School of Technology, Design and Computer Application

Silver Oak College of Engineering and Technology

Bachelor of Technology - Computer Engineering

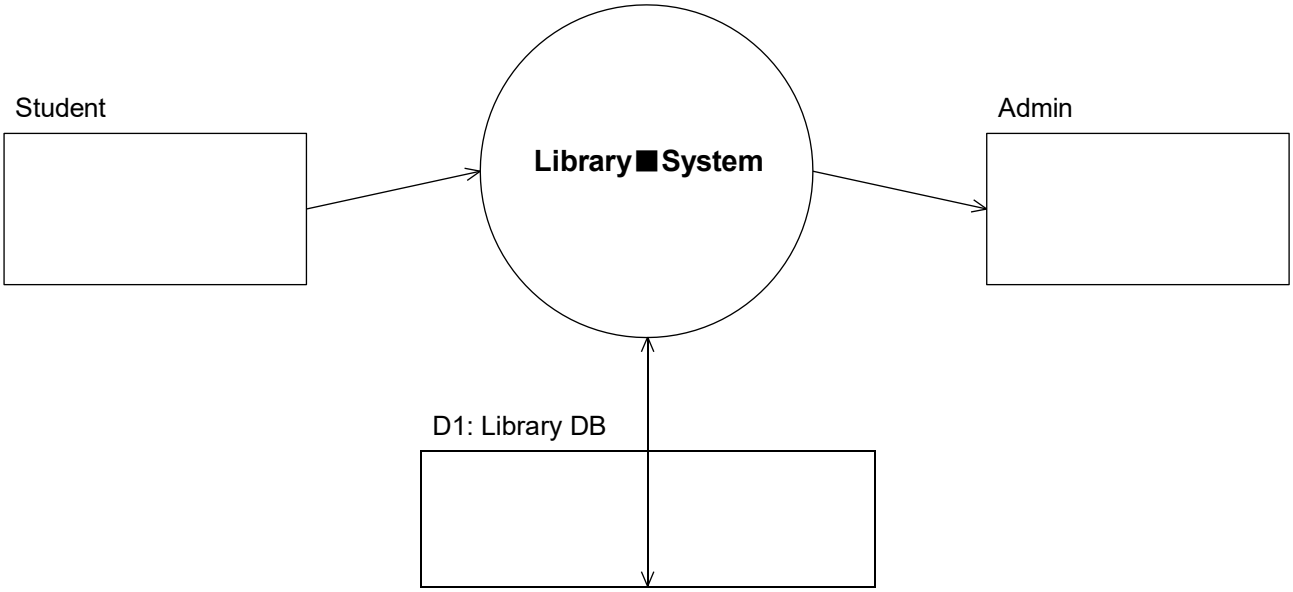
Semester: 5 | Academic Year: 2025-2026

Course: Software Engineering & Methodology (1010043342)

