Final Project: Design a Complete Database

Objective

Each student (or team) must design a complete relational database system from scratch, covering all the major steps in the database development process.

Project Description

You are free to choose any real-world or fictional topic for your database. The goal is to create a well-structured relational database that models a complete system. You should ensure that your design solves a realistic problem or supports a useful process within your chosen domain.

Project Requirements

1. **Requirement Analysis**
   Clearly describe the purpose of your system and identify the types of users and operations the database will support.

2. **Entity-Relationship (ER) Diagram**
   Create a diagram showing entities, their attributes, and relationships, including cardinality. Use any professional drawing tool (dbdiagram.io, Lucidchart, or Draw.io).

3. **Relational Schema**
   Translate the ER diagram into a set of relational tables. Include all necessary keys and constraints.

4. **SQL Implementation**
   Write SQL statements to create all the tables in your schema. You must also include sample data using `INSERT INTO` statements.

5. **Optional Advanced Features**
   If applicable, demonstrate the use of views, stored procedures, functions, or triggers to improve your design and normalize your design to at least third normal form (extra credit will be given).

6. **Report**
   Compose a concise report that summarizes your database design. Clearly state any assumptions, and justify key design decisions.

Deliverables

All deliverable files must be submitted together in a single `.zip` file. The file name should include the student number(s) and full name(s), for example: `401234567_ElaheSabze.zip`.

The file should include the following:

- A SQL file containing all `CREATE TABLE` and `INSERT INTO` statements
- A 1–2 page report in PDF format
- An ER diagram image or PDF