

Exam 01

A Library has decided to store information about its Stuff and Books in a database. It has chosen to hire you as a database designer.

1. Prepare an E-R diagram and schema(mapping) for System that describes its activities according to The following Description:

- Library has a number of **Employees** , Each one Has **Emp_Id(unique)** , **Name** Which is represented as **Fname** and **Lname**, **Email** , **Salary** , **DateOfBirth**, **Bouns** , **Address** and **Phone Number**. **Each Employee has a supervisor.**
- Library has a set of Floors each **floor** has **floor number** and **Number of Blocks**.
- There is **always one employee assigned to manage that Floor** and each manager has a **hiring Date**.
- **Floor has many employees** and **employees work on Only One floor.**
- The **data of the user will be Recorded by one employee** , Each **user** has a set of attributes **SSN(Unique)** , **Name** , **Email** and **Phones** . And the **Employee Can record More than one User.**
- The system records the following details about **Book** : **id** and **Title**.
- The Employee has to record all required data each time the **User Borrow a certain book** with specified **Date_Borrowed**, **Due_Date** and **Amount of money** That paid for borrowing .
- Each **Book May have one or more authors** , Each **author May own one or more books.**

- Each Book Has one Publisher , and each Publisher May publish many Books
 - Data Recorded about author and publisher [id , Name].
 - Each book is Classified under one Category. Each category may have many books, and each category has an id ,Cat_Name.
 - Each book is assigned to a certain Shelf , and the shelf may contain one or more books . Shelf is defined by Code.
 - Each Shelf is located on a specific floor , and the floor contains many shelves.
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