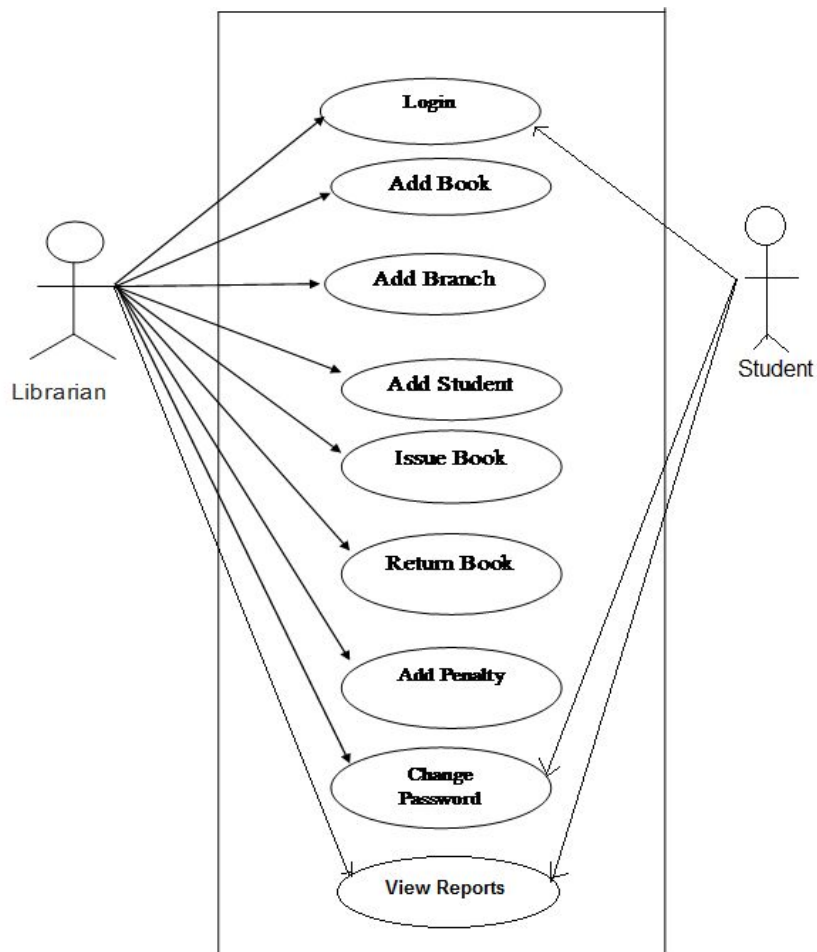**DFD(Context Level)**

Use Case
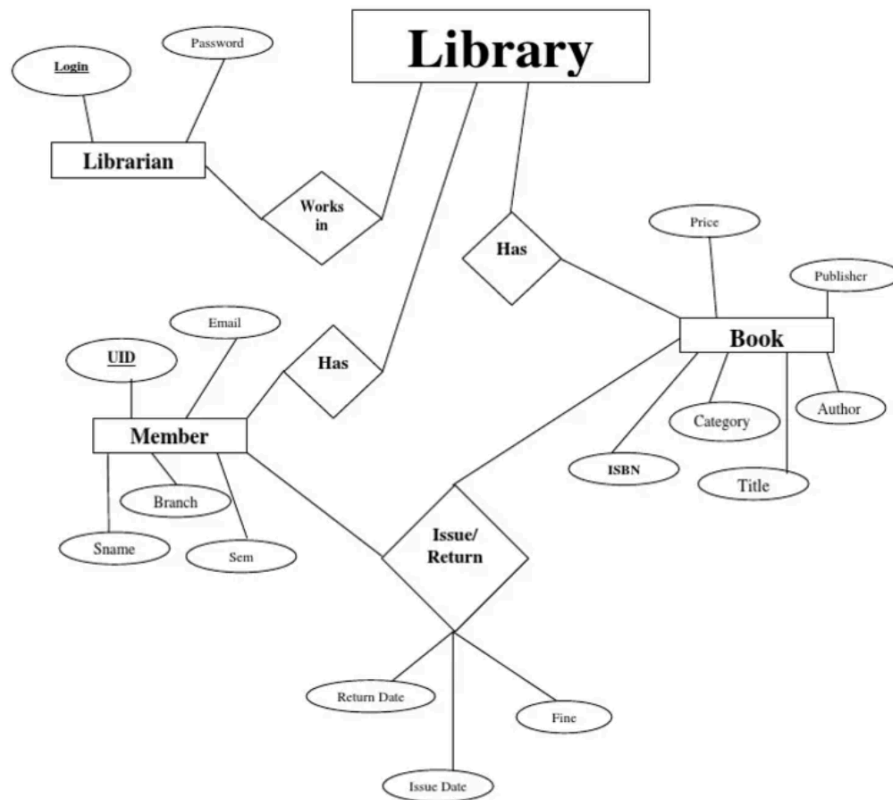
ER diagram
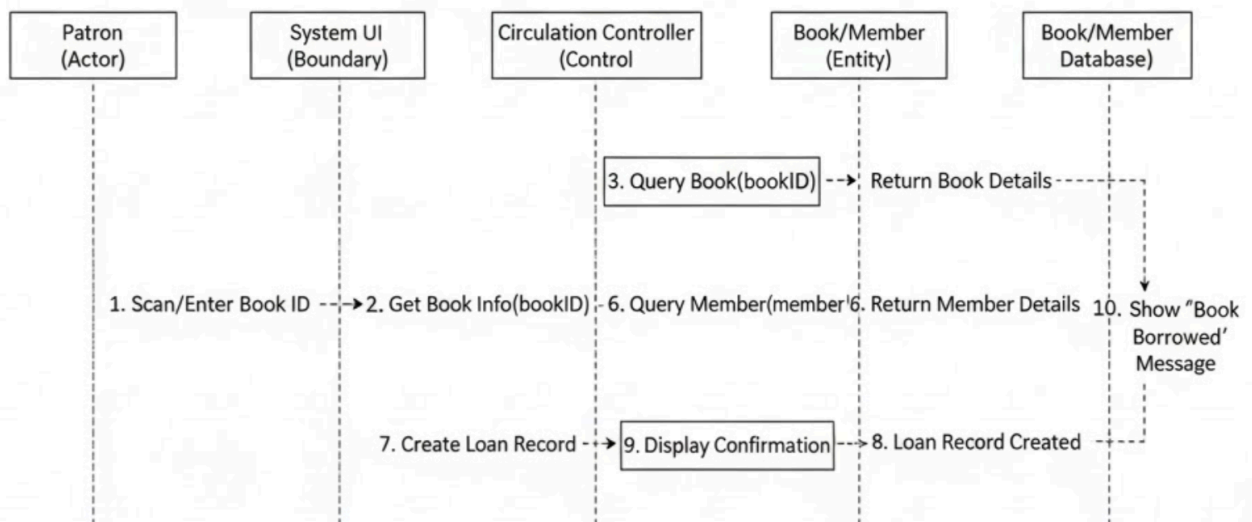
Sequence Diagram

