IT-314-SOFTWARE ENGINEERING

LAB-7

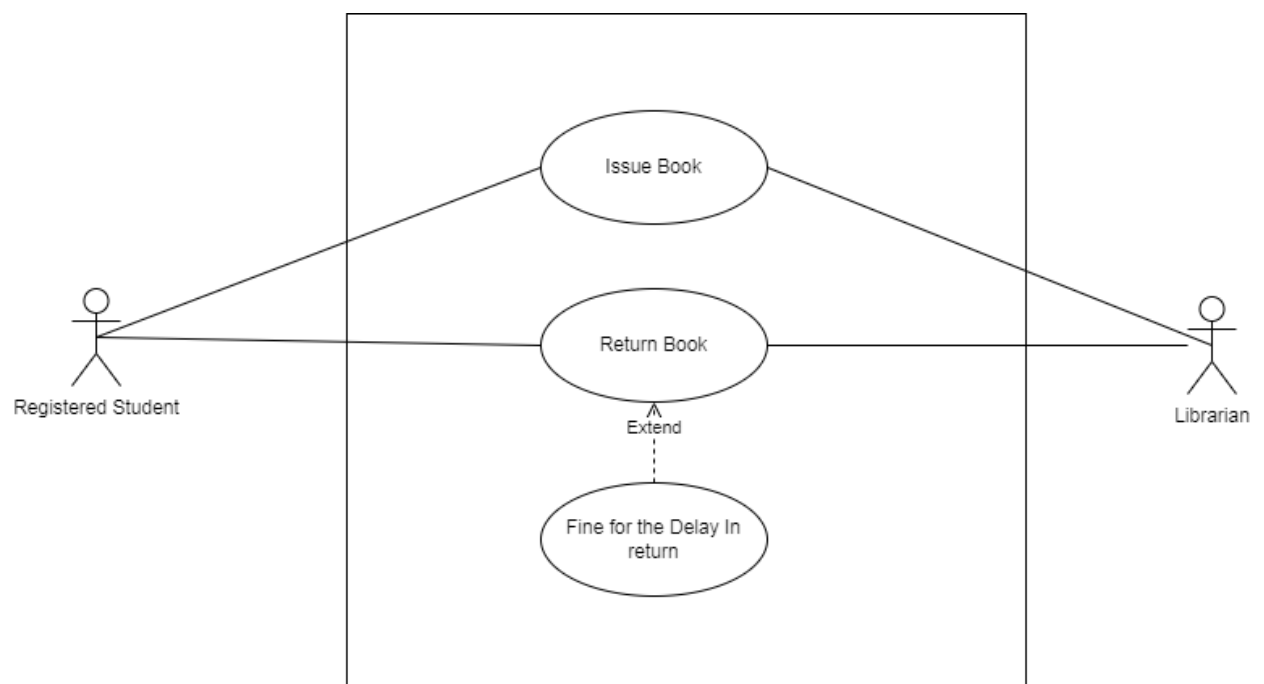**NAME: KRISHA MEHTA**

STUDENT ID: 202101262

GROUP: 4

DATE: 28/9/2023

QUESTION 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."

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

Use Case Name: Issue Book.

Actors: Student, Librarian, Library.

Description: The student can issue the book from the library if it is available. They have to return the book before deadline. If there is delay in returning the book, they have to pay fine before returning the book.

Preconditions:

The student should be registered.

The library must have the book that is being issued.

Trigger:

The student issues or returns the book from the library.

Main Success Scenario:

1.The student issues the book from the library.

2.The librarian checks whether the book is available and handles it to the student.

