IT313 Software Engineering
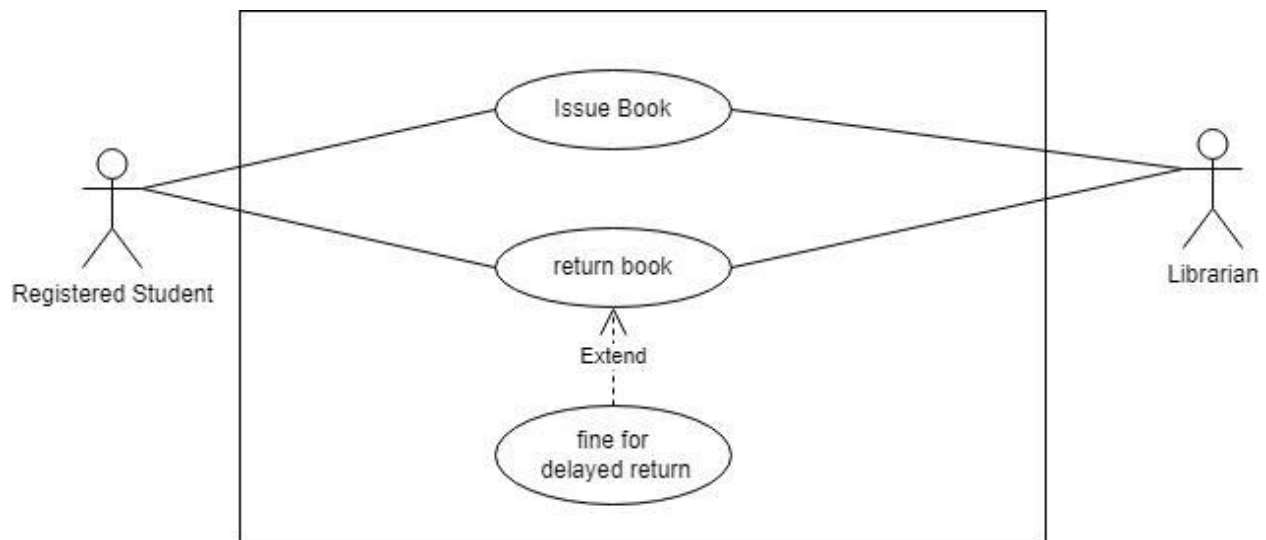
Lab 07
Group: 1
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Q-1)

1)

Description: This system is used by students, faculty members and staff for issuing book. In this for students, they can issue an available book, and they should return the book. If the return date of book is after the due date the students have to pay some fine for that.

Actors: Student, Librarian, Library

Preconditions: Student should register in the library.

Trigger: student comes to library for issuing the book or returning a book.

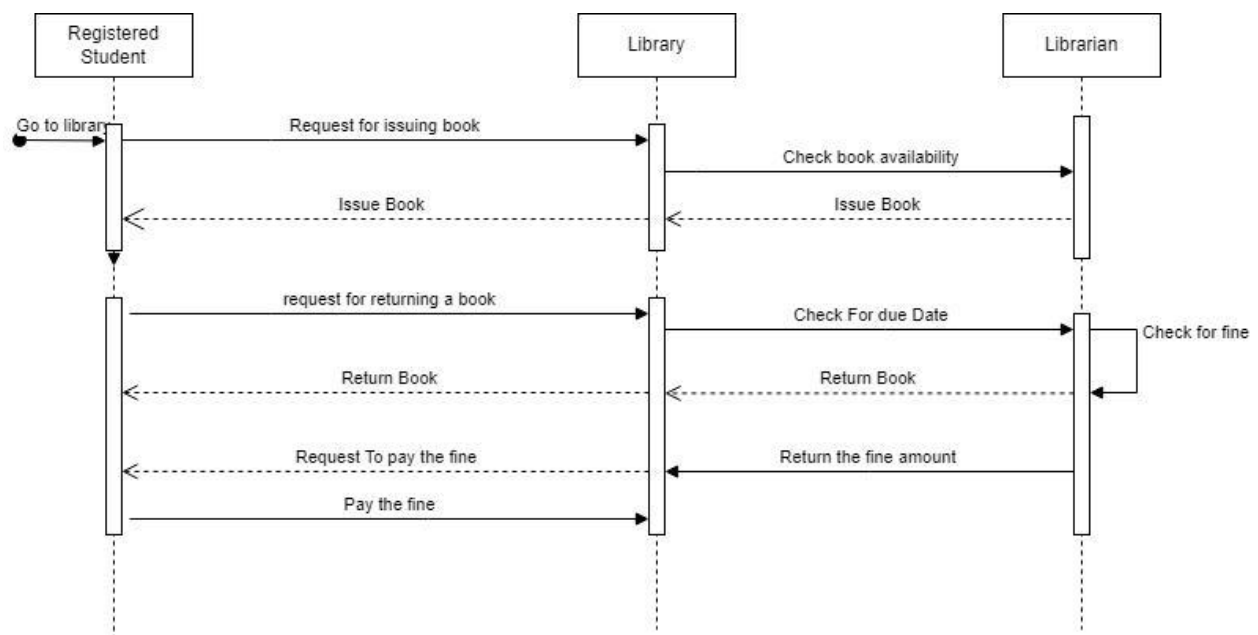Postcondition: The entry of an issued or returned book should be added to the database of library.

