

IT-314 Software Engineering

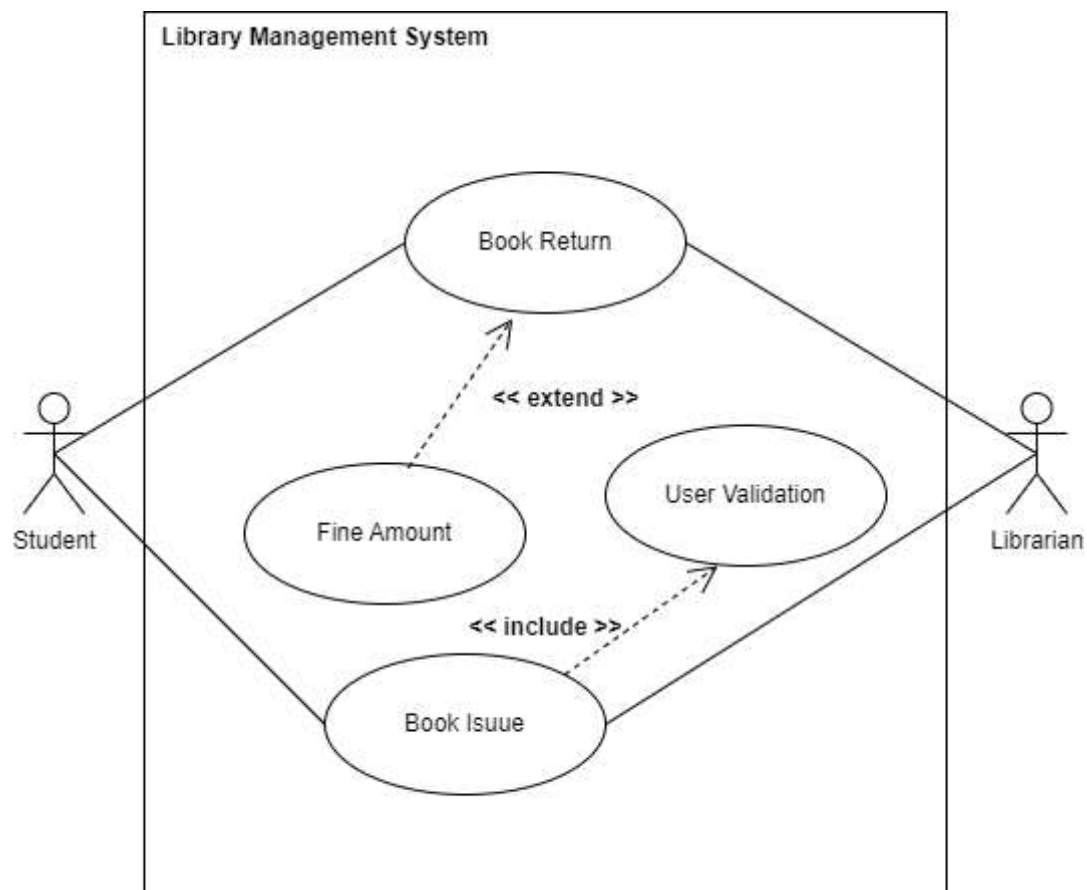
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Lab:- 7

Answer:- 1

1)



Use Case Documentations:- Issue Book

Use Case Name:- Issue book

Actor:-

- Primary:- Librarian
- Other:- Student, Inventory, Other Staff

Success Goal:-

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

Main Scenario:-

- Student go to the librarian to issue the book.
- Librarian validate the student.
- Librarian check the availability of book, if available then change its status to the “issued”.
- Librarian update the student profile accordingly.
- Student get the book.

Alternative Flow:-

- If the system fails at any pont
 - The issuance process is cancelled and restarted.
 - Librarian will manually update the inventory and the student profile.
- If book is not available
 - If the wanted book is not in the inventory then student can not issue the book.
- Student is not member of Library.
 - Whole process will be cancelled and book will be returned to the librarian.

