# IT313: Software Engineering

# Lab 7: Domain Analysis Modeling & Sequence Diagram
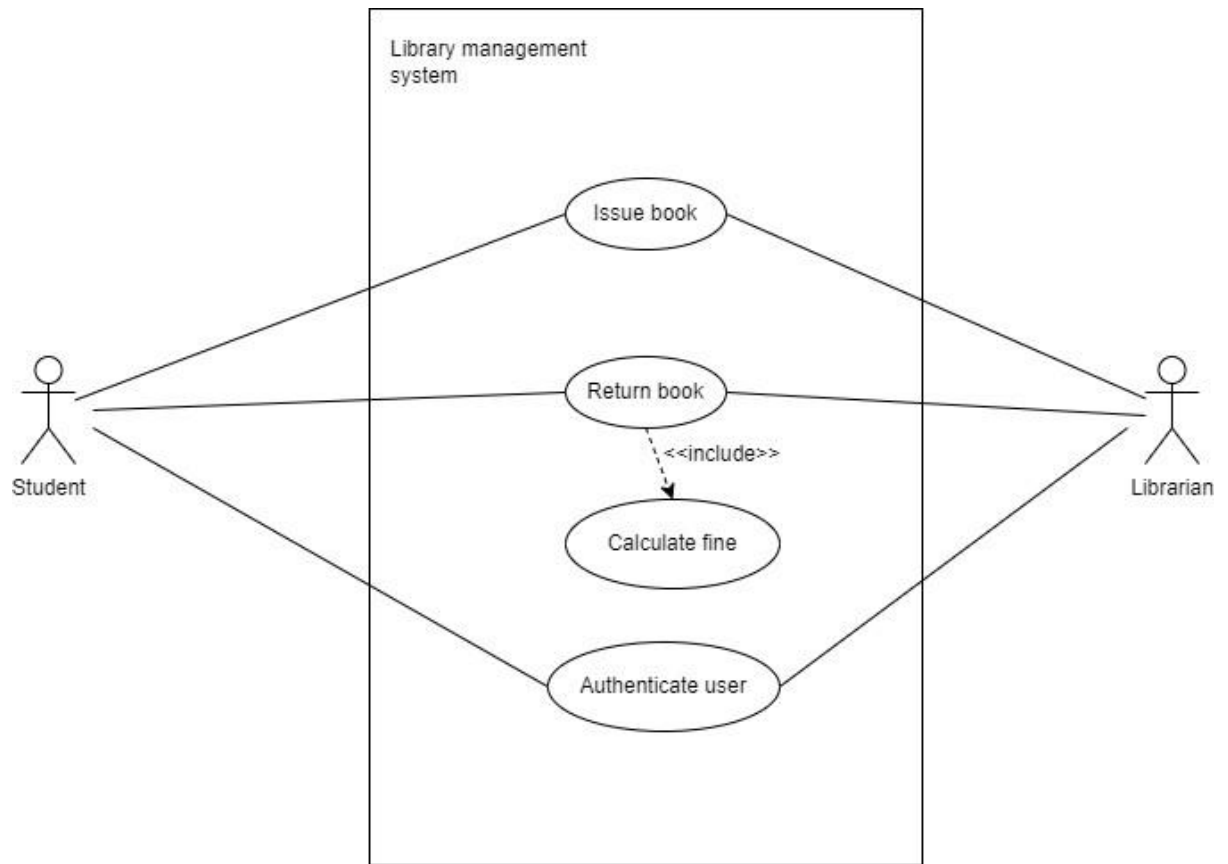
**Name: Odedara Sameer Jivaji**

**ID: 202101245**

## Question 1:

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

**Use case diagram:**

# Documentation for "issueBook" use case:

**Use Case Name: Issue Book**

**Description: This use case represents the process of a registered student issuing a book from the library**

**Primary Actor: Registered Student**

**Secondary Actor: Library and Librarian**

**Preconditions: The registered student must be logged in and authenticated by the librarian. The book being issued must be available in the library.**

