**Entities and their attributes:**

1. **Theatre**
   * theatre\_id (Primary Key)
   * theatre\_name
   * location
   * lat
   * long
2. **Movie**
   * movie\_id (Primary Key)
   * movie\_name
   * duration
   * genre
   * user\_rating
   * cbfc\_certification
   * language
3. **Show\_tab**
   * show\_id (Primary Key)
   * theatre\_id (Foreign Key referencing Theatre)
   * movie\_id (Foreign Key referencing Movie)
   * show\_date
   * show\_time
4. **Seat**
   * seat\_id (Primary Key)
   * theatre\_id (Foreign Key referencing Theatre)
   * seat\_number
   * seat\_type (Regular , Premium , VIP)
   * is\_booked (true , false)
5. **Booking**
   * booking\_id (Primary Key)
   * theatre\_id (Foreign Key referencing Theatre)
   * show\_id (Foreign Key referencing Show\_tab)
   * user\_id (Foreign Key referencing User)
   * status (Confirmed, Cancelled)
6. **BookingSeat**
   * booking\_id (Foreign Key referencing Booking)
   * seat\_id (Foreign Key referencing Seat)
7. **User**
   * user\_id (Primary Key)
   * username
   * email
   * mobile\_number

**CREATE TABLE AND INSERT DATA QUERIES:**

**THEATRE TABLE**

CREATE TABLE Theatre (

theatre\_id INT AUTO\_INCREMENT PRIMARY KEY,

theatre\_name VARCHAR(100),

location VARCHAR(255),

lat FLOAT,

longitude FLOAT );

INSERT INTO Theatre (theatre\_name, location , lat , longitude)

VALUES ('PVR Cinemas', 'MG Road, Bangalore' ,29.87 , 30.41),

('INOX', 'Forum Mall, Chennai' , 38.97 , 39.91);

**MOVIE TABLE**

CREATE TABLE Movie (

movie\_id INT AUTO\_INCREMENT PRIMARY KEY,

movie\_name VARCHAR(100),

genre VARCHAR(50),

duration INT,

cbfc\_certification VARCHAR(10),

language VARCHAR(20)

);

INSERT INTO Movie (movie\_name, genre, duration , cbfc\_certification , language)

VALUES ('Dasara', 'Action', 148 , 'UA' ,'Telugu'),

('Kisi Ka Bhai Kisi Ki Jaan', 'Action', 152 , 'UA' , 'Hindi');

**SHOW TABLE**

CREATE TABLE Show\_tab (

show\_id INT AUTO\_INCREMENT PRIMARY KEY,

theatre\_id INT,

movie\_id INT,

show\_date DATE,

show\_time TIME,

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

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

);

INSERT INTO Show\_tab (theatre\_id, movie\_id, show\_date, show\_time)

VALUES (1, 1, '2024-10-01', '18:30'),

(1, 2, '2024-10-01', '21:00'),

(2, 1, '2024-10-01', '19:00');

**SEAT TABLE**

CREATE TABLE Seat (

seat\_id INT AUTO\_INCREMENT PRIMARY KEY,

theatre\_id INT,

seat\_number VARCHAR(10),

seat\_type VARCHAR(20),

is\_booked BOOLEAN DEFAULT false,

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

);

INSERT INTO Seat ( theatre\_id, seat\_number, seat\_type , is\_booked)

VALUES (1, 'A1', 'Regular' , false), (1, 'A2', 'Regular' , false), (2, 'B1', 'VIP' , false) ;

**USER TABLE**

CREATE TABLE User (

user\_id INT AUTO\_INCREMENT PRIMARY KEY,

user\_name VARCHAR(100),

email VARCHAR(100) UNIQUE,

mobile\_number VARCHAR(15)

);

INSERT INTO User (user\_name, email, mobile\_number)

VALUES ('user 1', 'user1@example.com', '9876543210'),

('user 2', 'user2@example.com', '8765432109’);

**BOOKING TABLE**

CREATE TABLE Booking (

booking\_id INT AUTO\_INCREMENT PRIMARY KEY,

show\_id INT,

user\_id INT,

booking\_date DATE,

status VARCHAR(20),

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

INSERT INTO Booking (show\_id, user\_id, booking\_date, status)

VALUES (1, 101, '2024-09-30', 'Confirmed'),

(2, 102, '2024-09-30', 'Confirmed');

**BOOKINGSEAT TABLE**

CREATE TABLE BookingSeat (

booking\_id INT,

seat\_id INT,

PRIMARY KEY (booking\_id, seat\_id),

FOREIGN KEY (booking\_id) REFERENCES Booking(booking\_id),

FOREIGN KEY (seat\_id) REFERENCES Seat(seat\_id)

);

INSERT INTO BookingSeat (booking\_id, seat\_id)

VALUES (1, 1),(1, 2), (2, 3);

**SQL Query to List Shows on a Given Date at a Given Theatre**

**SELECT**

**s.show\_id,**

**m.movie\_name,**

**s.show\_time ,**

**m.cbfc\_certification,**

**m.language**

**FROM**

**Show\_tab s**

**JOIN**

**Movie m ON s.movie\_id = m.movie\_id**

**WHERE**

**s.theatre\_id = 1**

**AND s.show\_date = '2024-10-01'**