LAB 07

IT313 Software Engineering
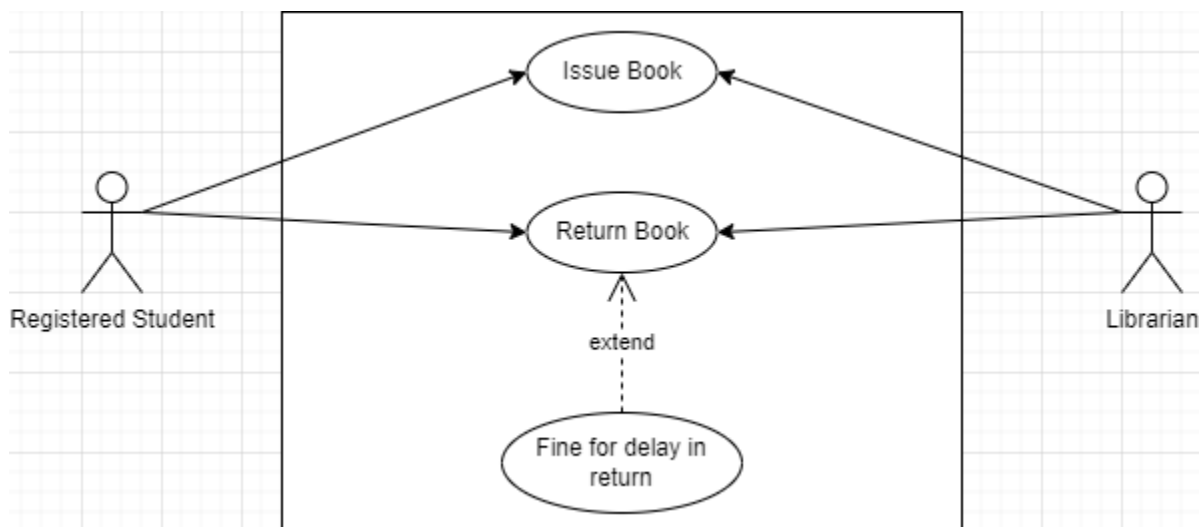
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Group 03

Question 1

Use Case Diagram -

- *<u>Description</u> –*

  This system is used by students, faculty members and staff for issuing book Students may borrow any book that is available in this situation, but they are required to return it. Students are subject to a fee if they return a book beyond the deadline.

  This section need to include an explanation of the use case's purpose as well as the expected outcome of the use case.
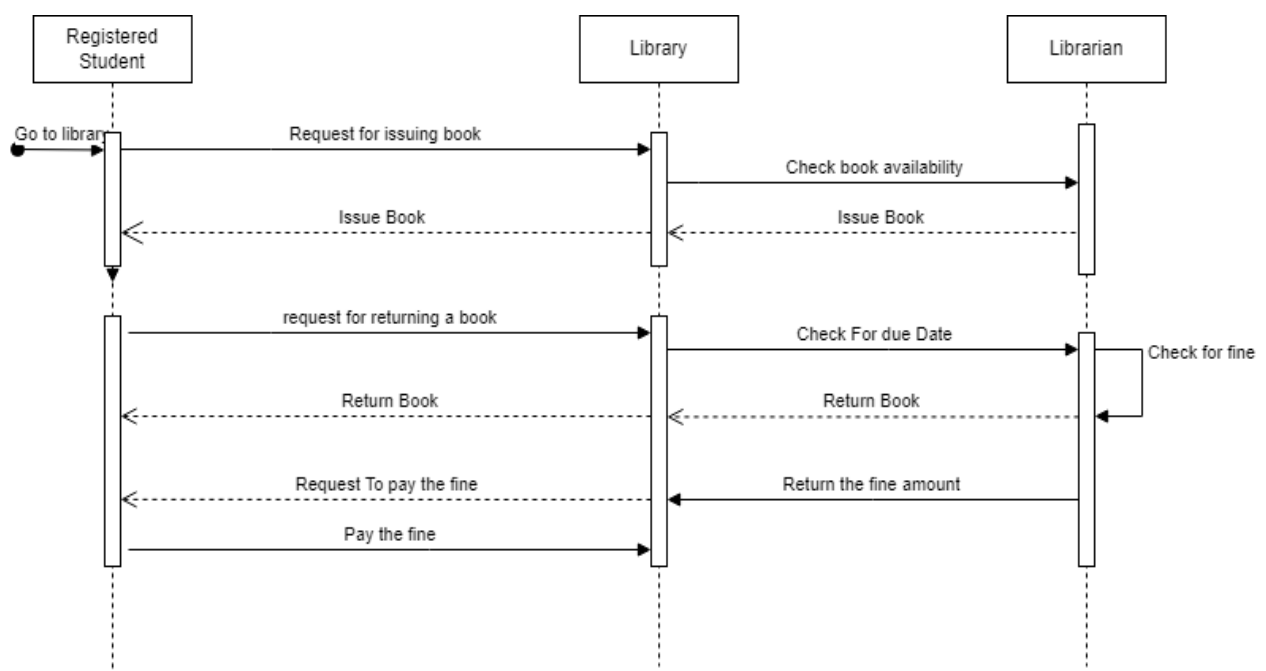
- *Actors* – Student, Librarian, Library
- *Preconditions* – Student should register in the library.
- *Trigger* – Student comes to library for issuing the book or returning a book.
- *Post-condition* – The entry of issued or returned book should be added to the database of library.
- *Flow* –