3.Student returns the issued book and if student has not returned the book before the deadline, student has to pay fine.
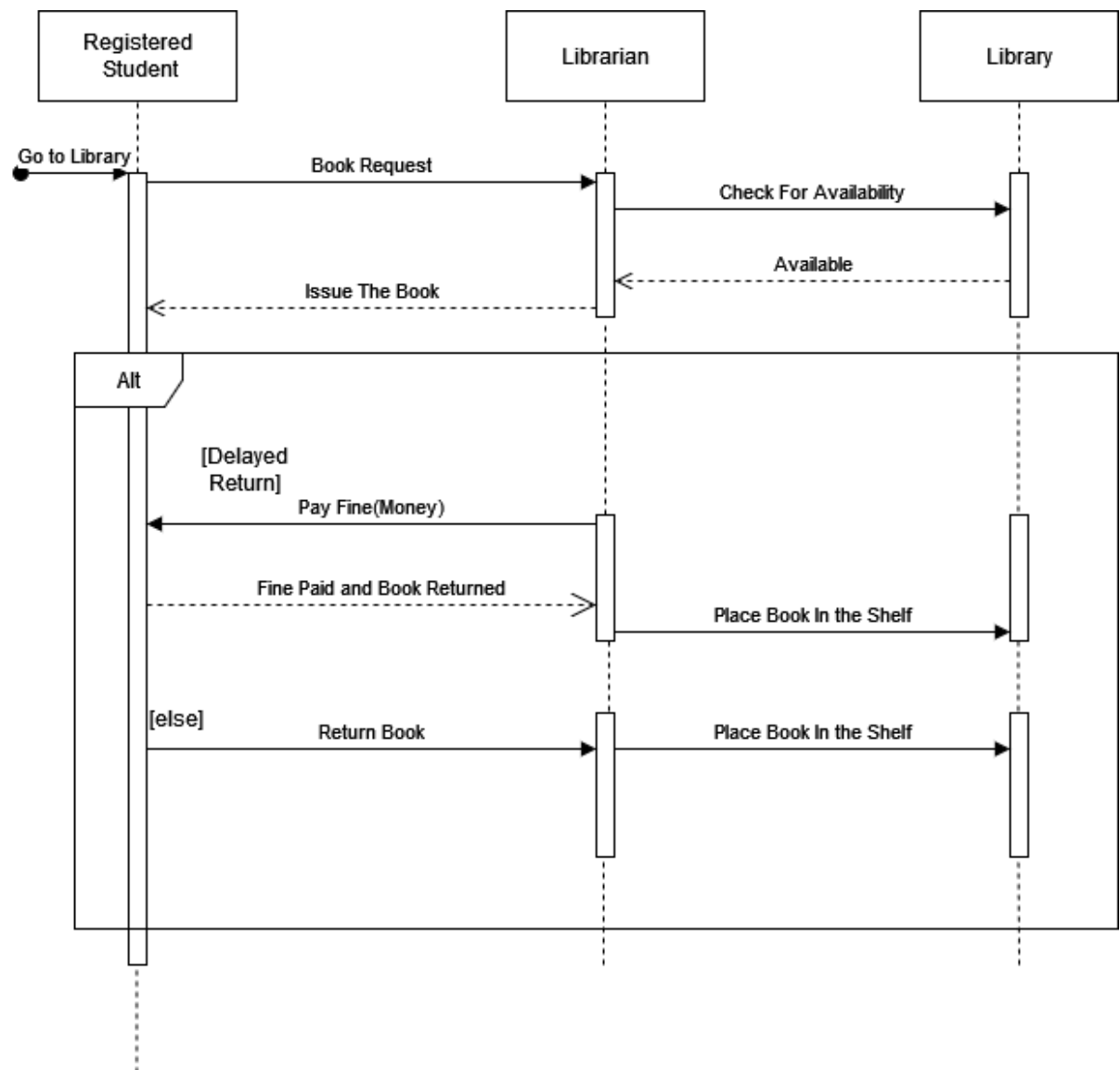
Alternative Scenario:

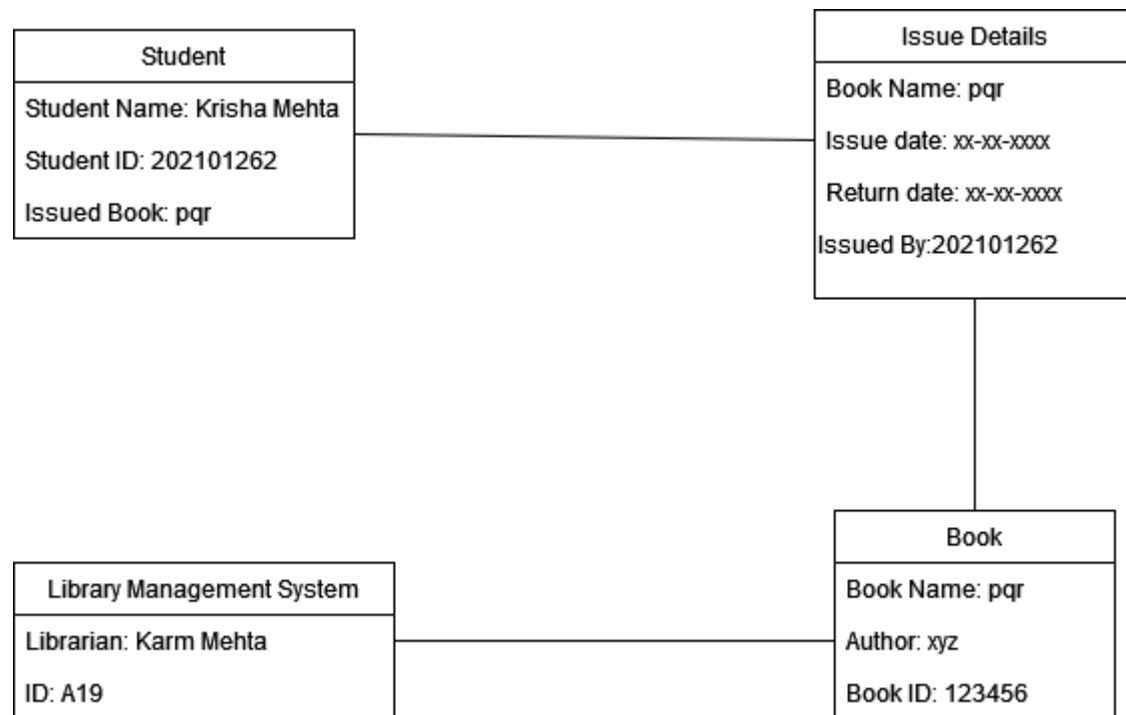2.a The book cannot be issued if it is not readily available.

