

LAB-7

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Subject: Software Engineering

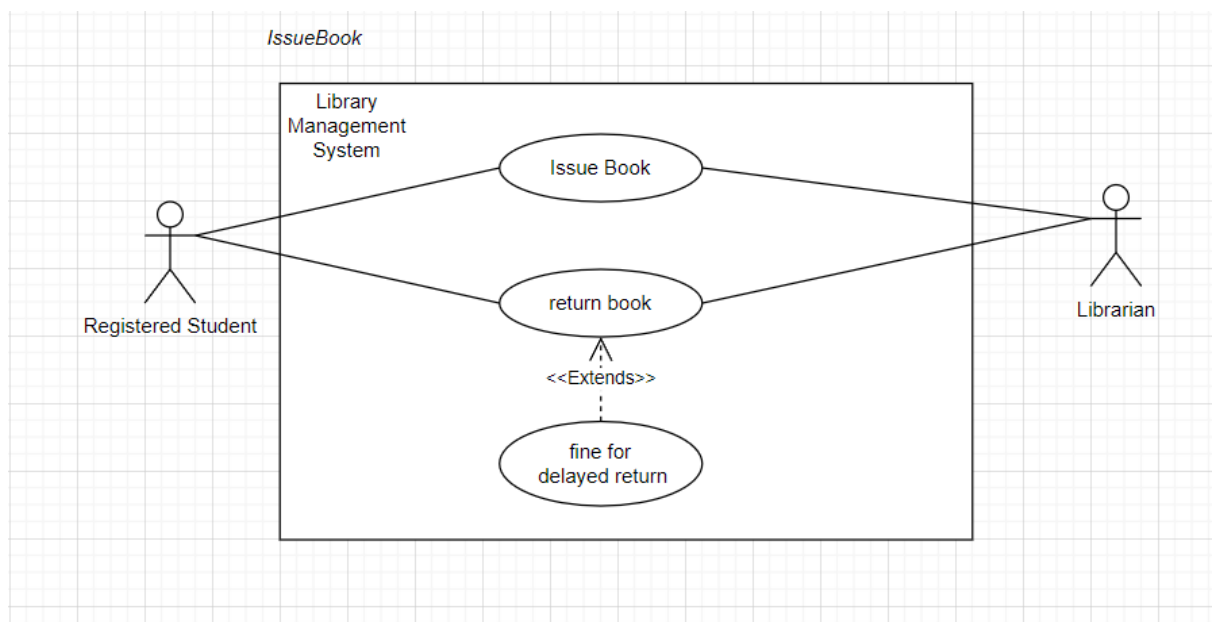
Group: 6

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.



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Use Case Name: Issue Book

Actors: Student, Librarian, Library

Preconditions: Student is registered

Description: Student comes to library to issue the book. He/she returns the book and if due date passes before returning the book he has to pay the fine.

Trigger: student comes to library

Main Success Scenario:

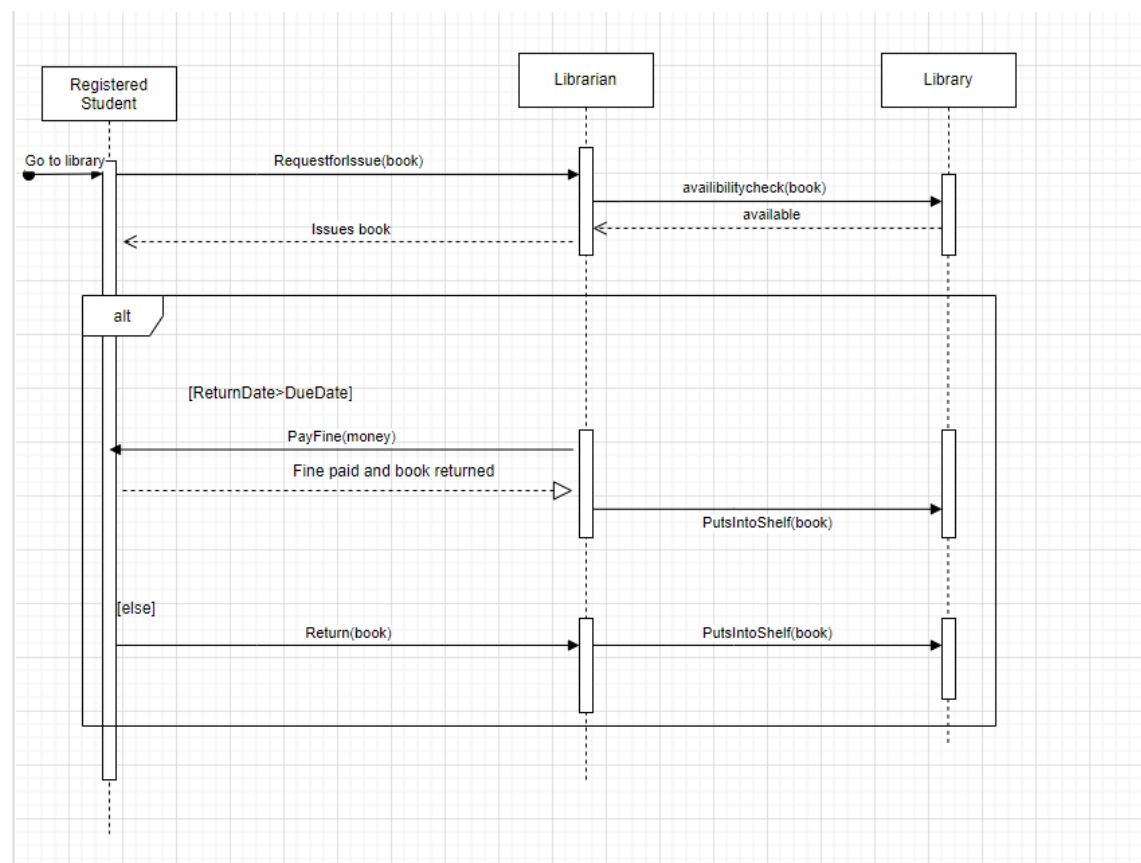
- 1.Student issues the book from the library.
- 2.Librarian checks for the availability of book and handles it to the student.
- 3.Student returns the issued book. If return date is late than due Date student pays the fine.

