CREATE TABLE Theatre (

**TheatreID INT** **PRIMARY KEY**,

Name VARCHAR(100),

Location VARCHAR(255),

City VARCHAR(100),

State VARCHAR(100),

Capacity INT

);

CREATE TABLE Movie (

**MovieID INT PRIMARY KEY**,

Title VARCHAR(100),

Genre VARCHAR(100),

Duration INT,

Rating VARCHAR(20),

ReleaseDate DATE,

Language VARCHAR(50)

);

CREATE TABLE Show (

**ShowID INT PRIMARY KEY**,

TheatreID INT,

MovieID INT,

ShowDate DATE,

ShowTime TIME,

AvailableSeats INT,

**FOREIGN KEY (TheatreID) REFERENCES Theatre(TheatreID),**

**FOREIGN KEY (MovieID) REFERENCES Movie(MovieID)**

);

CREATE TABLE Booking (

**BookingID INT PRIMARY KEY**,

ShowID INT,

CustomerID INT,

BookingDate DATE,

NumberOfSeats INT,

PaymentStatus VARCHAR(20),

TotalAmount DECIMAL(10, 2),

SeatNumbers VARCHAR(100),

**FOREIGN KEY (ShowID) REFERENCES Show(ShowID)**

);

INSERT INTO Theatre (TheatreID, Name, Location, City, State, Capacity)

VALUES

(1, 'PVR', 'Sector 36', 'Noida', 'UP', 300),

(2, 'MovieMax', 'Ram Ganga Vihar', 'Delhi', 'Capital of India', 400),

(3, 'WAVE', '789 Pine St', 'Chandigarh', 'Punjab', 350);

| **TheatreID** | **Name** | **Location** | **City** | **State** | **Capacity** |
| --- | --- | --- | --- | --- | --- |
| 1 | PVR | Sector 36 | Noida | UP | 300 |
| 2 | MovieMax | Ram Ganga Vihar | Delhi | Capital of India | 400 |
| 3 | WAVE | 789 Pine St | Chandigarh | Punjab | 350 |

INSERT INTO Movie (MovieID, Title, Genre, Duration, Rating, ReleaseDate, Language)

VALUES

(1, 'Stree2', 'Horror - Comedy', 160, 'IMDB-8.2', '2024-07-27', 'Hindi'),

(2, 'Animal', 'Action/Crime', 210, 'IMDB-6.1', '2024-03-12', 'Hindi'),

(3, 'Titanic', 'Romance', 195, 'IMDB-9.0', '1997-12-19', 'English'),

(4, 'Avengers: Endgame', 'Action', 181, 'IMDB-8.9', '2019-04-26', 'English');

| MovieID | Title | Genre | Duration | Rating | ReleaseDate | Language |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Stree2 | Horror - Comedy | 160 | IMDB-8.2 | 2024-07-27 | Hindi |
| 2 | Animal | Action/Crime | 210 | IMDB-6.1 | 2024-03-12 | Hindi |
| 3 | Titanic | Romance | 195 | IMDB-9.0 | 1997-12-19 | English |
| 4 | Avengers: Endgame | Action | 181 | IMDB-8.9 | 2019-04-26 | English |

INSERT INTO Show (ShowID, TheatreID, MovieID, ShowDate, ShowTime, AvailableSeats)

VALUES

(1, 1, 1, '2024-09-29', '18:00:00', 25),

(2, 1, 2, '2024-09-29', '21:00:00', 50),

(3, 2, 1, '2024-09-29', '19:00:00', 76),

(4, 2, 3, '2024-09-29', '20:00:00', 45),

(5, 3, 4, '2024-09-29', '22:00:00', 124);

| ShowID | TheatreID | MovieID | ShowDate | ShowTime | AvailableSeats |
| --- | --- | --- | --- | --- | --- |
| 1 | 1 | 1 | 2024-09-29 | 18:00:00 | 25 |
| 2 | 1 | 2 | 2024-09-29 | 21:00:00 | 50 |
| 3 | 2 | 1 | 2024-09-29 | 19:00:00 | 76 |
| 4 | 2 | 3 | 2024-09-29 | 20:00:00 | 45 |
| 5 | 3 | 4 | 2024-09-29 | 22:00:00 | 124 |

INSERT INTO Booking (BookingID, ShowID, CustomerID, BookingDate, NumberOfSeats, PaymentStatus, TotalAmount, SeatNumbers)

VALUES (1, 1, 101, '2024-09-29', 2, 'Paid', 510, 'A1, A2'),

(2, 2, 102, '2024-09-29', 3, 'Pending', 830, 'B1, B2, B3'),

(3, 3, 103, '2024-09-30', 1, 'Paid', 250, 'C1'),

| **BookingID** | **ShowID** | **CustomerID** | **BookingDate** | **NumberOfSeats** | **PaymentStatus** | **TotalAmount** | **SeatNumbers** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | 101 | 2024-09-29 | 2 | Paid | 510 | A1, A2 |
| 2 | 2 | 102 | 2024-09-29 | 3 | Pending | 830 | B1, B2, B3 |
| 3 | 3 | 103 | 2024-09-30 | 1 | Paid | 250 | C1 |
| 4 | 4 | 104 | 2024-09-29 | 4 | Cancelled | 1240 | D1, D2, D3, D4 |
| 5 | 5 | 105 | 2024-09-30 | 5 | Paid | 1632 | E1, E2, E3, E4, E5 |

(4, 4, 104, '2024-09-29', 4, 'Cancelled', 1240, 'D1, D2, D3, D4'),

(5, 5, 105, '2024-09-30', 5, 'Paid', 1632, 'E1, E2, E3, E4, E5');

SELECT \* FROM Booking;

**Write a query to list down all the shows on a given date at a given theatre along with their respective show timings :**

SELECT s.ShowID, s.ShowTime, m.Title, m.Genre, m.Duration, t.Name AS TheatreName

FROM Show s

JOIN Movie m ON s.MovieID = m.MovieID

JOIN Theatre t ON s.TheatreID = t.TheatreID

WHERE s.ShowDate = '2024-09-29'

AND s.TheatreID = 1;

| ShowID | ShowTime | Title | Genre | Duration | TheatreName |
| --- | --- | --- | --- | --- | --- |
| 1 | 18:00:00 | Stree2 | Horror - Comedy | 160 | PVR |
| 2 | 21:00:00 | Animal | Action/Crime | 210 | PVR |

All 4 tables (Theatre, Movie, Show and Booking), properly normalized up to BCNF. Each entity (Theatre, Movie, Show, Booking) is represented with atomic values in its attributes. All relationships and dependencies have been appropriately mapped using foreign keys to maintain data integrity.