Activity Diagram

Scan Book & Member ID → (No) → **Display Error & Retry**

Check Book Availablity — Yes → **Valid IDS?**

Valid IDS? — Yes → **Available?**

Book Available? — No → **Available?** — **Display "Book Unaillable" Message**

Update Book Status (Borrowed) → **Create Loan Record**

Update Member's Borrowed Books → **Print Due Date Slip** → ●
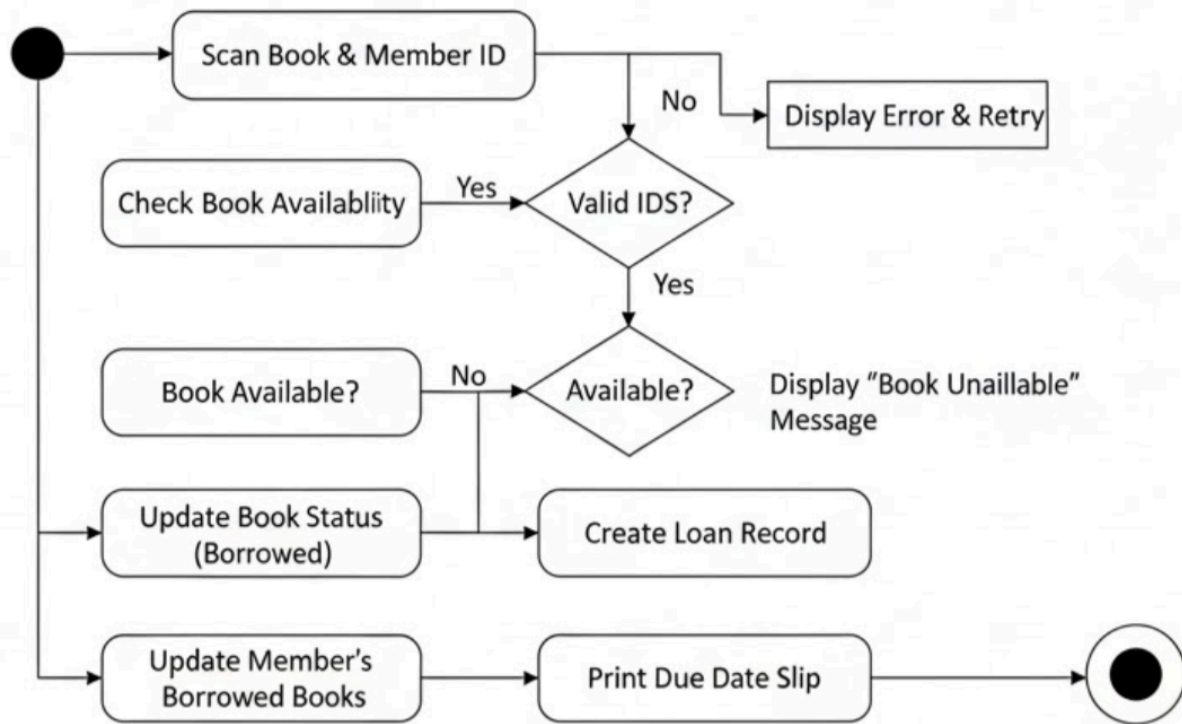
Activity Diagram

Class Diagram

Librarian
-name
-librarian id

+issueStatus()
+searchBook()
+verifyMember()
+issueBook()
+payment()

Library
-location
-librarian id

Books Database
-bookTitle
-bookAuthor
-bookId

+update()

Patron
-details
-patronId

+search()
+request()
+payFine()

Patron Record
-patronId
-type
-dateOfMembership
-noBooksIssued
-maxBookLimit
-name
-address
-phoneNo
-finesOwed

+retrieveMember()
+increaseBooksIssued()
+decreaseBookIssued()
+payFine()

Vendor
-bookDetails

+search()
+supplyBooks()
+paymentDetails()

Class Diagram