Alternative Scenario:

- 2.a If book is not available then it cannot be issued.

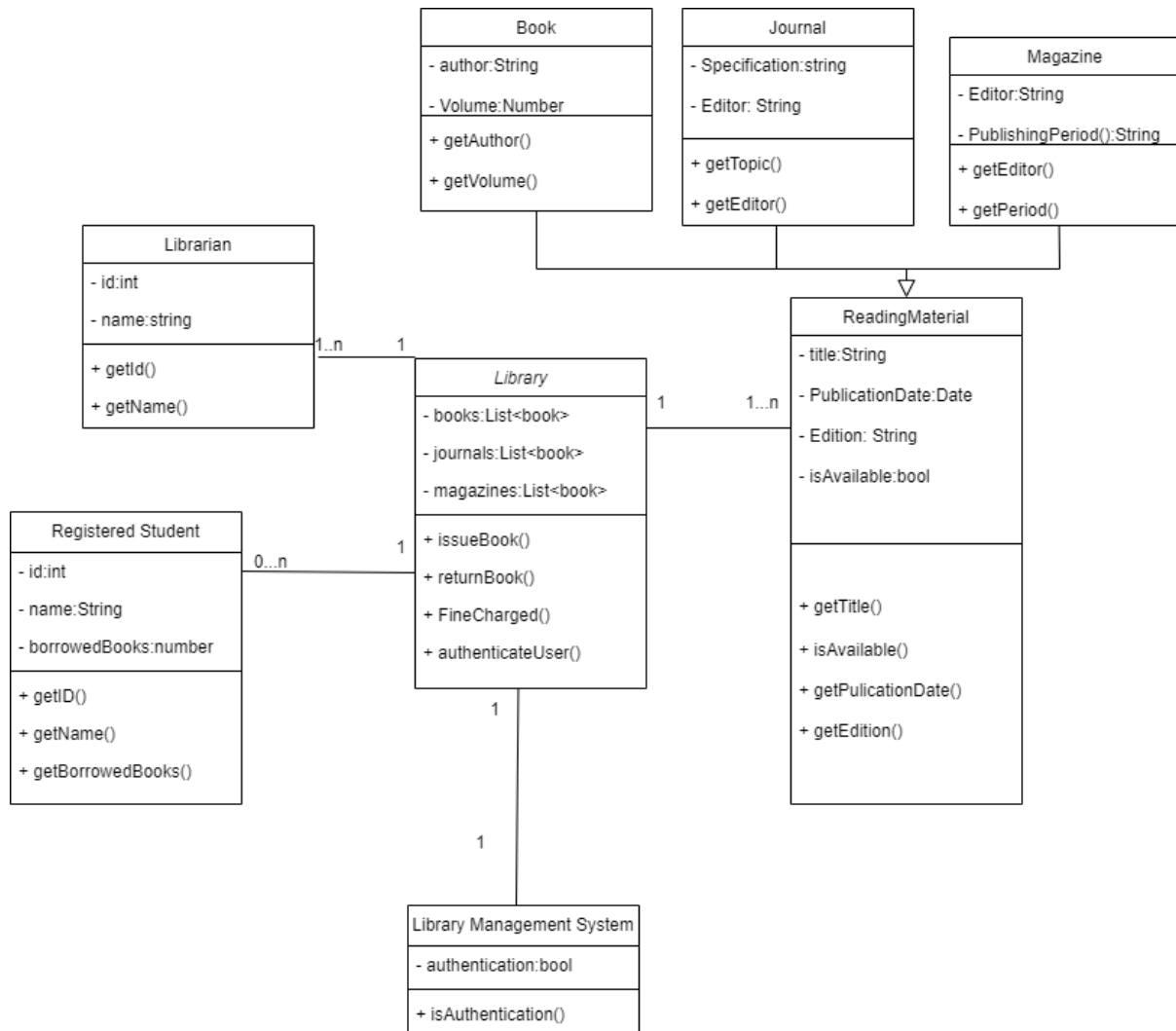
Postconditions: Student gets the book he/she wants.