**Postconditions: The book is marked as issued to the student. The due date for returning the book is set. The student is notified of the successful issuance.**

**Main Flow:**

1  The registered student requests to issue a book. The system validates the student's authentication status.
2  The system checks if the requested book is available. If the book is available, the system marks

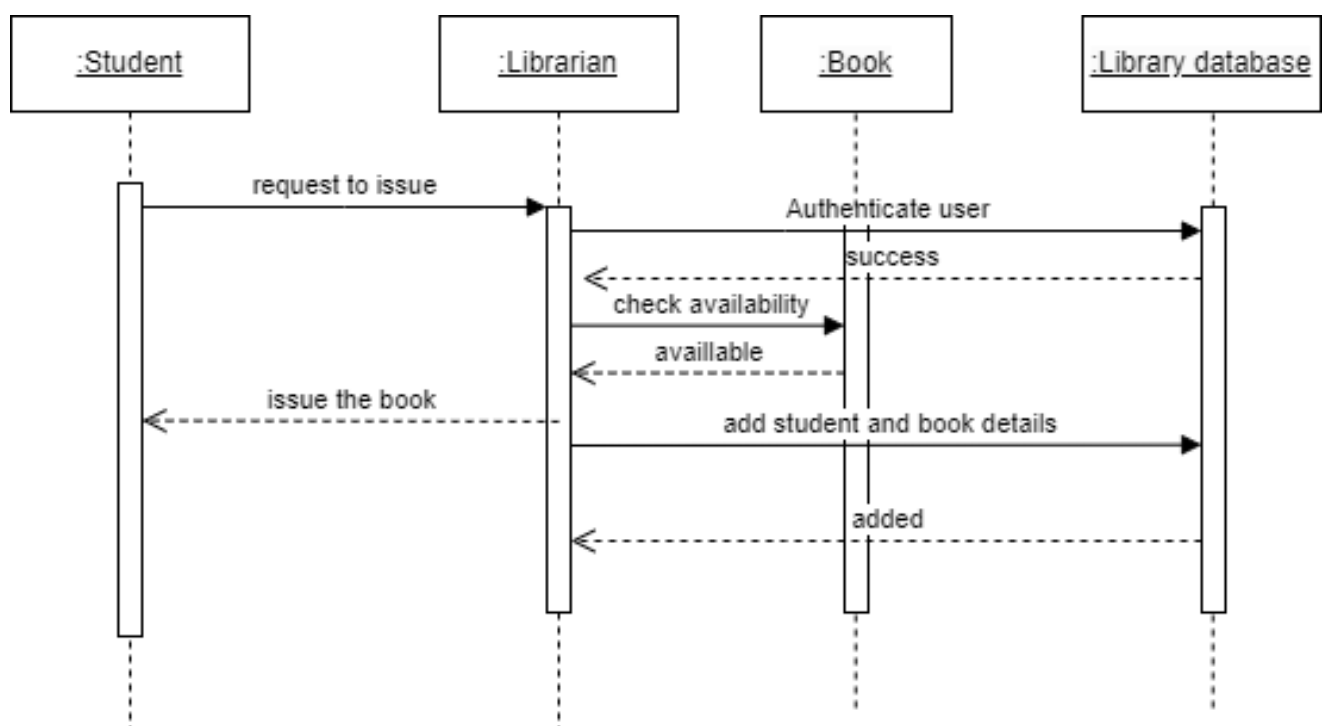it as issued to the student. The system sets the due date for returning the book.

