

Cinema Hall Ticket Booking System

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SQL DDL Statement :

```
1  set search_path to public;
2  CREATE TABLE USER
3  (
4      user_email varchar(250) primary key CHECK (user_email ~* '^[A-Za-z0-9._%+-]+@[A-Za-z0-9.-]+\.[A-Za-z]{2,}$'),
5      name VARCHAR(100) NOT NULL,
6      phone_number VARCHAR(10) CHECK (phone_number ~ '^[0-9]{10}$'), -- Phone number must be 10 digits
7      password VARCHAR(255) CHECK (password ~ '^(?=.*[a-z])(?=.*[A-Z])(?=.*[0-9])(?=.*[!%?&])[A-Za-z\d@$!%?&]{8,}$') -- At least 1 upper, 1 lower, 1 digit, 1 special character
8  );
9
10 CREATE TABLE Admin
11 (
12     admin_email varchar(250) primary key CHECK (admin_email ~* '^[A-Za-z0-9._%+-]+@[A-Za-z0-9.-]+\.[A-Za-z]{2,}$'),
13     name VARCHAR(100) NOT NULL,
14     phone_number VARCHAR(10) CHECK (phone_number ~ '^[0-9]{10}$'), -- Phone number must be 10 digits
15     password VARCHAR(255) CHECK (password ~ '^(?=.*[a-z])(?=.*[A-Z])(?=.*[0-9])(?=.*[!%?&])[A-Za-z\d@$!%?&]{8,}$'), -- At least 1 upper, 1 lower, 1 digit, 1 special character
16     cinema_name VARCHAR(255) not null,
17     cinema_pincode VARCHAR(6) not null,
18     FOREIGN KEY (cinema_name, cinema_pincode) REFERENCES Cinema(cinema_name, cinema_pincode) ON DELETE CASCADE ON UPDATE CASCADE
19 );
20
21 CREATE TABLE City
22 (
23     city_name VARCHAR(255) PRIMARY KEY
24 );
25
26 CREATE TABLE Cinema
27 (
28     cinema_name VARCHAR(255) NOT NULL,
29     cinema_area VARCHAR(255) not null,
30     cinema_city VARCHAR(255) REFERENCES City(city_name) ON DELETE CASCADE ON UPDATE CASCADE,
31     cinema_pincode VARCHAR(6) not null CHECK (cinema_pincode ~ '^[0-9]{6}$' AND cinema_pincode <> '000000'),
32     total_screens INT not null CHECK (total_screens > 0), -- Ensure total screens is greater than 0
33     PRIMARY KEY (cinema_name, cinema_pincode)
34 );
35
36 CREATE TABLE Showtime
37 (
38     showtime_id INT PRIMARY KEY,
39     cinema_name VARCHAR(255) not null,
40     cinema_pincode VARCHAR(6) not null,
41     movie_title VARCHAR(255) not null,
42     screen_id INT not null,
43     show_date DATE NOT NULL,
44     start_time TIME NOT NULL,
45     end_time TIME NOT NULL CHECK (start_time < end_time), -- Ensure start time is before end time
46     FOREIGN KEY (cinema_name, cinema_pincode) REFERENCES Cinema(cinema_name, cinema_pincode) ON DELETE CASCADE ON UPDATE CASCADE,
47     FOREIGN KEY (movie_title) REFERENCES Movie(movie_title) ON DELETE CASCADE ON UPDATE CASCADE,
48     FOREIGN KEY (screen_id) REFERENCES Screen(screen_id) ON DELETE CASCADE ON UPDATE CASCADE
49 );
```

```

50 ▾ CREATE TABLE Movie
51 (
52     movie_title VARCHAR(255) PRIMARY KEY CHECK (movie_title IS NOT NULL AND movie_title <> ''),
53     genre VARCHAR(50) NOT NULL CHECK (genre IN ('Action', 'Comedy', 'Drama', 'Horror', 'Sci-Fi', 'Documentary')), -- Add other genres as n
54     duration INT CHECK (duration <= 240), -- Maximum duration is 4 hours (240 minutes)
55     release_date DATE NOT NULL,
56     price DECIMAL(10, 2) not null CHECK (price >= 0) -- Ticket price must be non-negative
57 );
58
59
60 -- Screen Table
61 ▾ CREATE TABLE Screen
62 (
63     screen_id INT PRIMARY KEY,
64     cinema_name VARCHAR(255) not null,
65     cinema_pincode VARCHAR(6) not null,
66     capacity INT not null CHECK (capacity > 0), -- Ensure capacity is greater than 0
67     FOREIGN KEY (cinema_name, cinema_pincode) REFERENCES Cinema(cinema_name, cinema_pincode) ON DELETE CASCADE ON UPDATE CASCADE
68 );

