Lab Task # 07

-- Table for storing information about books

CREATE TABLE Books (

BookID INT PRIMARY KEY,

Title VARCHAR(255),

AuthorID INT,

GenreID INT,

ISBN VARCHAR(20),

Available VARCHAR(5)

);

-- Table for storing information about authors

CREATE TABLE Authors (

AuthorID INT PRIMARY KEY,

Name VARCHAR(255)

);

-- Table for storing information about genres

CREATE TABLE Genres (

GenreID INT PRIMARY KEY,

Name VARCHAR(255)

);

-- Table for storing information about library members

CREATE TABLE Members (

MemberID INT PRIMARY KEY,

Name VARCHAR(255),

Email VARCHAR(255),

Phone VARCHAR(20),

Age INT

);

-- Table for storing information about book loans

CREATE TABLE Loans (

LoanID INT PRIMARY KEY,

BookID INT,

MemberID INT,

LoanDate DATE,

ReturnDate DATE,

FOREIGN KEY (BookID) REFERENCES Books(BookID),

FOREIGN KEY (MemberID) REFERENCES Members(MemberID)

);

-- Sample data for Authors

INSERT INTO Authors (AuthorID, Name) VALUES

(1, 'J.K. Rowling'),

(2, 'George Orwell'),

(3, 'Harper Lee'),

(4, 'Agatha Christie'),

(5, 'Mark Twain'),

(6, 'J.R.R. Tolkien');

-- Sample data for Genres

INSERT INTO Genres (GenreID, Name) VALUES

(1, 'Fantasy'),

(2, 'Science Fiction'),

(3, 'Classic'),

(4, 'Mystery'),

(5, 'Adventure'),

(6, 'Humor');

-- Sample data for Books

INSERT INTO Books (BookID, Title, AuthorID, GenreID, ISBN, Available) VALUES

(1, 'Harry Potter and the Sorcerer''s Stone', 1, 1, '9780545069670', 'true'),

(2, '1984', 2, 2, '9780451524935', 'true'),

(3, 'To Kill a Mockingbird', 3, 3, '9780061120084', 'true'),

(4, 'The Murder of Roger Ackroyd', 4, 4, '9780062073563', 'true'),

(5, 'The Adventures of Tom Sawyer', 5, 5, '9780143039563', 'true'),

(6, 'The Hobbit', 6, 1, '9780547928227', 'true'),

(7, 'And Then There Were None', 4, 4, '9780062073488', 'true'),

(8, 'The Lord of the Rings', 6, 1, '9780544003415', 'true'),

(9, 'Murder on the Orient Express', 4, 4, '9780062073501', 'false'),

(10, 'The Adventures of Huckleberry Finn', 5, 5, '9780143107323', 'false'),

(11, 'Pride and Prejudice', 6, 3, '9780141439518', 'false');

-- Sample data for Members

INSERT INTO Members (MemberID, Name, Email, Phone, Age) VALUES

(1, 'Alice Smith', 'alice@example.com', '123-456-7890', 22),

(2, 'Bob Johnson', 'bob@example.com', '234-567-8901', 24),

(3, 'Charlie Brown', 'charlie@example.com', '345-678-9012', 21),

(4, 'Diana Prince', 'diana@example.com', '456-789-0123', 19),

(5, 'Eve Young', 'eve@example.com', '567-890-1234', 20),

(6, 'Grace NoBooks', 'grace@example.com', '678-901-2345', 25);

-- Sample data for Loans

INSERT INTO Loans (LoanID, BookID, MemberID, LoanDate, ReturnDate) VALUES

(1, 1, 1, '2024-03-01', '2024-03-15'),

(2, 2, 2, '2024-03-03', '2024-03-17'),

(3, 3, 3, '2024-03-05', '2024-03-20'),

(4, 4, 4, '2024-03-07', '2024-03-21'),

(5, 5, 1, '2024-03-09', '2024-03-24'),

(6, 6, 2, '2024-03-11', '2024-03-26'),

(7, 7, 3, '2024-03-13', '2024-03-28'),

(8, 8, 4, '2024-03-15', '2024-03-30'),

(9, 1, 5, '2024-03-07', '2024-03-21');

# Task:

1. Find all books written by authors whose name starts with 'J'
2. Find the names of all members who have borrowed books
3. Find the titles of books that are not currently available
4. Find the names of all members who have borrowed books written by 'Agatha Christie'
5. Find the names of all members who have borrowed books in the 'Mystery' genre
6. Find the titles of books borrowed by members whose name starts with 'A'
7. Find the names of all members who have borrowed more than one book
8. Find the names of all authors who have written books in the 'Classic' genre
9. Find the titles of books borrowed by members aged 20 or younger
10. Find the names of all members who have not borrowed any books