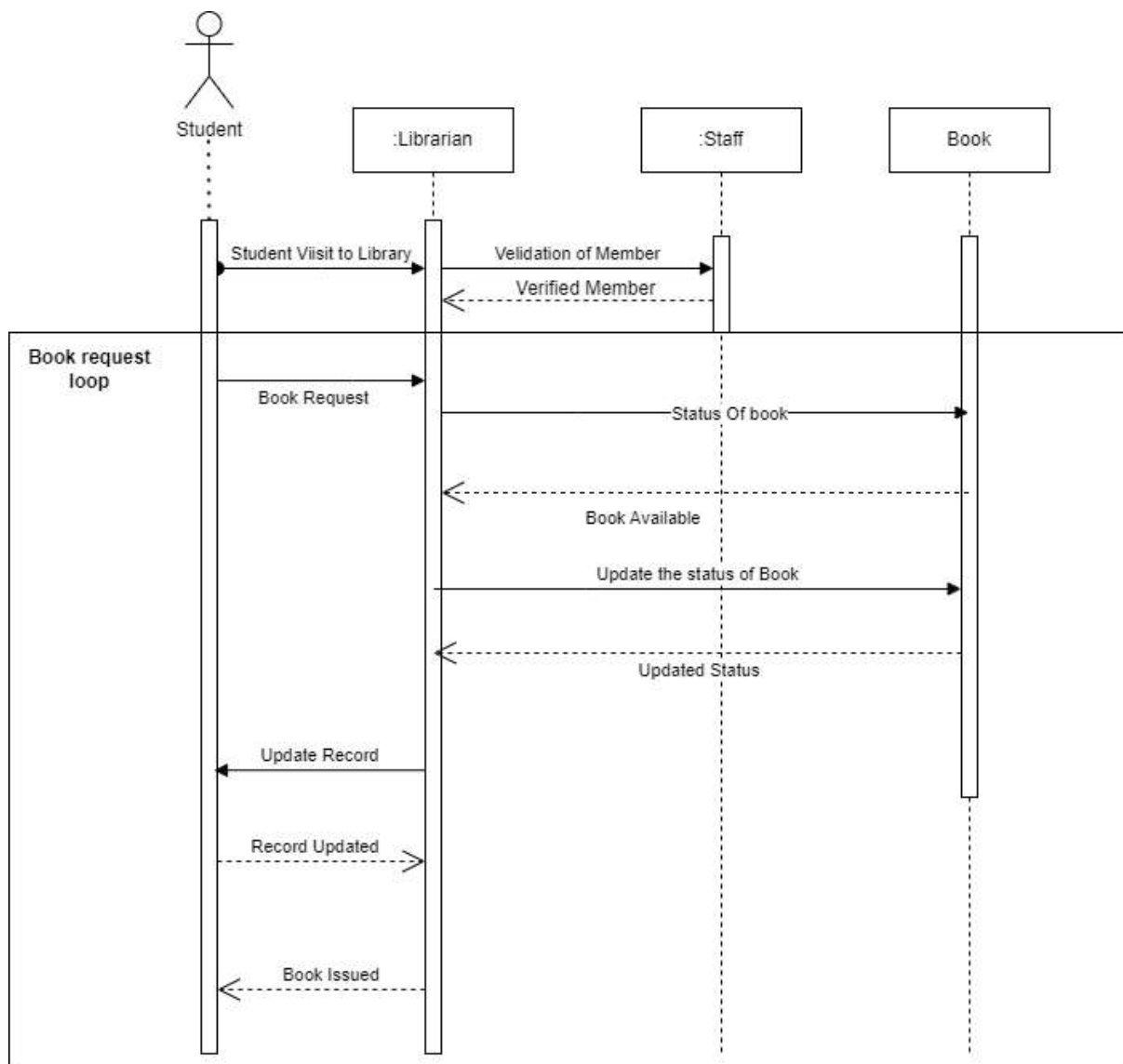
Special Requirements:-

- Some Backup system to handle system failures.
- Secure the database.
- Timely check for the member account’s validation.