  When a student requests a book to read, the librarian first determines if it is available in the library. The book will then be issued, and a record will be made in the library database.
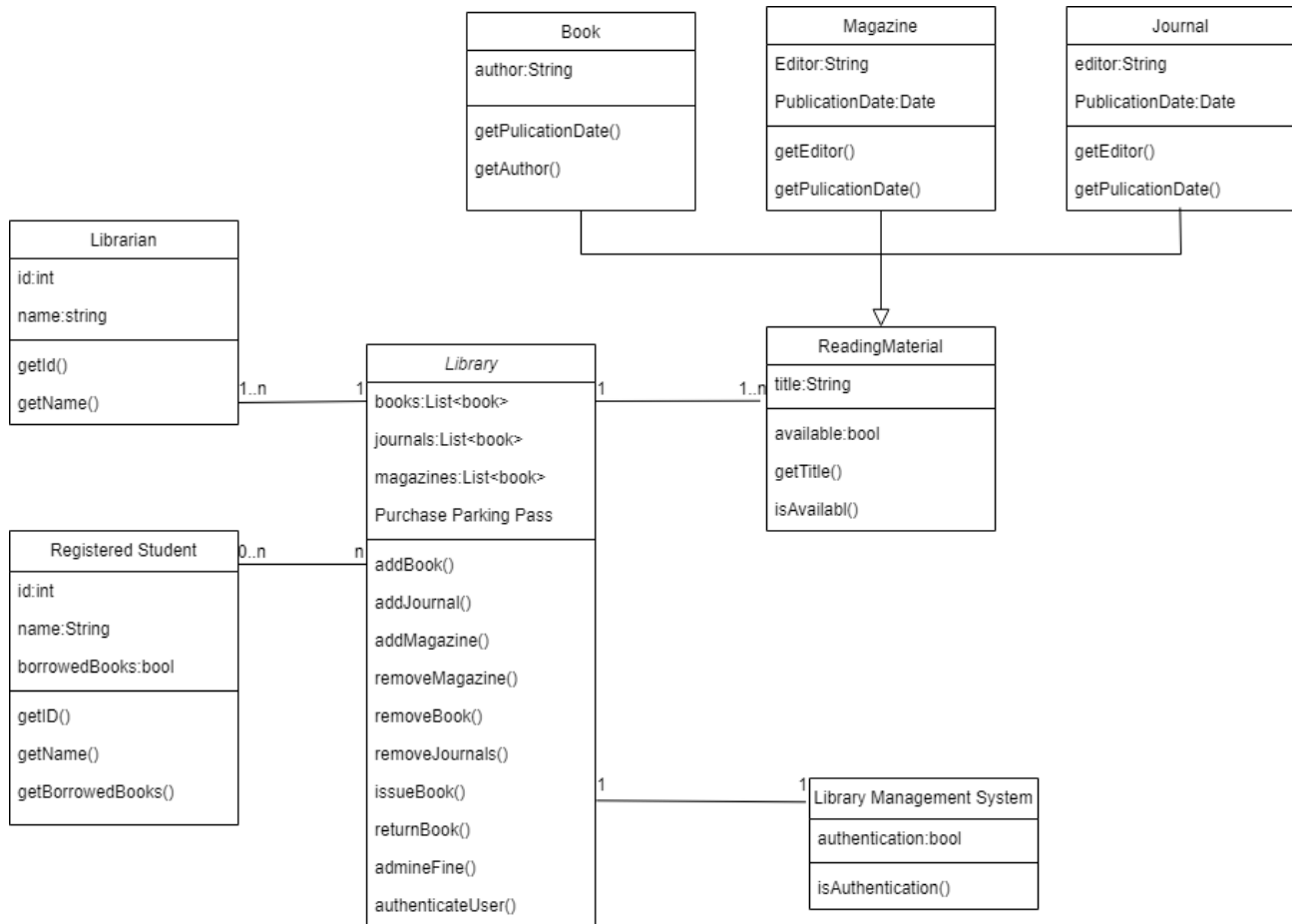
  When the student returns the book, the librarian will check the due date; if the student is already over the due date, he or she must pay the fee. The librarian will take the returned books, receive the fee, and update the database.

- *Alternate Flows* – If the book which student wants to read is not available then librarian will notify this to the student.

Sequence Diagram –

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()

Registered Student
- id:int
- name:String
- borrowedBooks:bool
- getID()
- getName()
- getBorrowedBooks()

Library Management System
- authentication:bool
- isAuthentication()

1..n   1   1   1..n   0..n   n   1   1

Question 2

Sequencing Diagram –