Create the Library database
```
CREATE DATABASE LibraryDB;
USE LibraryDB;

-- Authors Table
CREATE TABLE Authors (
AuthorID INT AUTO_INCREMENT PRIMARY KEY,
Name VARCHAR(100) NOT NULL,
Bio TEXT
);

-- Categories Table
CREATE TABLE Categories (
CategoryID INT AUTO_INCREMENT PRIMARY KEY,
CategoryName VARCHAR(50) NOT NULL UNIQUE
);

-- Books Table
CREATE TABLE Books (
BookID INT AUTO_INCREMENT PRIMARY KEY,
Title VARCHAR(150) NOT NULL,
AuthorID INT,
CategoryID INT,
ISBN VARCHAR(20) UNIQUE,
PublishedYear INT,
CONSTRAINT fk_author FOREIGN KEY (AuthorID) REFERENCES Authors(AuthorID),
CONSTRAINT fk_category FOREIGN KEY (CategoryID) REFERENCES Categories(CategoryID)
);

-- Members Table
CREATE TABLE Members (
MemberID INT AUTO_INCREMENT PRIMARY KEY,
FullName VARCHAR(100) NOT NULL,
Email VARCHAR(100) UNIQUE NOT NULL,
JoinDate DATE DEFAULT CURRENT_DATE
);

-- Loans Table
CREATE TABLE Loans (
LoanID INT AUTO_INCREMENT PRIMARY KEY,
BookID INT,
MemberID INT,
LoanDate DATE DEFAULT CURRENT_DATE,
ReturnDate DATE,
CONSTRAINT fk_book FOREIGN KEY (BookID) REFERENCES Books(BookID),
CONSTRAINT fk_member FOREIGN KEY (MemberID) REFERENCES Members(MemberID)
);
```

Interview Questions:

1.What is normalization?
Ans:: Reducing data redundancy and improving data integrity by organizing data into separate tables and connecting them through relationships .

2.Explain primary vs foreign key?
Ans:: . Primary key: Uniquely identifies each record in a table.

. Foreign key: References a primary key in another table, creating a relationship between tables.

3.What are constraints?
Ans:: Rules applied to data columns to ensure data validity (for example, NOT NULL, UNIQUE, PRIMARY KEY, FOREIGN KEY).

4.What is a surrogate key?
Ans:: An artificial or system-generated key (such as an auto-incrementing ID) that is used as a unique identifier instead of natural keys.

5.How do you avoid data redundancy?
Ans:: Use normalization, separate data into logical tables, and use foreign keys to link them.

6.What is ER diagram?
Ans:: A visual representation of the entities and their relationships in a database.

7.What are the types of relationships in DBMS?
Ans:: . One-to-One

. One-to-Many

. Many-to-Many

8.Explain the purpose of AUTO_INCREMENT?
Ans:: Automatically generate a unique value for each new record in the primary key field.

9.What is the default storage engine in MySQL?
Ans:: InnoDB

10.What is a composite key?
Ans:: A combination of two or more columns that is used to uniquely identify a record when none of the columns is unique.