Post-Conditions:-

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

2) Sequence Diagram for the Above Question.



Entities:-

- Book :- It represent the book with unique ISBN number.
- Student :- Student with unique I'd.

- Transaction :- Represent the book issuance process between student and librarian.

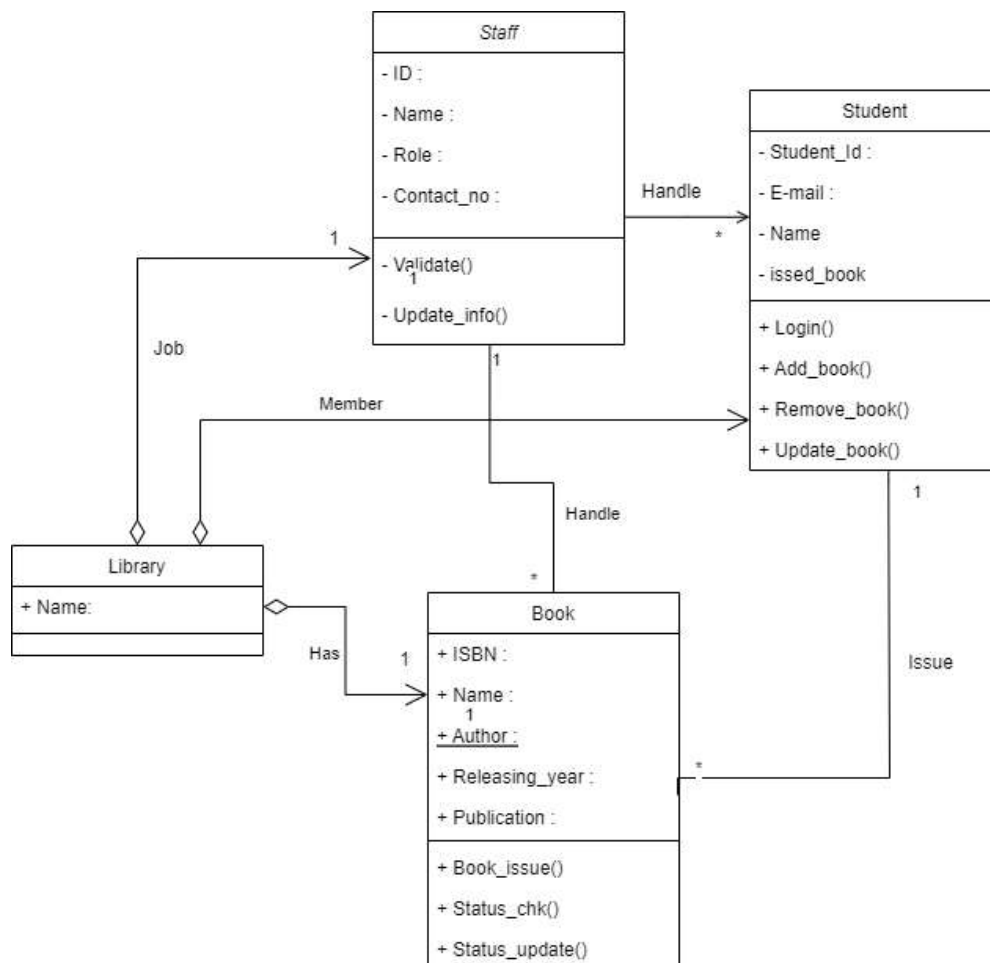
Boundary Object:-

- Library Interface :- In this interface, the transaction would happen and the both of them interact.

Control Object:-

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

3) Object Diagram for the Issue the book.



Answer 2:-

Sequence Diagram :-

