



Library Management System — Homework Assignment

Objective

Design and implement a **Library Management Database** using **MySQL**, following the same structure and normalization approach used in your **College Management System**.

Part A – ER Diagram & Schema Design

Entities to Include

1. **BOOK** — details of each book in the library
2. **AUTHOR** — details of authors
3. **STUDENT** — members who borrow books
4. **FACULTY** — members who borrow books
5. **BORROW** — N:M relationship between members (students/faculty) and books
6. **CATEGORY** — defines subject area of books
7. **PUBLISHER** — details of the book's publisher
8. **ADDRESS** — reuse for publisher or members

Part B – Table Creation

Students must:

1. **Write DDL (CREATE TABLE)** for all entities.
2. Include **Primary keys, Foreign keys, Unique keys, and Constraints**.
3. Apply **CHECK, DEFAULT, AUTO_INCREMENT, ENUM, and REGEXP** constraints where possible.
4. Follow **proper dependency creation order** (like Address → Publisher → Category → Author → Book → Member → Borrow).

Part C – Insert Data

- Insert at least:
 - 10 books
 - 5 authors
 - 5 categories
 - 5 publishers



- 10 students
- 5 faculty members
- 20 borrow transactions

Part D – Alter, Drop, and Truncate Practice

Perform and record:

- **ALTER TABLE:** add edition column to BOOK, modify phone format in PUBLISHER.
- **ADD / DROP CONSTRAINTS** examples.
- **RENAME** one table (e.g., BORROW → ISSUE_RECORD).
- **TRUNCATE** the borrow table after disabling FK checks.
- **DROP** all tables in reverse dependency order.

Part F – Documentation Deliverables

Each student must submit:

- **ER Diagram (hand-drawn or using Draw.io)**
- **Normalized Schema (up to 3NF)**
- **MySQL Scripts (DDL + DML + Queries)**
- **Short report (PDF or Word) summarizing:**
 - Design choices
 - Constraints used
 - Key observations

Note: File name should be the PRN_LibraryManagement

Submission Timeline

Deadline: 16 October 2025

Mode: https://drive.google.com/drive/folders/1o_y_RAoiDlcS-uroG3c1HkFRsEO-Z12Y?usp=sharing