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.

Solution:-

Creating a new DataBase:

CREATE DATABASE LibraryDB;

USE LibraryDB;

-- Create Authors table

CREATE TABLE Authors (
    AuthorID INT PRIMARY KEY,
    Name VARCHAR(100) NOT NULL,
    Nationality VARCHAR(100) NOT NULL);

-- Create Books table

CREATE TABLE Books (
    BookID INT PRIMARY KEY,
    Title VARCHAR(255) NOT NULL,
    AuthorID INT NOT NULL,
    ISBN VARCHAR(13) NOT NULL UNIQUE,
    PublicationYear INT NOT NULL,
    FOREIGN KEY (AuthorID) REFERENCES Authors(AuthorID));

-- Create Students table

CREATE TABLE Students (
    StudentID INT PRIMARY KEY,
    Name VARCHAR(100) NOT NULL,
    Email VARCHAR(100) NOT NULL UNIQUE,
    Address VARCHAR(255) NOT NULL);

-- Create Borrowings table

CREATE TABLE Borrowings (
    BorrowingID INT PRIMARY KEY,
    BookID INT NOT NULL,
    StudentID INT NOT NULL,
    BorrowDate DATE NOT NULL,
    DueDate DATE NOT NULL,
    FOREIGN KEY (BookID) REFERENCES Books(BookID),
  FOREIGN KEY (StudentID) REFERENCES Students(StudentID));

use ALTER statements to modify the table structures and DROP statements to remove any redundant tables:

-- Add a column to the Books table

```sql
ALTER TABLE Books
ADD Genre VARCHAR(100);
```

-- Remove the Students table (assuming it's redundant)

```sql
DROP TABLE Students;
```

These SQL statements create a new database named "LibraryDB" and tables for authors, books, students, and borrowings. Then, an ALTER statement is used to add a new column "Genre" to the Books table, and the Students table is removed using the DROP statement assuming it's redundant.