

Library Management System using SQL

Create all the Table

DROP TABLE IF EXISTS Borrow, Books, Members, Staff;

```
CREATE TABLE Books (  
    BookID INT PRIMARY KEY AUTO_INCREMENT,  
    Title VARCHAR(255) NOT NULL,  
    Author VARCHAR(255),  
    Publisher VARCHAR(255),  
    YearPublished YEAR,  
    Genre VARCHAR(100),  
    Quantity INT CHECK (Quantity >= 0)  
);
```

```
CREATE TABLE Members (  
    MemberID INT PRIMARY KEY AUTO_INCREMENT,  
    Name VARCHAR(255) NOT NULL,  
    Email VARCHAR(255) UNIQUE,  
    Phone VARCHAR(20),  
    JoinDate DATE DEFAULT CURRENT_DATE  
);
```

```
CREATE TABLE Staff (  
    StaffID INT PRIMARY KEY AUTO_INCREMENT,  
    Name VARCHAR(255) NOT NULL,  
    Role VARCHAR(100),  
    Email VARCHAR(255) UNIQUE  
);
```

```
CREATE TABLE Borrow (  
    BorrowID INT PRIMARY KEY AUTO_INCREMENT,  
    BookID INT,  
    MemberID INT,  
    BorrowDate DATE DEFAULT CURRENT_DATE,  
    ReturnDate DATE,  
    ReturnStatus VARCHAR(10) DEFAULT 'Pending',  
    FOREIGN KEY (BookID) REFERENCES Books(BookID),  
    FOREIGN KEY (MemberID) REFERENCES Members(MemberID)  
);
```

Insert all the Data

```
INSERT INTO Books (Title, Author, Publisher, YearPublished, Genre, Quantity)  
VALUES  
('1984', 'George Orwell', 'Secker & Warburg', 1949, 'Dystopian', 4),  
('To Kill a Mockingbird', 'Harper Lee', 'J. B. Lippincott & Co.', 1960, 'Fiction', 3);
```

```
INSERT INTO Members (Name, Email, Phone)  
VALUES  
('Alice Johnson', 'alice@example.com', '1234567890'),  
('Bob Smith', 'bob@example.com', '0987654321');
```

```
INSERT INTO Staff (Name, Role, Email)  
VALUES  
('Mr. Adams', 'Librarian', 'adams@library.com');
```

```
INSERT INTO Borrow (BookID, MemberID, ReturnDate)
```

VALUES

(1, 1, DATE_ADD(CURDATE(), INTERVAL 14 DAY));

USEFULL QUERIES

SELECT * FROM Books;

SELECT b.Title, m.Name, br.BorrowDate, br.ReturnDate

FROM Borrow br

JOIN Books b ON br.BookID = b.BookID

JOIN Members m ON br.MemberID = m.MemberID

WHERE br.ReturnStatus = 'Pending';

SELECT * FROM Borrow

WHERE ReturnStatus = 'Pending' AND ReturnDate < CURDATE();