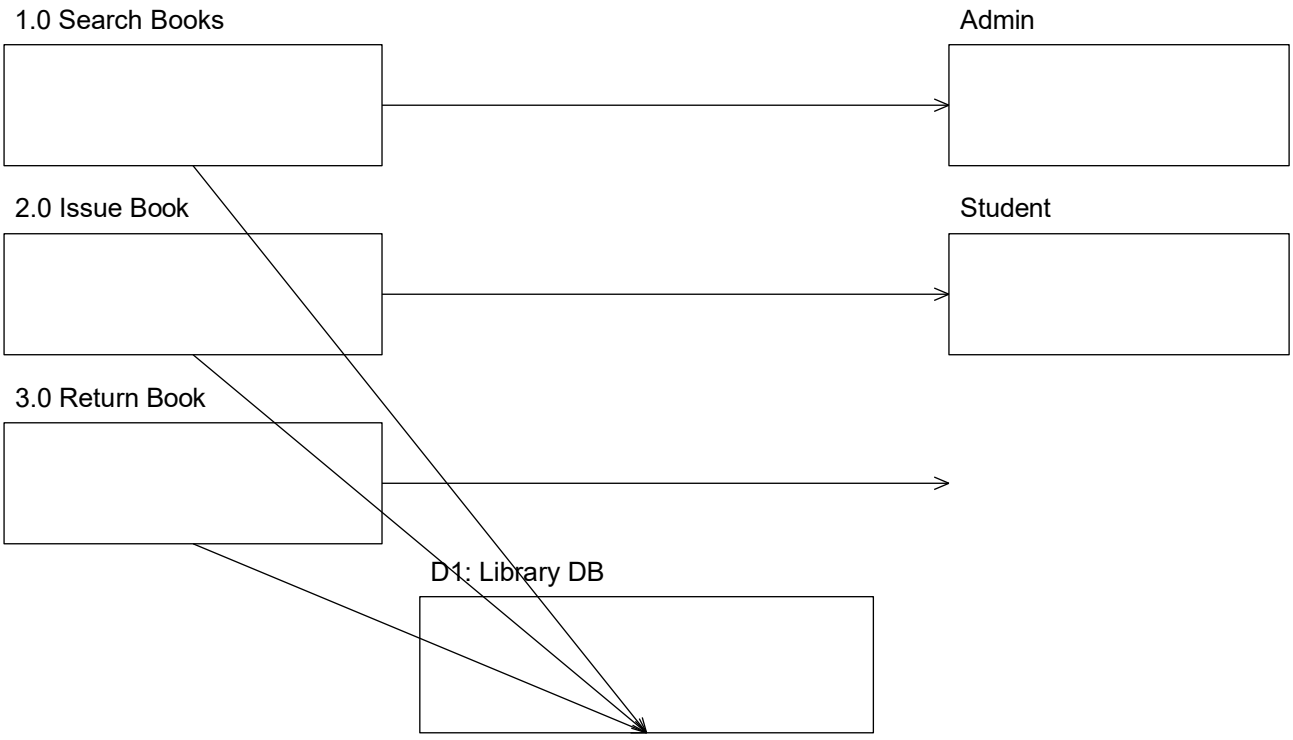
Library Management System — DFD, ER & UML Diagrams

Name: Patel Krish Jigneshbhai | Enrollment: 2301031800150
Roll No: 103 | Class: C
Date: September 04, 2025

