Day 9

Assignment 1: Design a database schema for a library system, including tables, fields, and

constraints like NOT NULL, UNIQUE, and CHECK. Include primary and foreign keys to establish relationships between tables.

CREATE TABLE authors (

    author_id INT PRIMARY KEY AUTO_INCREMENT,

    first_name VARCHAR(255) NOT NULL,

    last_name VARCHAR(255) NOT NULL

);

-- Books Table

CREATE TABLE books (

    book_id INT PRIMARY KEY AUTO_INCREMENT,

    title VARCHAR(255) NOT NULL,

    author_id INT NOT NULL,

    isbn VARCHAR(13) NOT NULL UNIQUE,

    publication_year YEAR CHECK (publication_year >= 1000 AND publication_year <= YEAR(CURDATE())),

    available_copies INT NOT NULL CHECK (available_copies >= 0),

    FOREIGN KEY (author_id) REFERENCES authors(author_id)

);

-- Members Table

CREATE TABLE members (

    member_id INT PRIMARY KEY AUTO_INCREMENT,

    first_name VARCHAR(255) NOT NULL,

    last_name VARCHAR(255) NOT NULL,

    email VARCHAR(255) NOT NULL UNIQUE,

    phone VARCHAR(20) NOT NULL

);

-- Loans Table

```sql
CREATE TABLE loans (

    loan_id INT PRIMARY KEY AUTO_INCREMENT,

    book_id INT NOT NULL,

    member_id INT NOT NULL,

    loan_date DATE NOT NULL,

    return_date DATE,

    FOREIGN KEY (book_id) REFERENCES books(book_id),

    FOREIGN KEY (member_id) REFERENCES members(member_id)

);
```