Lab Session - SEN
Domain Analysis Modeling & Sequence Diagram
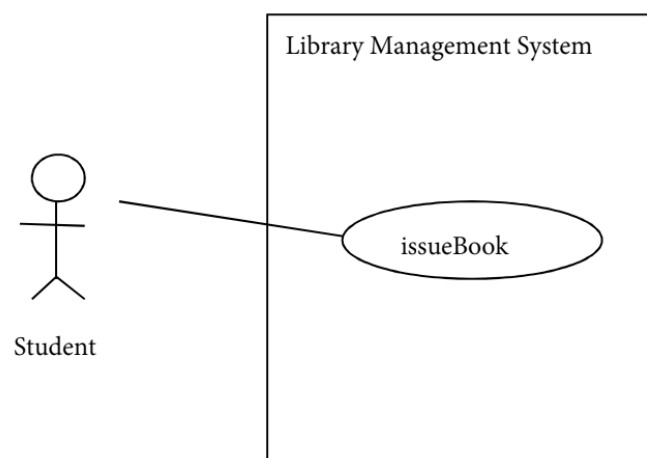# IT313: Software Engineering
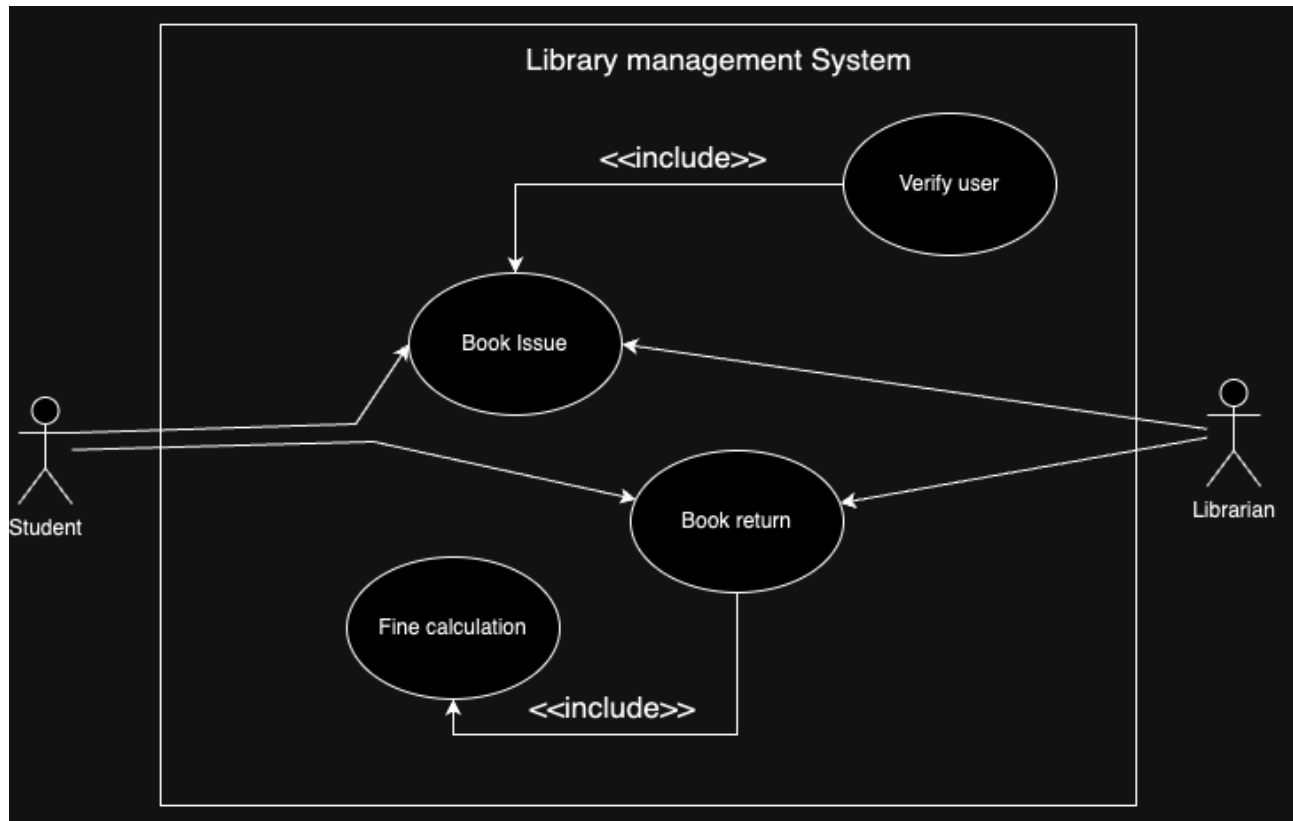

