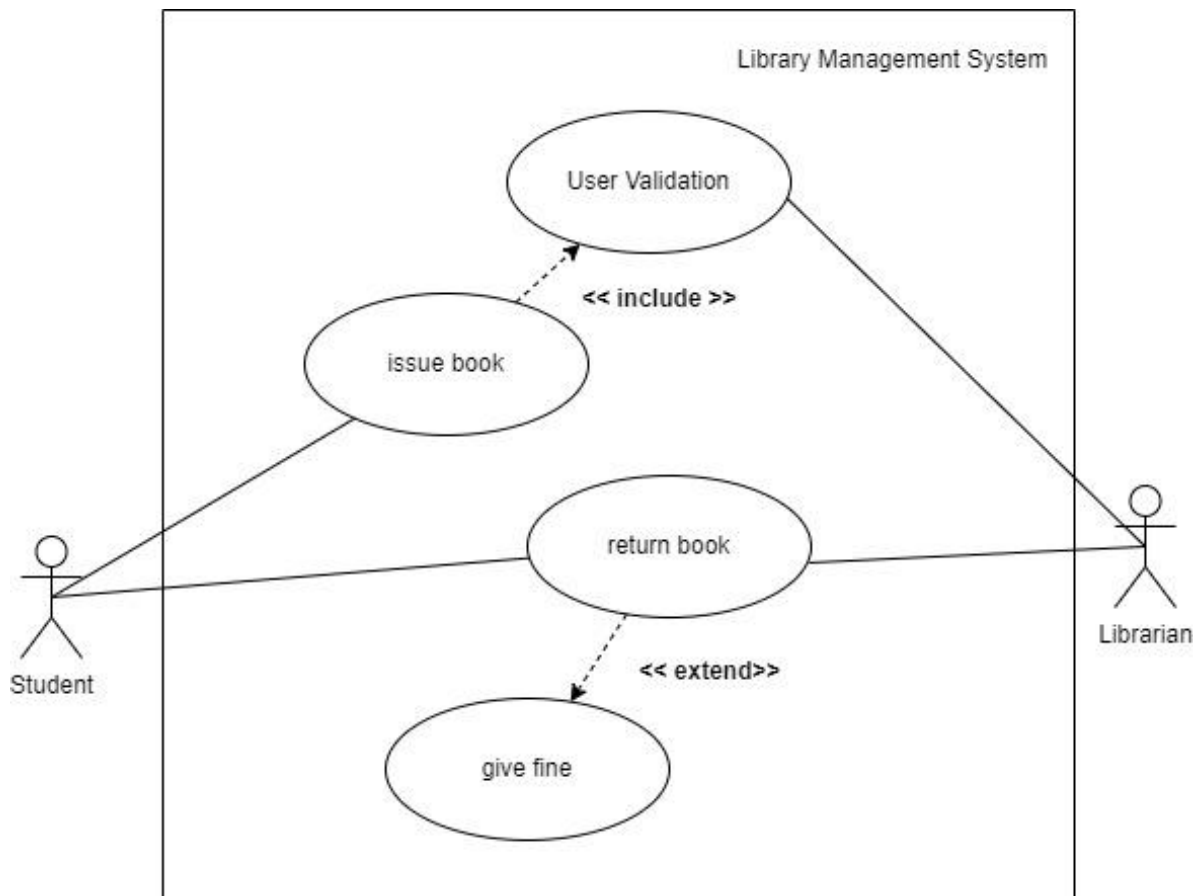
IT-314 Software Engineering

Lab-7

Name : Naitik Ravat
ID : 202101212
Group : 3

Answer 1 :

1)



Use Case Documentations :- Issue Book

Use Case Name :- Issue book

Actor :-

- (i) Primary :- Librarian
- (ii) Other :- Student, Inventory, Other Staff

Success Goal :-

- (i) Book status will be changed to “ISSUED”.
- (ii) No_of_issued book will be increased in the student profile.

Main Scenario :-

- (i) Student go to the librarian to issue the book.
- (ii) Librarian validate the student.
- (iii) Librarian check the availability of book, if it is available then change its status to “issued”.
- (iv) Librarian update the student profile accordingly.
- (v) Student get the book.

Alternative Flow :-

- (i) If the system fails at any point:
 - The issuance process is canceled and restarted.
 - Librarian will manually update the inventory and the student profile.
- (ii) If book is not available:
If the wanted book is not in the inventory then student can not issue the book.