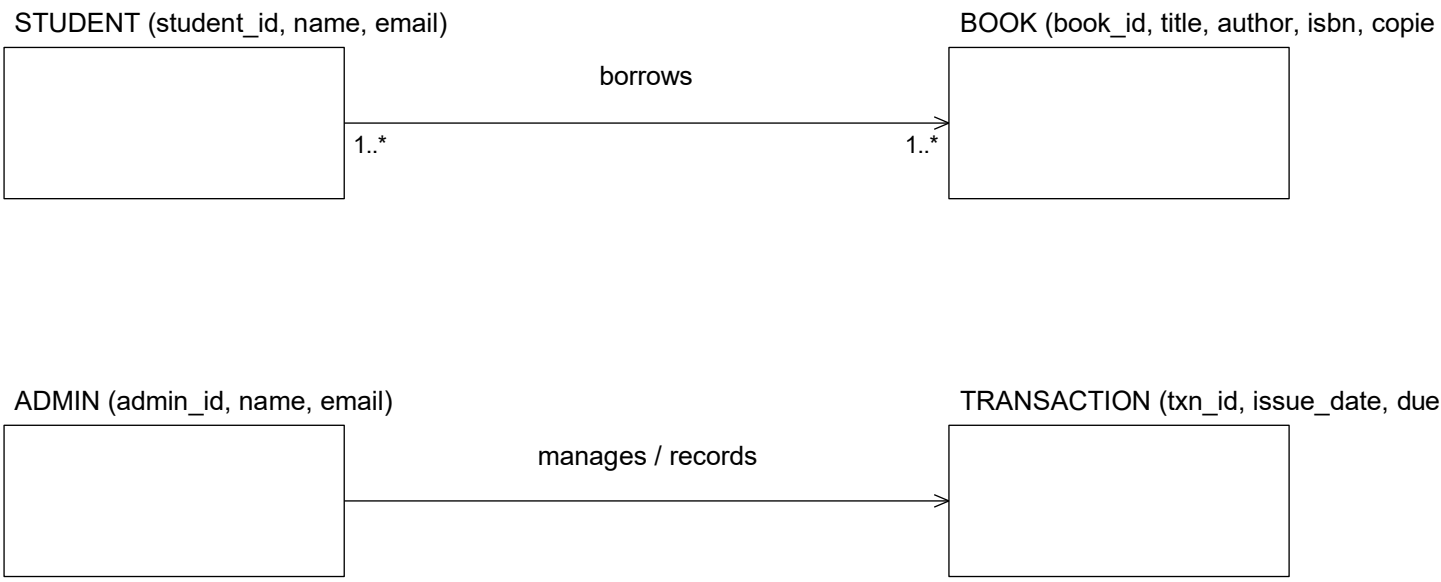
DFD — Level 0

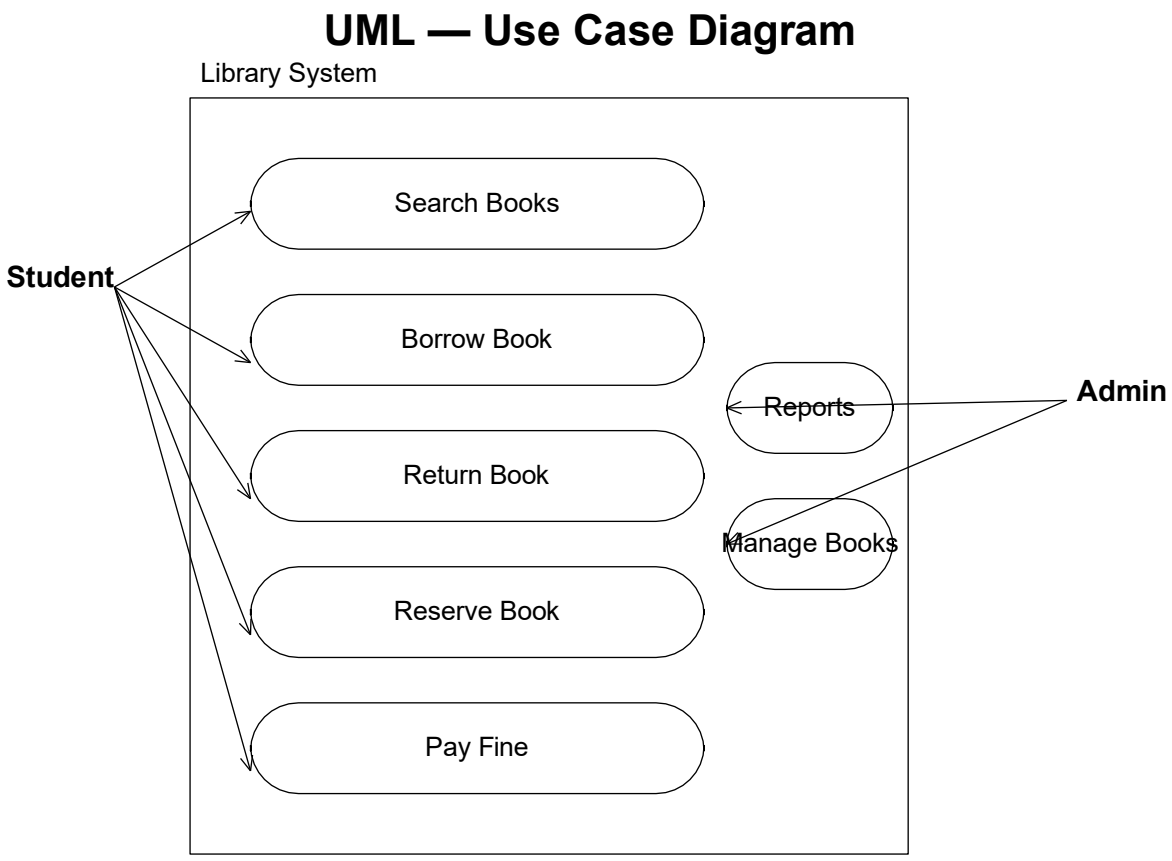


DFD — Level 1 (Issue & Return)