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Group : 06

Q.1. Consider the following piece of text "A library maintains multiple reading materials which include books, journals, and magazines. The books are issued to the registered students of the institute, for a specified period of time. The issued books are to be returned back to the library. Delayed returns are subjected to stipulated fines. The issue-return process is administered by one of the librarians through an authenticated Library Management System."
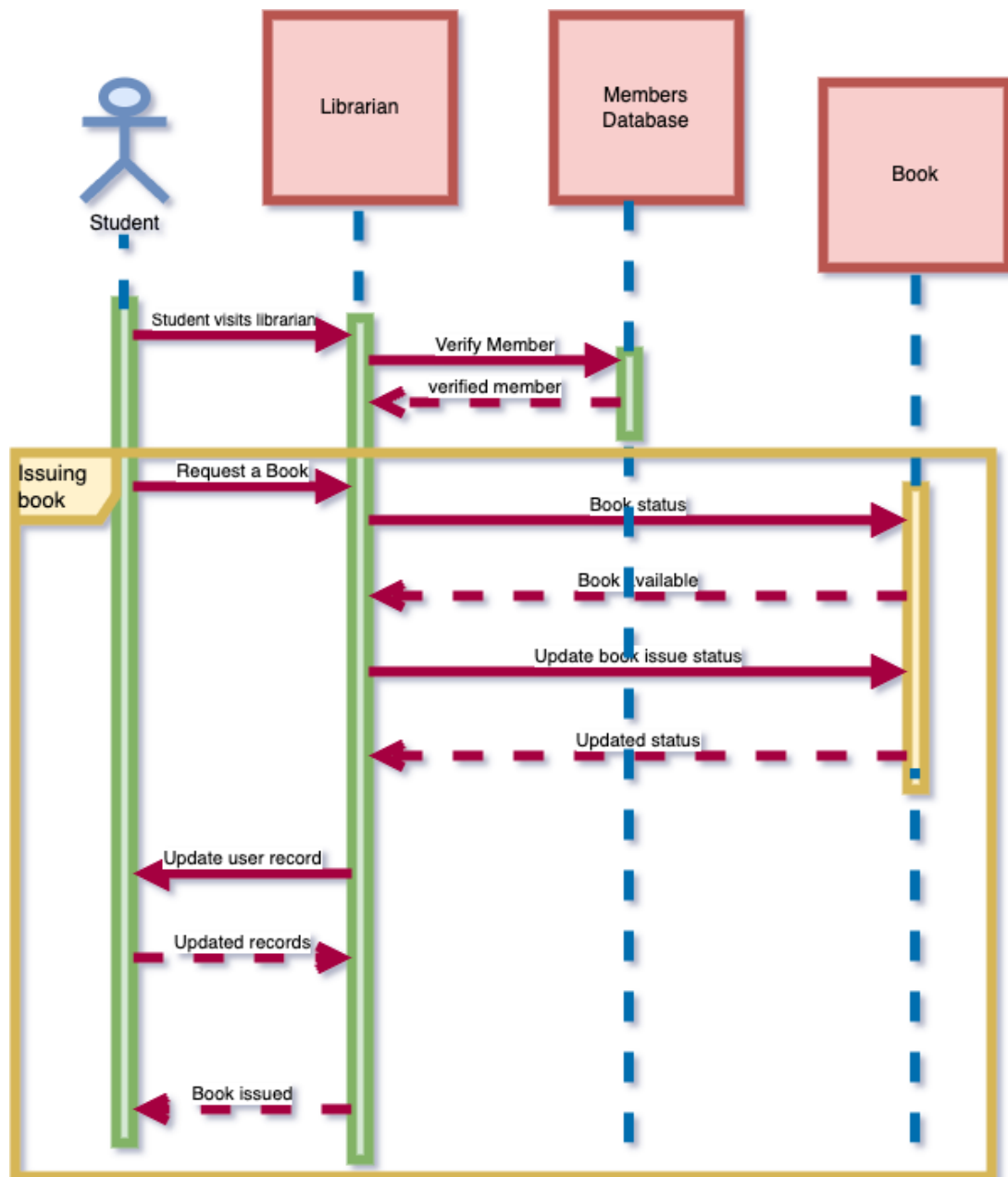

An incomplete use case diagram for the system is given above. Develop the following documents

1. Complete the use case diagram for the above problem text along with use case documentation for "issueBook" use case.

2. The sequence diagram for the "issueBook" use case.
(Hint: Here you need to identify various analysis objects (corresponding to entity, boundary, and control classes), and show their interaction to realize the "issueBook" use case.)