Postconditions:

The desired book is issued to the student.

The deadline for returning the book has been established.

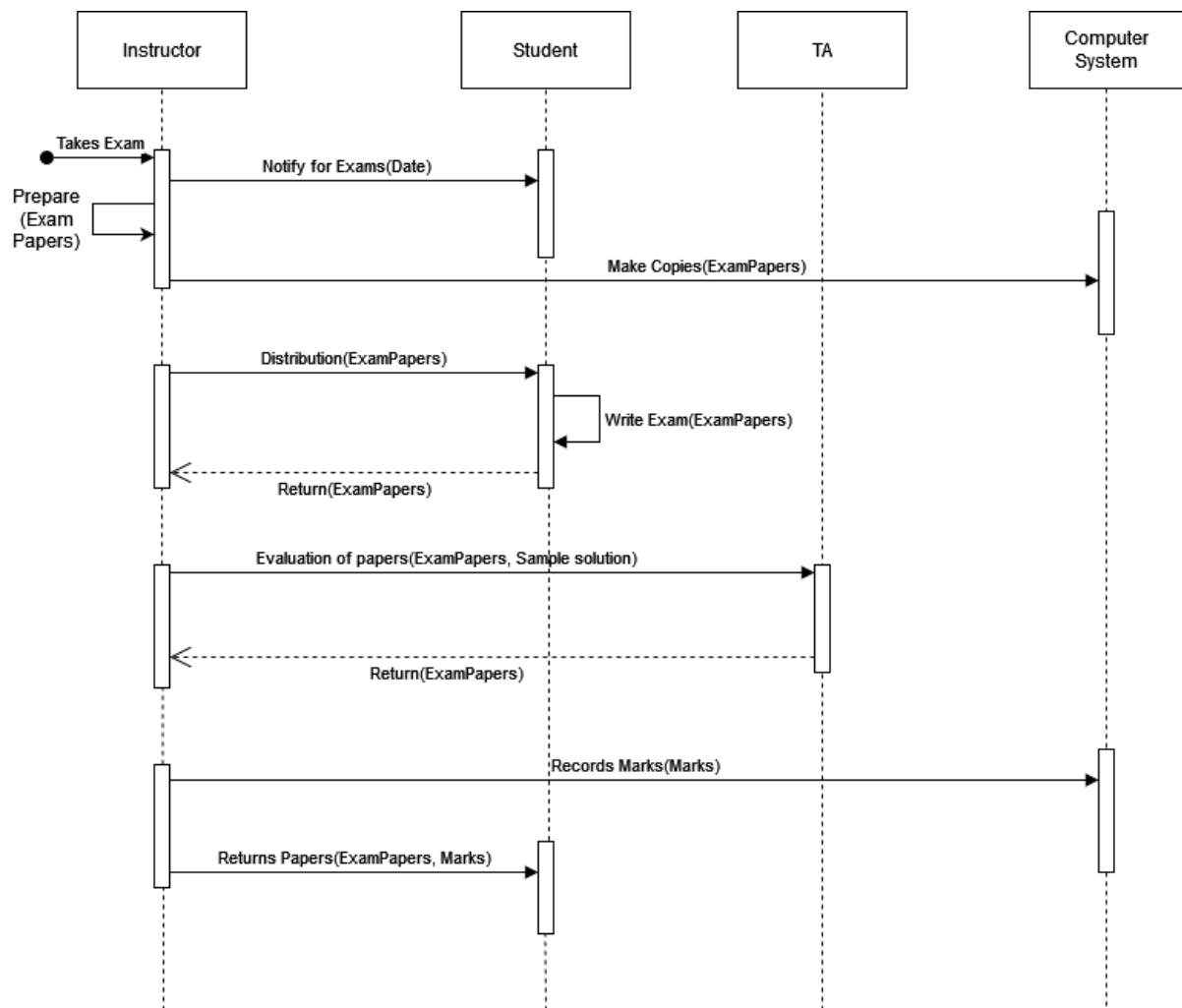## 2. The sequence diagram for the "issueBook" use case.

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

Student
Student Name: Krisha Mehta
Student ID: 202101262
Issued Book: pqr

Issue Details
Book Name: pqr
Issue date: xx-xx-xxxx
Return date: xx-xx-xxxx
Issued By:202101262

Library Management System
Librarian: Karm Mehta
ID: A19

Book
Book Name: pqr
Author: xyz
Book ID: 123456

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.

Operations	Arguments
Notify for exams	Date
Prepare	ExamPapers
Make Copies	ExamPapers
Distribution	ExamPapers
Write Exams	ExamPapers
Evaluation of Papers	ExamPapers, Sample Solution
Record Marks	Marks
Return Papers	ExamPapers, Marks

Here, instructor will notify the students for the exam. Then instructor will set the paper and give it to the system to make copies, then papers will be distributed to students and they will wrote exam and return papers back. The instructor will then give these papers to TAs for checking, TAs will return them and instructor will enter the marks in the system. Then students will be given checked papers back with their marks.