- (iii) Student is not member of Library:
Whole process will be canceled and book will be returned to the librarian.

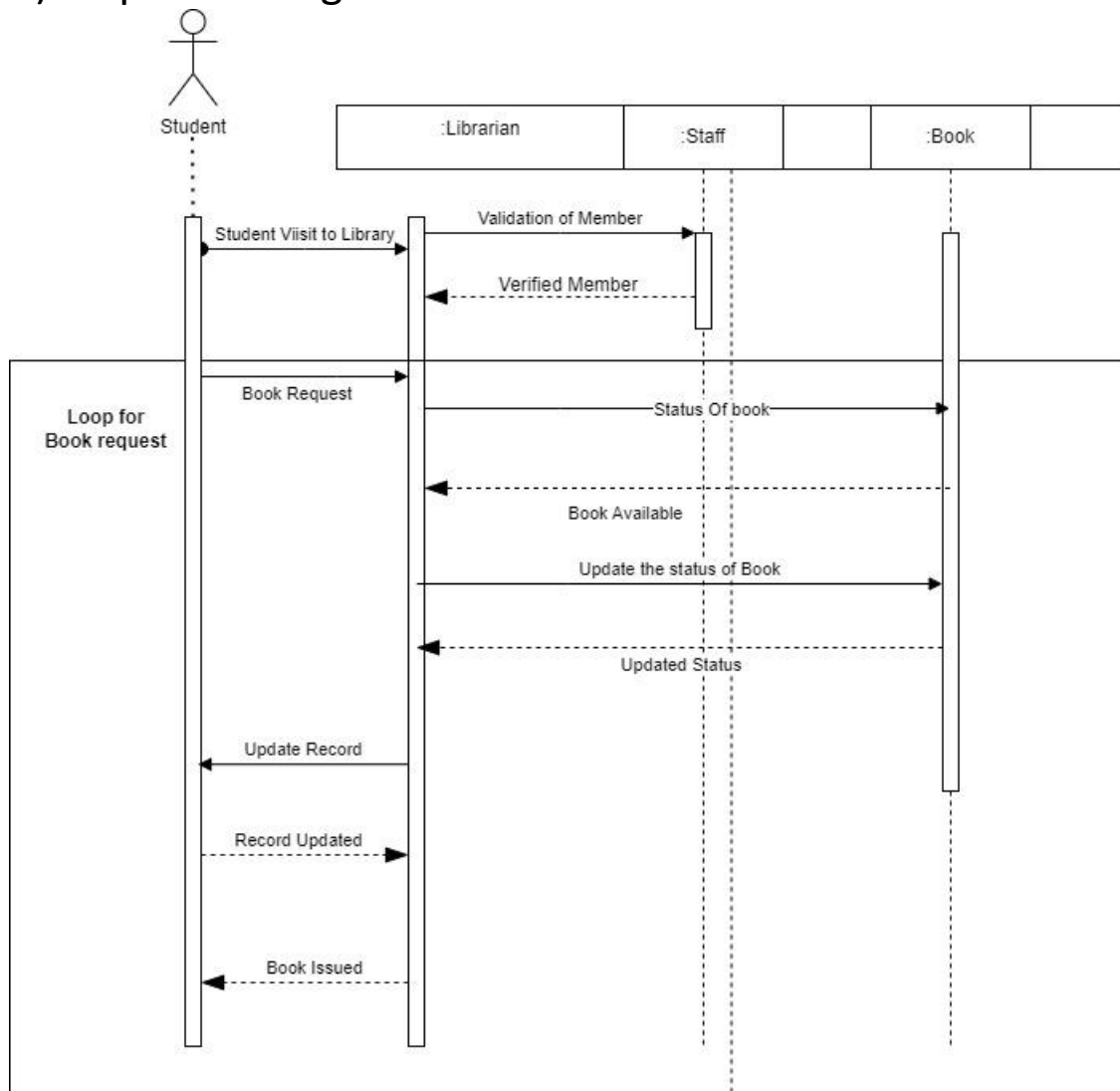
Special Requirements :-

- (i) Some Backup system to handle system failures.
- (ii) Secure the database
- (iii) Timely check for the member account's validation.

Post-Conditions :-

After one transaction system should be ready for the another transaction.

2) Sequence Diagram:



Entities :-

- i. Book :- It represent the book with unique ISBN number.
- ii. Student :- Student with unique ID.
- iii. Transaction :- Represent the book issuance process between student and librarian.