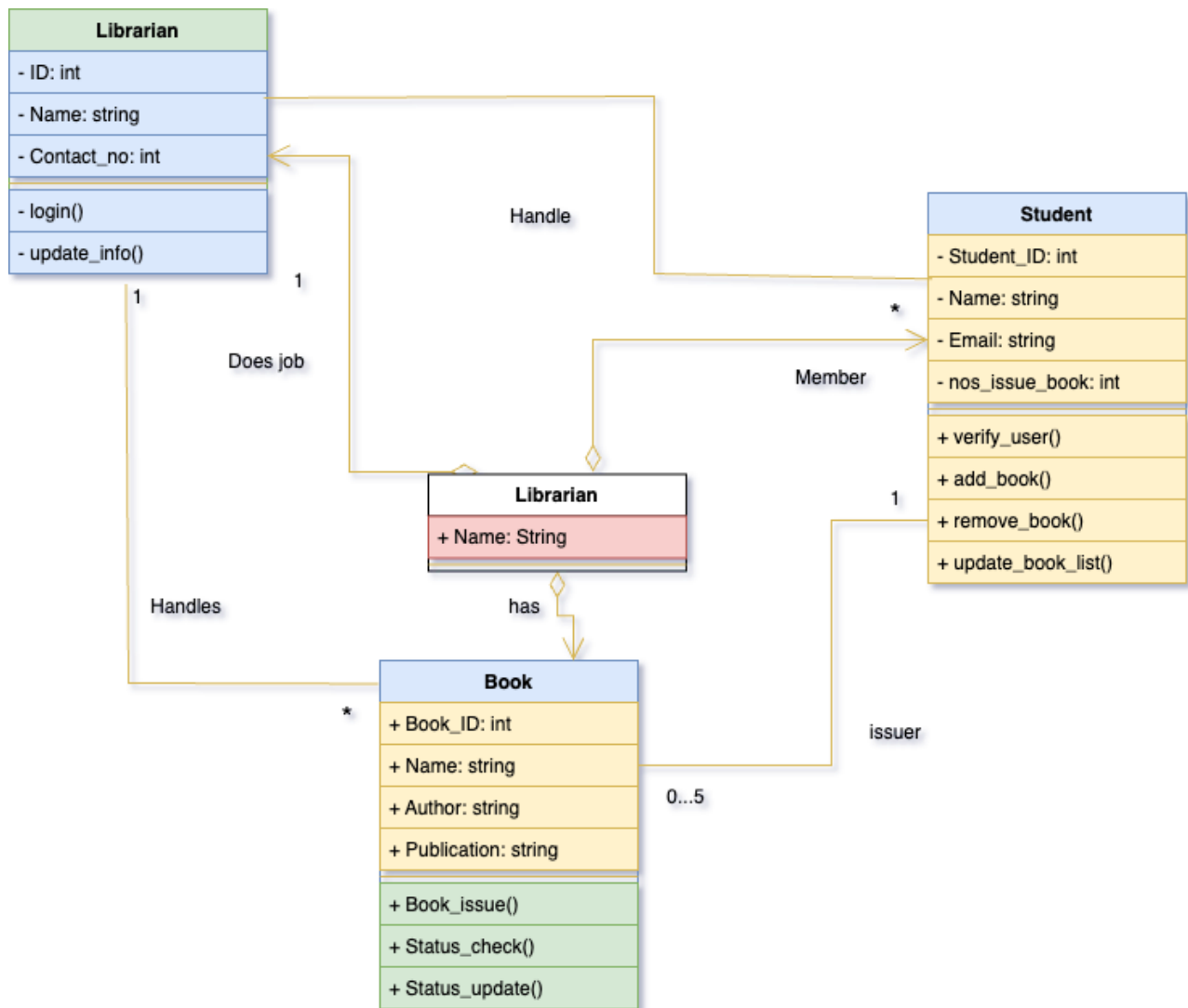3. Draw the analysis object diagram for the "issueBook" use case analysis.

1. Complete the use case diagram for the above problem text along with use case documentation for "issueBook" use case.

2. The sequence diagram for the "issueBook" use case.
(Hint: Here you need to identify various analysis objects
(corresponding to entity, boundary, and control classes),
and show their interaction to realize the "issueBook" use case.)

3. Draw the analysis object diagram for the "issueBook" use case analysis.

Librarian
- ID: int
- Name: string
- Contact_no: int
- login()
- update_info()

Student
- Student_ID: int
- Name: string
- Email: string
- nos_issue_book: int
- + verify_user()
- + add_book()
- + remove_book()
- + update_book_list()

Librarian
- + Name: String

Book
- + Book_ID: int
- + Name: string
- + Author: string
- + Publication: string
- + Book_issue()
- + Status_check()
- + Status_update()

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Q.2. To give an exam, an instructor first notifies the students of the exam date and the material to be covered. She then prepares the exam paper (with sample solutions), gets it copied to produce enough copies for the class, and hands it out to students on the designated time and location. The students write their answers to exam questions and hand in their papers to the instructor. The instructor then gives the exam papers to the TAs, along with sample solutions to each question, and gets them to mark it. She then records all marks and returns the papers to the students.

Draw a sequence diagram that represents this process. Make sure to show when is each actor participating in
the process. Also, show the operation that is carried out during each interaction, and what its arguments are.