Group27 - Lab 8
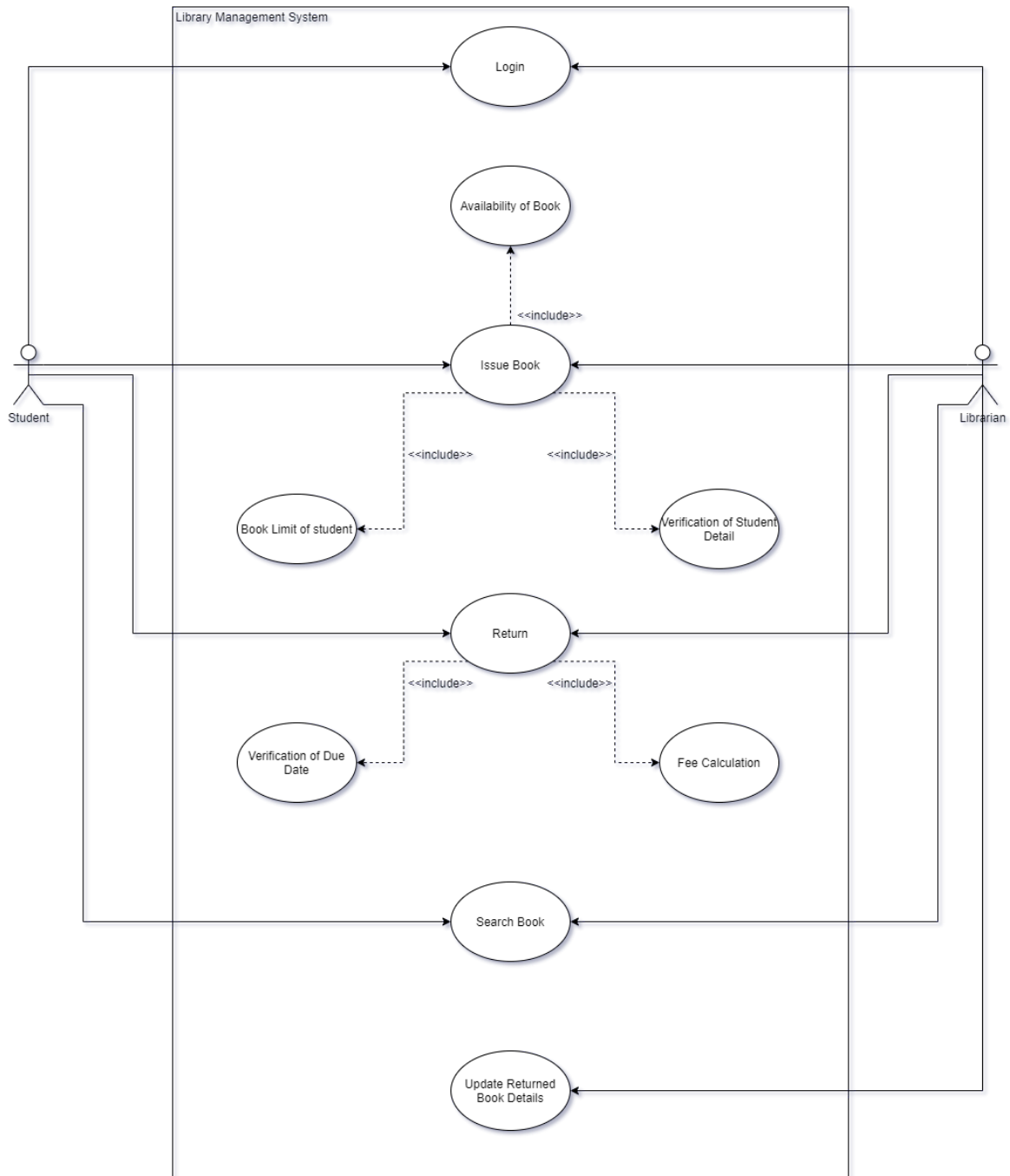
1. The use case diagram of the library management system
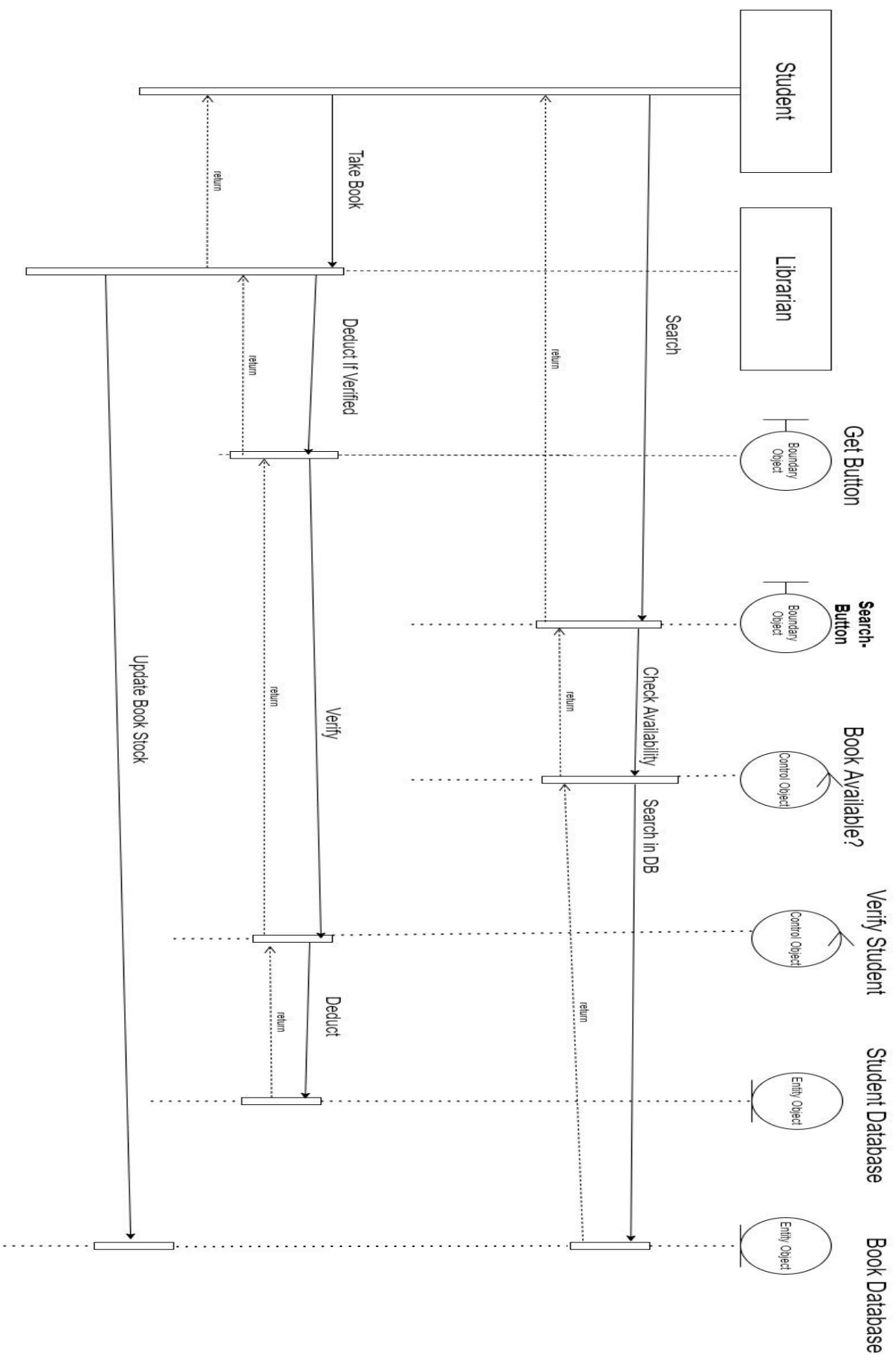
Issue book use case Description:

