Hackathon 1st Library Management System

```
-- Books Table


CREATE TABLE Books (
   BookID INT PRIMARY KEY AUTO_INCREMENT,
   ISBN VARCHAR(20) UNIQUE NOT NULL,
   Title VARCHAR(100) NOT NULL,
   Author VARCHAR(100) NOT NULL,
   Genre VARCHAR(50),
   Availability BOOLEAN DEFAULT TRUE
);


-- Users Table


CREATE TABLE Users (
   UserID INT PRIMARY KEY AUTO_INCREMENT,
   Name VARCHAR(100) NOT NULL,
   Email VARCHAR(100) UNIQUE NOT NULL
);


-- Transactions Table


CREATE TABLE Transactions (
   TransactionID INT PRIMARY KEY AUTO_INCREMENT,
   UserID INT,
   BookID INT,
```

```
    IssueDate DATE,
    ReturnDate DATE,
    FOREIGN KEY (UserID) REFERENCES Users(UserID),
    FOREIGN KEY (BookID) REFERENCES Books(BookID)
);

// Sample datas

INSERT INTO Books (ISBN, Title, Author, Genre, Availability)
VALUES
('978-3-16-148410-0', 'The Alchemist', 'Paulo Coelho', 'Fiction', TRUE),
('978-0-7432-7356-5', 'Angels and Demons', 'Dan Brown', 'Thriller', TRUE);

INSERT INTO Users (Name, Email)
VALUES
('Akash Kumar', 'akash@example.com'),
('divya aravind', 'divya@example.com'),
('Rajaram', 'rajaram@example.com'),
('Deepika Ramesh', 'deepika@example.com'),
('Duraipandi', 'Duraipand@example.com'),
('Eswaran', ' Eswaran @example.com'),
('Hari Chandran', 'hari@example.com'),
('Meerasekaran', 'meera@example.com'),
('Sundar Ramasamy', 'sundar@example.com'),
('Veera Ragupathy', 'ragupathy@example.com');

INSERT INTO Transactions (UserID, BookID, IssueDate, ReturnDate)
VALUES
```

```
(1, 1, '2025-03-01', '2025-03-10'),
(2, 2, '2025-03-05', NULL);
// Fetch Books by Genre

SELECT * FROM Books WHERE Genre = 'Fiction';

// Fetch Available Books
SELECT * FROM Books WHERE Availability = TRUE;

// Track Overdue Books

SELECT t.TransactionID, u.Name, b.Title, t.IssueDate, t.ReturnDate
FROM Transactions t
JOIN Users u ON t.UserID = u.UserID
JOIN Books b ON t.BookID = b.BookID
WHERE t.ReturnDate IS NULL AND t.IssueDate < CURDATE() - INTERVAL 14 DAY;

// User Borrowing History

SELECT u.Name, b.Title, t.IssueDate, t.ReturnDate
FROM Transactions t
JOIN Users u ON t.UserID = u.UserID
JOIN Books b ON t.BookID = b.BookID
WHERE u.UserID = 1;

// Generate Report on Late Returns
```

```
SELECT u.Name, b.Title, DATEDIFF(CURDATE(), t.IssueDate) AS DaysLate

FROM Transactions t

JOIN Users u ON t.UserID = u.UserID

JOIN Books b ON t.BookID = b.BookID

WHERE t.ReturnDate IS NULL AND DATEDIFF(CURDATE(), t.IssueDate) > 14;
```