Flow: the student will come to issue a book for reading, Librarian will check for the availability of book in the library. Then he will issue the book and record it in the library database.

At the time of returning the book, student will return the book, librarian will check the due date, if the student if already late in returning then he/she should pay the fine. Librarian will accept the fine and take the book return and update the database.

Alternative Flows: If the book which the student wants to read is not available then the librarian will notify this to the student and put the student on a waiting list.
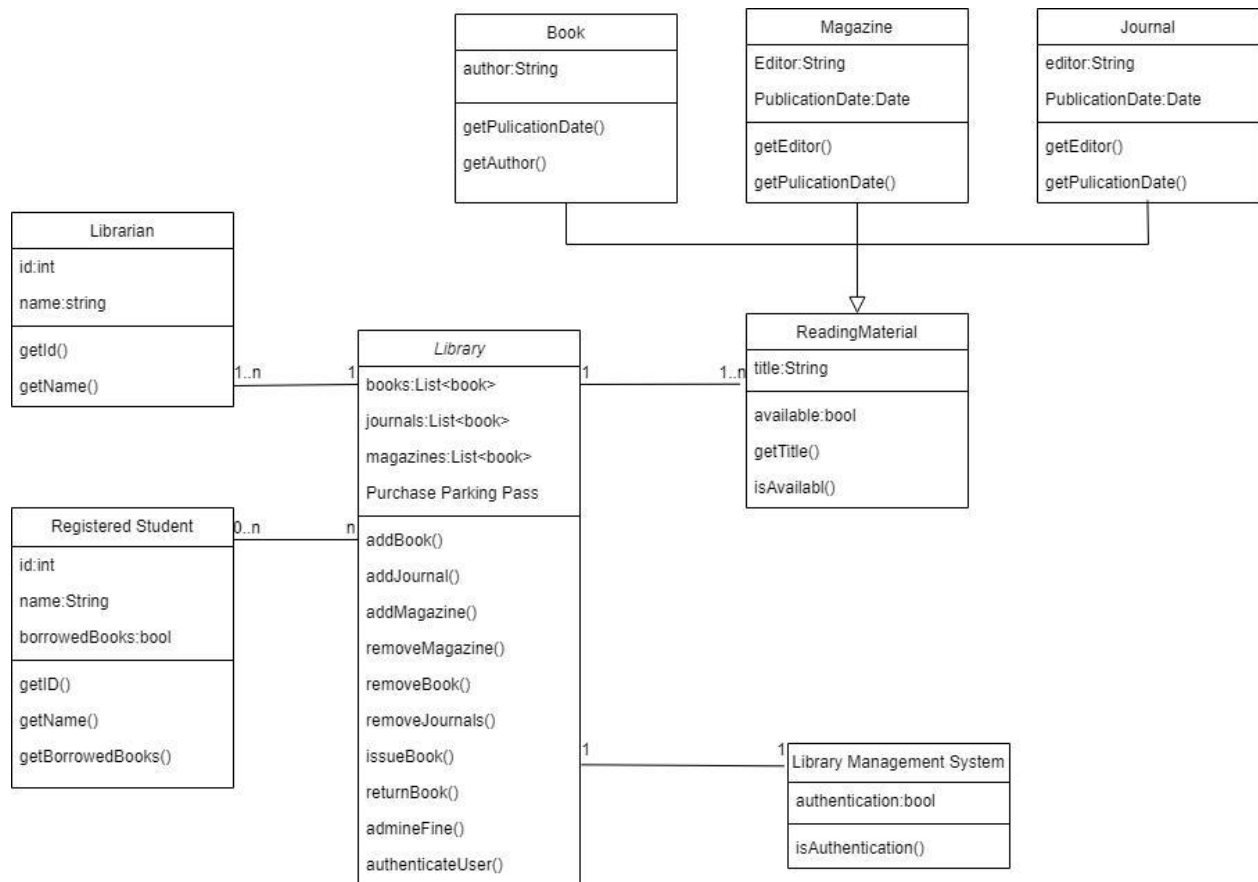
2)

Sequence Diagram:

3)

Class Diagram:

Book

author:String

getPulicationDate()

getAuthor()

Magazine

Editor:String

PublicationDate:Date

getEditor()

getPulicationDate()

Journal

editor:String

PublicationDate:Date

getEditor()

getPulicationDate()

Librarian

id:int

name:string

getId()

getName()

Library

books:List<book>

journals:List<book>

magazines:List<book>

Purchase Parking Pass

addBook()

addJournal()

addMagazine()

removeMagazine()

removeBook()

removeJournals()

issueBook()

returnBook()

admineFine()

authenticateUser()

ReadingMaterial

title:String

available:bool

getTitle()

isAvailabl()

1..n   1   1   1..n

Registered Student

id:int

name:String

borrowedBooks:bool

getID()

getName()

getBorrowedBooks()

0..n   n

1   1

Library Management System

authentication:bool

isAuthentication()

Q-2)

Sequence Diagram: