**Problem solving case - BookMyShow**

**P1**

**Entities:**

1. **Theatre**
   1. theatre\_id (Primary Key)
   2. theatre\_name
   3. address
2. **Screen**
   1. screen\_id (Primary Key)
   2. screen\_name
   3. capacity
   4. theatre\_id (Foreign Key – Theatre.theatre\_id)
3. **Movie**
   1. movie\_id (Primary Key)
   2. movie\_name
   3. genre
   4. description
   5. language
4. **Show**
   1. show\_id (Primary Key)
   2. movie\_id (Foreign Key – Movie.movie\_id)
   3. screen\_id (Foreign Key – Screen.screen\_id)
   4. date
   5. time
5. **Booking**
   1. booking\_id (Primary Key)
   2. show\_id (Foreign Key – Show.show\_id)
   3. user\_id (Foreign Key – User.user\_id) [assuming there will be a user table]
   4. no\_of\_tickets

**Schema and tables:**

CREATE TABLE **Theatre** (

theatre\_id INT AUTO\_INCREMENT PRIMARY KEY,

theatre\_name VARCHAR(100) NOT NULL,

address VARCHAR(255) NOT NULL

);

CREATE TABLE **Screen** (

screen\_id INT AUTO\_INCREMENT PRIMARY KEY,

screen\_name VARCHAR(50) NOT NULL,

capacity INT NOT NULL,

theatre\_id INT NOT NULL,

FOREIGN KEY (theatre\_id) REFERENCES Theatre(theatre\_id)

);

CREATE TABLE **Movie** (

movie\_id INT AUTO\_INCREMENT PRIMARY KEY,

movie\_name VARCHAR(100) NOT NULL,

genre VARCHAR(50),

description TEXT,

language VARCHAR(50) NOT NULL

);

CREATE TABLE **Show** (

show\_id INT AUTO\_INCREMENT PRIMARY KEY,

movie\_id INT NOT NULL,

screen\_id INT NOT NULL,

date DATE NOT NULL,

time TIME NOT NULL,

FOREIGN KEY (movie\_id) REFERENCES Movie(movie\_id),

FOREIGN KEY (screen\_id) REFERENCES Screen(screen\_id)

);

CREATE TABLE **Booking** (

booking\_id INT AUTO\_INCREMENT PRIMARY KEY,

show\_id INT NOT NULL,

user\_id INT NOT NULL, -- Assuming a User table exists

no\_of\_tickets INT NOT NULL,

FOREIGN KEY (show\_id) REFERENCES Show(show\_id)

);

INSERT INTO Theatre (theatre\_name, address) VALUES

('PVR Nexus', 'Forum Mall, Bangalore'),

('INOX Lido', 'MG Road, Bangalore');

INSERT INTO Screen (screen\_name, capacity, theatre\_id) VALUES

('Screen 1', 200, 1),

('Screen 2', 150, 1),

('Screen 1', 180, 2);

INSERT INTO Movie (movie\_name, genre, description, language) VALUES

('Dasara', 'Action', 'A gripping story set in rural India.', 'Telugu'),

('Kisi Ka Bhai Kisi Ki Jaan', 'Drama', 'An emotional family saga.', 'Hindi'),

('Avatar: The Way of Water', 'Sci-Fi', 'The epic sequel to Avatar.', 'English');

INSERT INTO Show (movie\_id, screen\_id, date, time) VALUES

(1, 1, '2024-04-25', '12:10:00'),

(2, 2, '2024-04-25', '13:00:00'),

(3, 3, '2024-04-25', '19:20:00');

INSERT INTO Booking (show\_id, user\_id, no\_of\_tickets) VALUES

(1, 101, 3),

(2, 102, 2),

(3, 103, 5);

**P2**

**Query to Fetch All Shows for a Given Date and Theatre**

SELECT

T.theatre\_name,

S.screen\_name,

M.movie\_name,

M.language,

M.genre,

Sh.date,

Sh.time

FROM

Show Sh

JOIN

Screen S ON Sh.screen\_id = S.screen\_id

JOIN

Theatre T ON S.theatre\_id = T.theatre\_id

JOIN

Movie M ON Sh.movie\_id = M.movie\_id

WHERE

Sh.date = '2024-04-25'

AND T.theatre\_name = 'PVR Nexus';