```

```

70 ▾ CREATE TABLE Booking
71 (
72     booking_id INT PRIMARY KEY AUTO_INCREMENT,
73     user_email VARCHAR(250) NOT NULL,
74     showtime_id INT NOT NULL,
75     booking_date DATE DEFAULT CURRENT_DATE, -- Ensure booking date is not in the future
76     seat_number INT NOT NULL CHECK (seat_number > 0), -- Assuming seat numbers are positive integers
77     FOREIGN KEY (user_email) REFERENCES User(user_email) ON DELETE CASCADE ON UPDATE CASCADE,
78     FOREIGN KEY (showtime_id) REFERENCES Showtime(showtime_id) ON DELETE CASCADE ON UPDATE CASCADE
79 );
80
81 -- Set the auto-increment value to start from 100000
82 ALTER TABLE Booking AUTO_INCREMENT = 100000;
83
84 -- Cancellation Table
85 ▾ CREATE TABLE Cancellation
86 (
87     user_email varchar(250) NOT NULL,
88     showtime_id INT NOT NULL,
89     booking_date DATE NOT NULL CHECK (booking_date <= CURRENT_DATE), -- Ensure booking date is not in the future
90     cancellation_date DATE DEFAULT CURRENT_DATE, -- Ensure cancellation date is not in the future
91     seat_number INT NOT NULL CHECK (seat_number > 0), -- Assuming seat numbers are positive integers
92     PRIMARY KEY (cancellation_date, user_email), -- Composite key: cancellation_date and user_email
93     FOREIGN KEY (user_email) REFERENCES Users(user_email) ON DELETE CASCADE ON UPDATE CASCADE,
94     FOREIGN KEY (showtime_id) REFERENCES Showtime(showtime_id) ON DELETE CASCADE ON UPDATE CASCADE
95 );

```

```

96 -- Revenue Table
97 ▾ CREATE TABLE Revenue
98 (
99     cinema_name VARCHAR(255) not null,
100     cinema_pincode VARCHAR(6) not null,
101     movie_title VARCHAR(255) not null,
102     booked_seats INT CHECK (booked_seats >= 0),
103     total_revenue DECIMAL(10, 2) CHECK (total_revenue >= 0),
104     PRIMARY KEY (cinema_name, cinema_pincode, movie_title),
105     FOREIGN KEY (cinema_name, cinema_pincode) REFERENCES Cinema(cinema_name, cinema_pincode) ON DELETE CASCADE ON UPDATE CASCADE,
106     FOREIGN KEY (movie_title) REFERENCES Movie(movie_title) ON DELETE CASCADE ON UPDATE CASCADE
107 );
108 -- Payment Table
109 ▾ CREATE TABLE Payment |
110 (
111     transaction_id INT PRIMARY KEY AUTO_INCREMENT,
112     amount DECIMAL(10, 2) CHECK (amount >= 0), -- Amount must be non-negative
113     showtime_id INT NOT NULL,
114     user_email VARCHAR(255) NOT NULL,
115     FOREIGN KEY (showtime_id) REFERENCES Showtime(showtime_id) ON DELETE CASCADE ON UPDATE CASCADE,
116     FOREIGN KEY (user_email) REFERENCES User(user_email) ON DELETE CASCADE ON UPDATE CASCADE
117 );
118 -- Set the auto-increment value to start from 1000000
119 ALTER TABLE Payment AUTO_INCREMENT = 1000000;

```