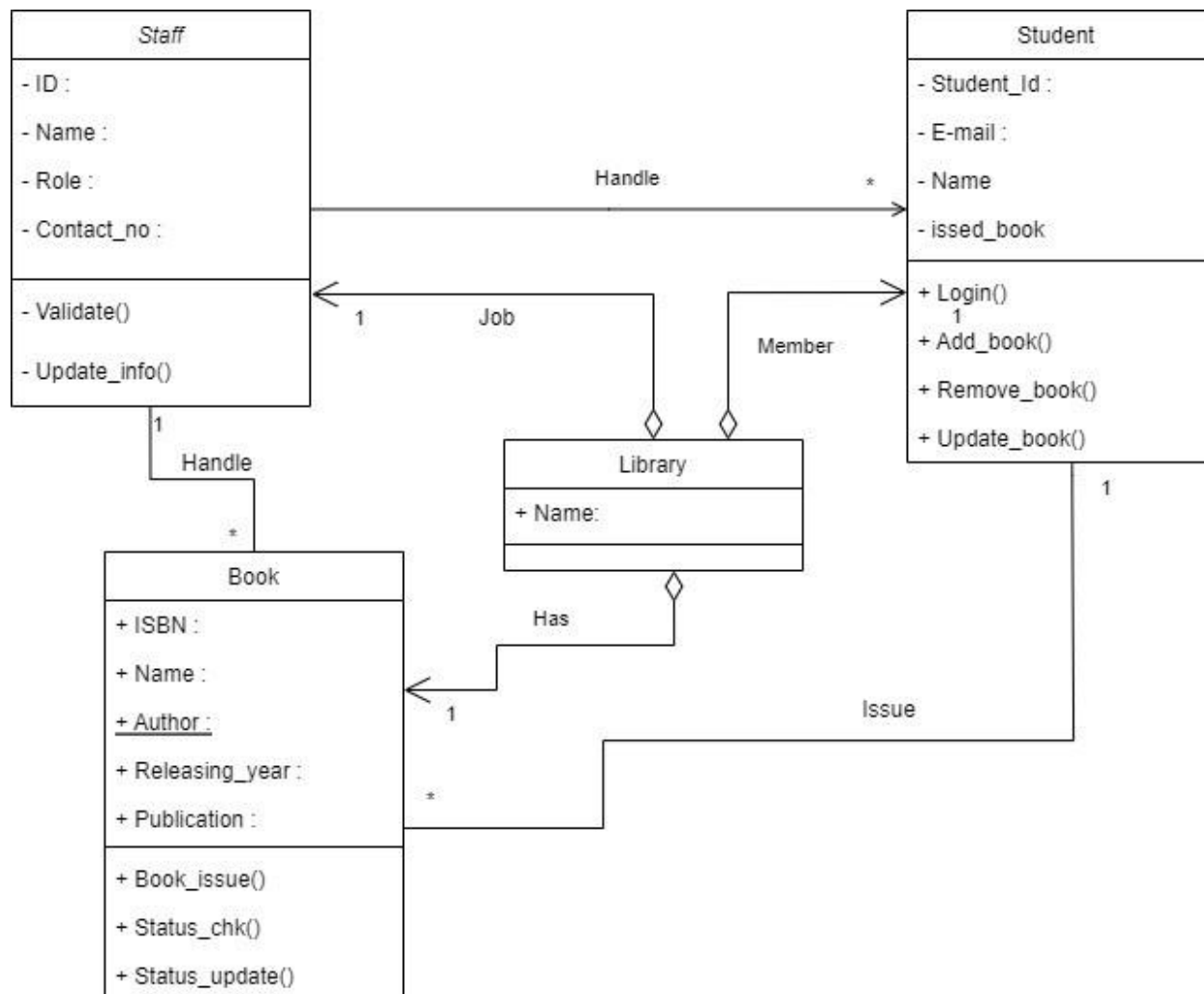
Boundary Object :-

- i. Library Interface :- In this interface, the transaction would happen and all the actors will interact.

Control Object :-

- i. Fine Calculator :- Calculate the fine for delayed return of the book.
- ii. Inventory :- This database contains all the details of the book, number of its copy, availability.
- iii. And This Library Management System is also control object in it self.

3) Object Diagram:



Answer 2 :

Sequence Diagram :-

