# DBMS LAB 07 TASK

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**Note:** Write down your commands and errors encountered in a notepad file to be evaluated.

## SCENARIO

Government of Bangladesh plans to digitalize its different sectors. Each of the following points are based on a description of the desired system of a particular component and a number of requirements are identified. The components are logically connected.

- A national database should be maintained to store the basic information of each citizen such as Name, Date of Birth (DOB), Blood Group, Address, Profession, Salary etc.
- We want to store and maintain citizens' driving license information such as Name of Citizen, Address, Date of Birth, License No, License Issue Date, License Expire Date. Each Citizen may have at most one driving license.
- Now, medical sector should be connected to this system. To achieve this, the information of each hospital should be maintained including Name of Hospital, Location, Year of Establishment, Total Capacity etc. Citizens may be admitted to any of these hospitals but his time and reason for admission must be stored.
- Libraries should be digitalized too. The different libraries in the country are recognized by their name and location. Libraries store book information such as book title, price, category etc.
  - Publishers are well-known along with some additional information such as Name, Established Year, Country of origin, reputation.
  - Multiple copies of a book must be stored efficiently.
  - A citizen can borrow and return books from library. Information related to date of borrowal and date of return must be stored.

Your tasks are:

1. Create an ER Diagram with appropriate cardinality. Make sure you specify both the minimum and the maximum cardinality of each entity using the notations shown in the lecture. Only add attributes to the entities if needed.
   For each relationship, comment on how your design satisfies the given requirements.

2. Convert the ER Diagram into a relational model using standard SQL. [Make sure to appropriately declare primary keys and foreign keys.]

3. Upload a zip file that contains your ERD, a text file containing the DDL statements you have used to create a relational model of your ERD and the comments you have used to explain your design choice. You can keep your comments and your DDL statements in the same text file or you can use a separate text file.