3 The system notifies the student and the librarian about the successful issuance.
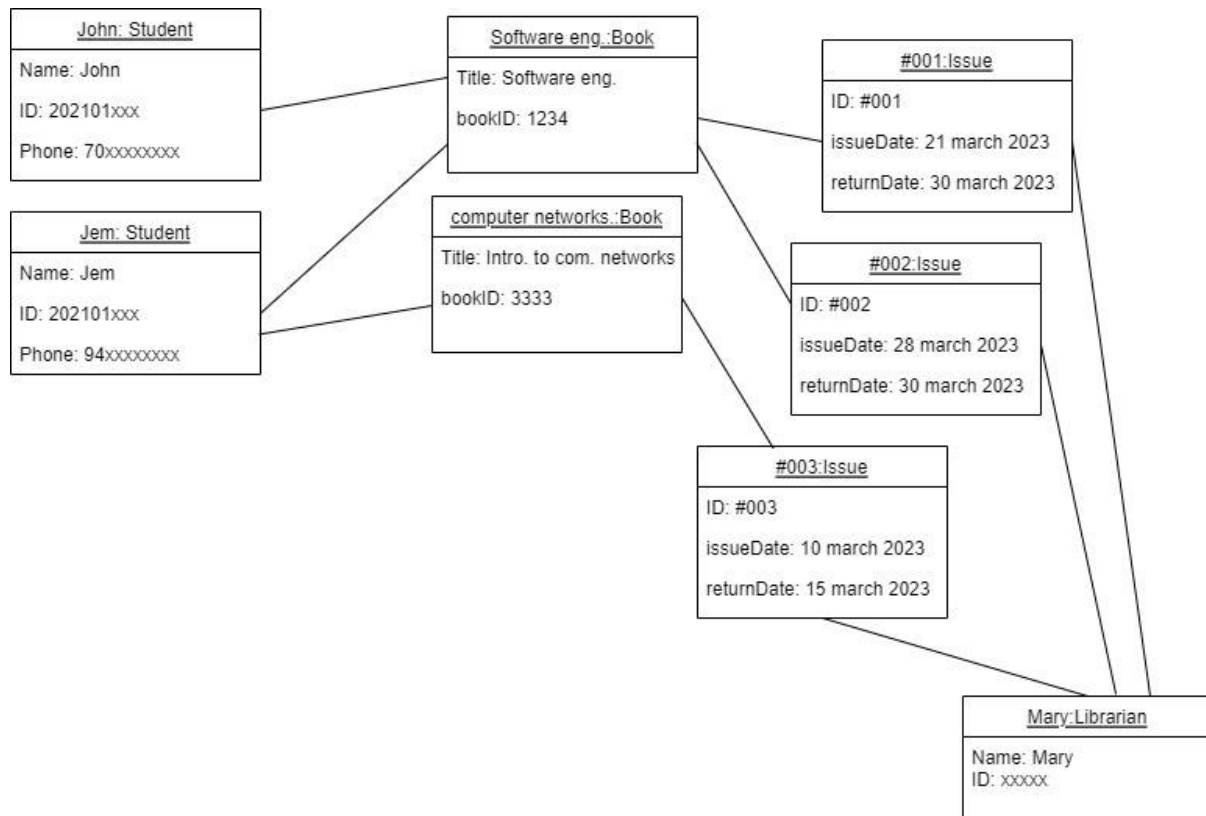
## Alternate Flows:

1a If the user is not authenticated, the system notifies the librarian.

**2a If the book is not available, the system notifies the student that the book cannot be issued at the moment.**

## 2. The sequence diagram for the "issueBook" use case:



## 3. object diagram for the "issueBook"

**John: Student**

Name: John

ID: 202101xxx

Phone: 70xxxxxxxx

**Jem: Student**

Name: Jem

ID: 202101xxx

Phone: 94xxxxxxxx

**Software eng.:Book**

Title: Software eng.

bookID: 1234

**computer networks.:Book**

Title: Intro. to com. networks

bookID: 3333

**#001:Issue**

ID: #001

issueDate: 21 march 2023

returnDate: 30 march 2023

**#002:Issue**

ID: #002

issueDate: 28 march 2023

returnDate: 30 march 2023

**#003:Issue**

ID: #003

issueDate: 10 march 2023

returnDate: 15 march 2023

**Mary:Librarian**

Name: Mary
ID: xxxxx

## Question 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.