2. The sequence diagram for the “issueBook” use case.



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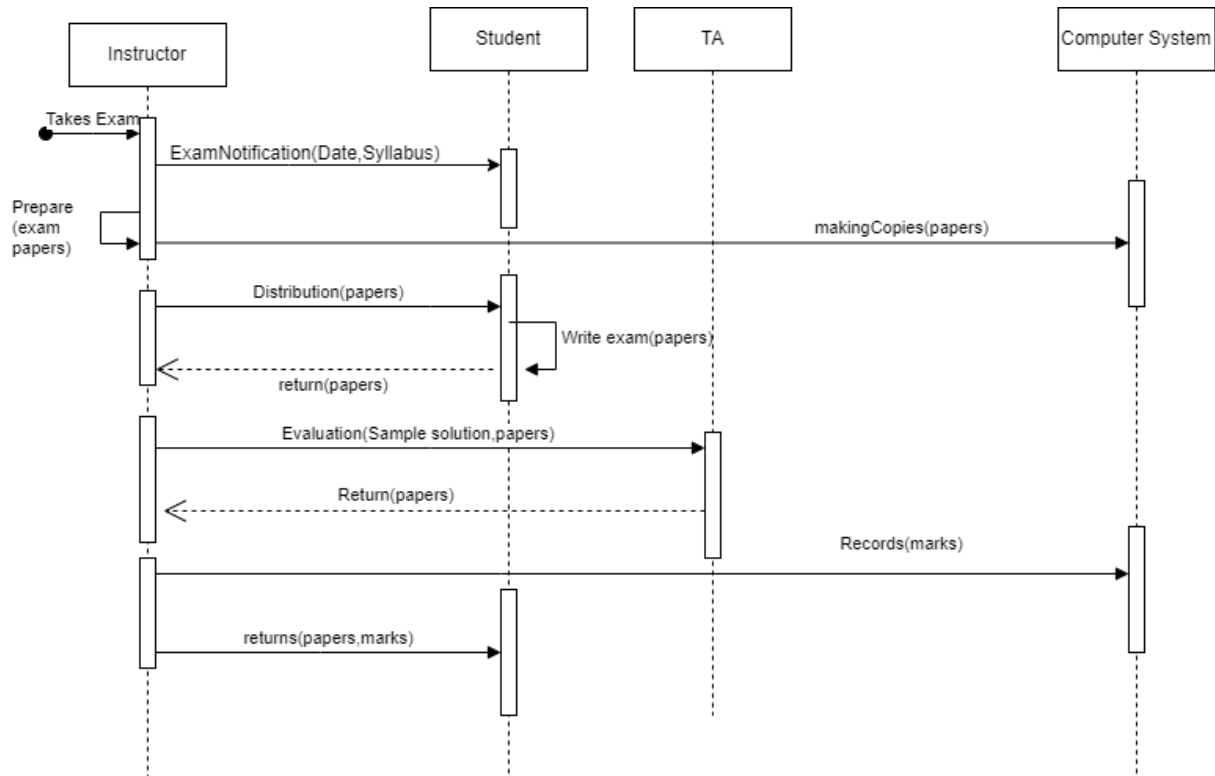
3. Draw the analysis object diagram for the “issueBook” use case analysis.



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.

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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 that are carried out	Arguments
Notifying exams	Date,Syllabus
Making Copies	Papers
Prepare	Exam Papers
DistributionToStudents	Papers
WriteExams	Papers
Evaluation	Sample solution, Papers
Record	marks
return	Papers,marks