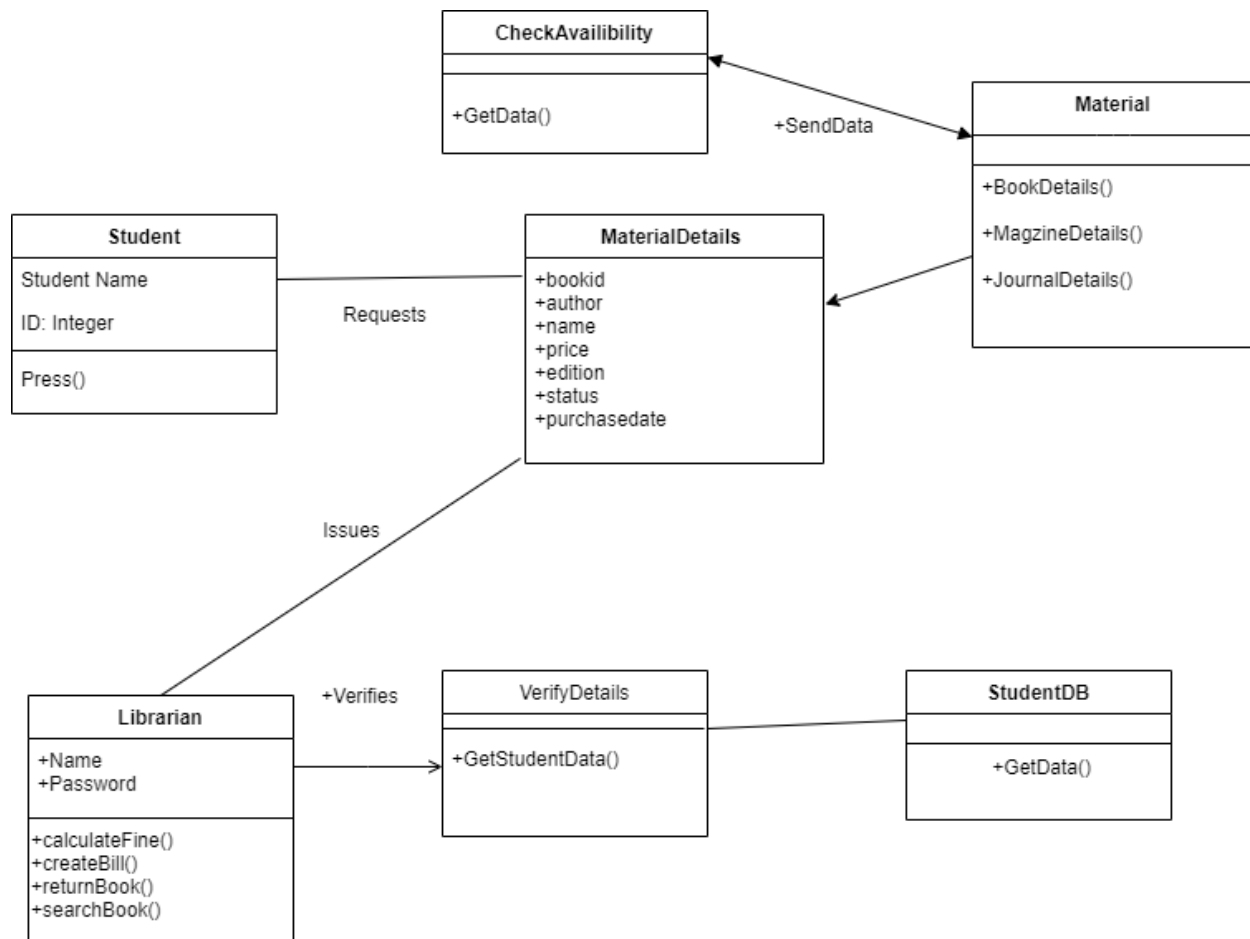| Use Case	Actor	Description
Issue Book : Student will be able to issue book	Student	Firstly the student logs in to the system. Then searches for the book Then visit the Librarian to issue the book
	Librarian	The Librarian first check if the student requesting is registered and has not reached the maximum number of books limit. If yes, the librarian Issues the book and marks the due date.