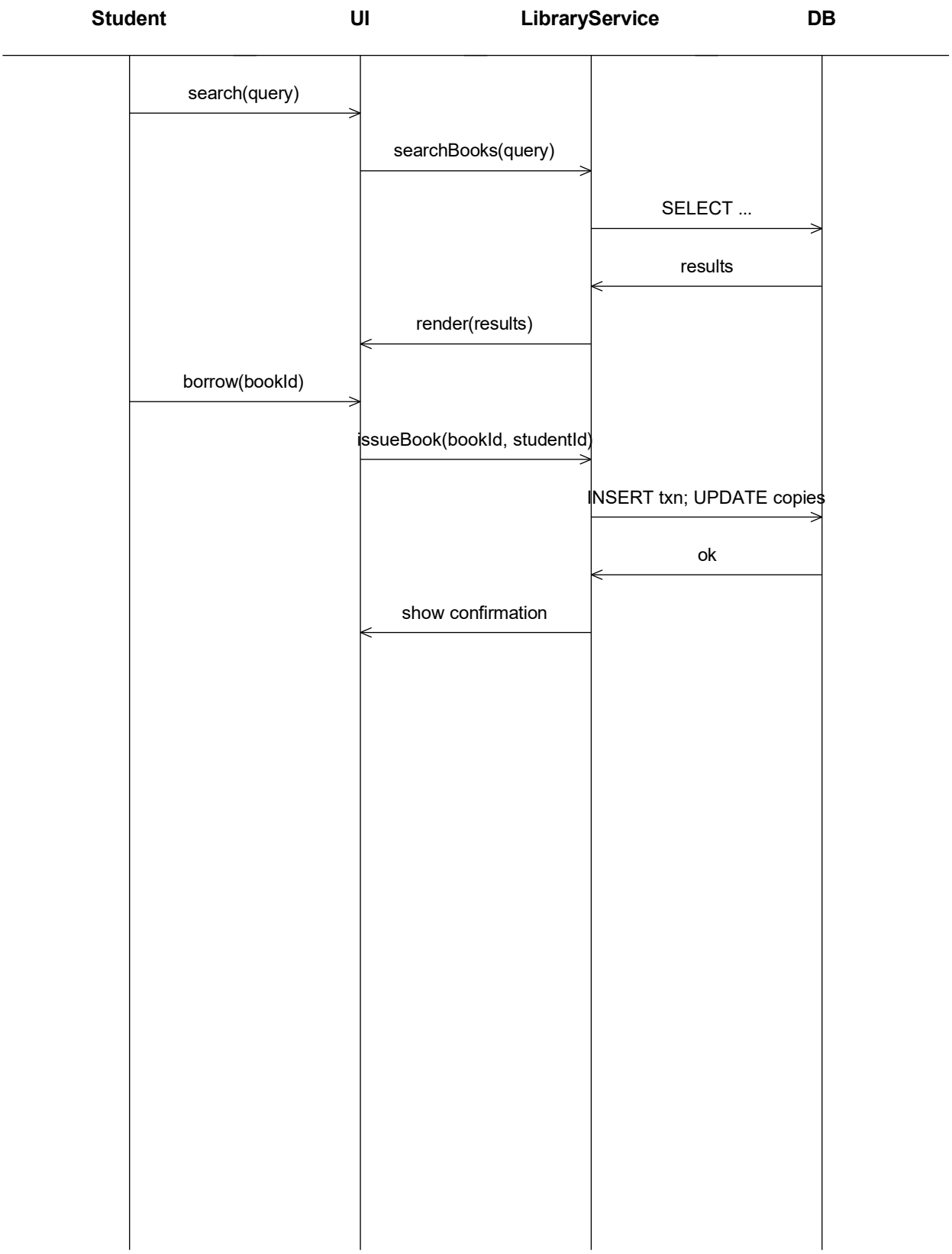


ER Diagram

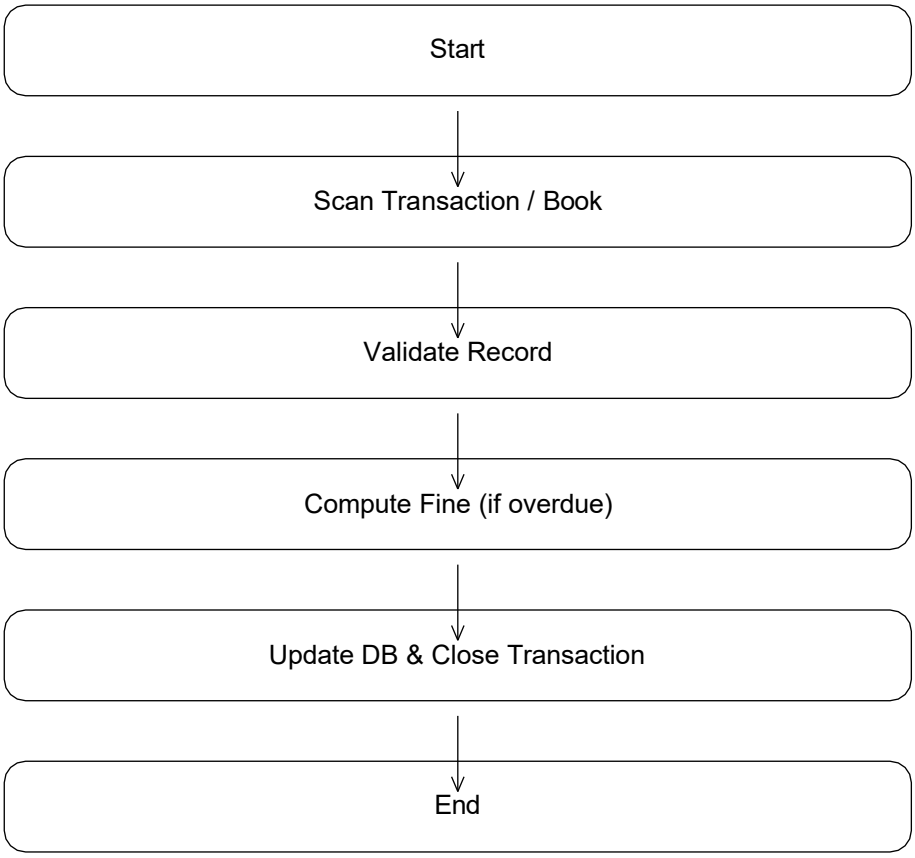
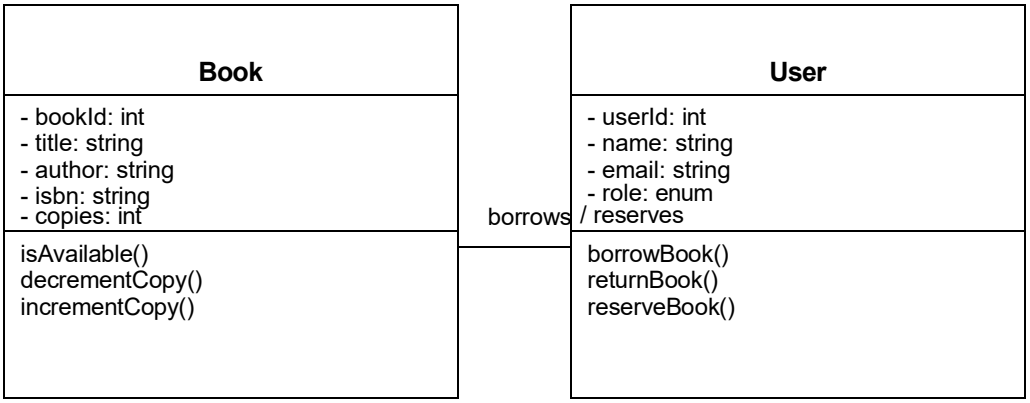

STUDENT (student_id, name, email)
BOOK (book_id, title, author, isbn, copie
borrows
1..*
1..*
ADMIN (admin_id, name, email)
TRANSACTION (txn_id, issue_date, due
manages / records


UML — Use Case Diagram
Library System
Search Books
Student
Borrow Book
Reports
Admin
Return Book
Manage Books
Reserve Book
Pay Fine

UML — Sequence Diagram (Issue Book)



UML — Activity Diagram (Return Book)



UML — Class Diagram