

**Assignment:4** Write SQL statements to CREATE a new database and tables that reflect the library schema you designed earlier. Use ALTER statements to modify the table structures and DROP statements to remove a redundant table in small

Let's take an example as the Library schema consists of following Entities.

1. Books
2. Authors
3. Members
4. Transactions (for borrowing and returning books)

SQL statements to create the database:

```
CREATE DATABASE LibraryDB;
```

```
USE LibraryDB;
```

```
/* let's create Table Authors*/
```

```
CREATE TABLE Authors (  
    AuthorID INT PRIMARY KEY AUTO_INCREMENT,  
    Name VARCHAR(100) NOT NULL,  
    BirthDate DATE,  
    Country VARCHAR(50)  
);
```

```
/* Let's create the Books table*/
```

```
CREATE TABLE Books (  
    BookID INT PRIMARY KEY AUTO_INCREMENT,  
    Title VARCHAR(200) NOT NULL,  
    ISBN VARCHAR(20),  
    PublishedYear INT,  
    AuthorID INT,  
    FOREIGN KEY (AuthorID) REFERENCES Authors(AuthorID)  
);
```

```
/* Let's create the Members table*/
```

```
CREATE TABLE Members (  
    MemberID INT PRIMARY KEY AUTO_INCREMENT,  
    Name VARCHAR(100) NOT NULL,  
    Email VARCHAR(100),
```

```
JoinDate DATE  
);
```

```
/* Let's create the Transactions table*/
```

```
CREATE TABLE Transactions (  
    TransactionID INT PRIMARY KEY AUTO_INCREMENT,  
    BookID INT,  
    MemberID INT,  
    TransactionDate DATE,  
    DueDate DATE,  
    ReturnedDate DATE,  
    FOREIGN KEY (BookID) REFERENCES Books(BookID),  
    FOREIGN KEY (MemberID) REFERENCES Members(MemberID)  
);
```

Now, let's say we want to modify the structure of the Members table by adding a phone number column:

```
/*Let's add PhoneNumber column to Members table*/
```

```
ALTER TABLE Members  
ADD PhoneNumber VARCHAR(20);
```

If we want to drop the Transaction table then:

```
DROP TABLE Transactions;
```