2. The sequence diagram for the "issueBook" use case.
(Hint: Here you need to identify various analysis objects (corresponding to entity, boundary, and control
classes), and show their interaction to realize the "issueBook" use case.)

Student

Librarian

Get Button
Boundary Object

Search-Button
Boundary Object

Book Available?
Control Object

Verify Student
Control Object

Student Database
Entity Object

Book Database
Entity Object

Take Book

Search

Deduct If Verified

Check Availability

Search in DB

Verify

Deduct

Update Book Stock

return

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

CheckAvailibility

+GetData()

+SendData

Material

+BookDetails()
+MagzineDetails()
+JournalDetails()

Student

Student Name

ID: Integer

Press()

Requests

MaterialDetails

+bookid
+author
+name
+price
+edition
+status
+purchasedate

Issues

Verifies

Librarian

+Name
+Password

+calculateFine()
+createBill()
+returnBook()
+searchBook()

VerifyDetails

+GetStudentData()

StudentDB

+GetData()

Q.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 he 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.

Instructor | Student | Print | TAs

Notify on exam and its topic

Set Paper and Solution

Send paper for copying

return Prints

Distribute paper on exam day

Write Answers

return AnswerSheet

Send paper for checking

return Checked answerSheets

Verify and Save marks

Return AnswerSheets
return