

## Train ticket management

### Group 10

#### **\*passenger table**

create table passenger (

passengerID INT PRIMARY KEY, FirstName VARCHAR(100) NOT NULL, LastName VARCHAR(100) NOT NULL, Age INT CHECK (Age >= 0), Gender CHAR(1) CHECK (Gender IN ('M', 'F', 'O')), TicketNumber VARCHAR(100) UNIQUE, BoardingDate DATE);

#### **\*train table**

create table train ( train\_Id INT PRIMARY KEY,  
train\_name VARCHAR(255) NOT NULL,  
start\_location VARCHAR(255) NOT NULL,  
end\_location VARCHAR(255) NOT NULL,  
status VARCHAR(10) CHECK (status IN ('Active', 'Inactive'))  
);

#### **\*booking table**

create table booking ( booking\_id INT PRIMARY KEY,  
passengerID INT, train\_id INT,  
price DECIMAL(10,2), journey\_date DATE,  
FOREIGN KEY (passengerID) REFERENCES passenger(passengerID),  
FOREIGN KEY (train\_id) REFERENCES train(train\_Id)  
);

#### **\*add seatNumber column to passenger table**

alter table passenger ADD SeatNumber VARCHAR(10);

#### **\*count male passenger**

SELECT COUNT(\*) AS MalePassengerCount FROM passenger WHERE Gender = 'M';

#### **\*list passenger by last name in descending order**

SELECT \* FROM passenger ORDER BY LastName DESC;

**\*Display booking info with passenger and train details**

```
SELECT p.FirstName, p.LastName, t.train_Id,  
       t.train_name, t.start_location, b.price  
FROM   booking b JOIN  
passenger p ON b.passengerID = p.passengerID  
JOIN   train t ON b.train_id = t.train_Id;
```

**\*Retrieve Booking Details with Passenger Information**

```
SELECT b.booking_id, b.train_id, p.passengerID,  
       p.FirstName, p.LastName, p.SeatNumber  
FROM   booking b  
JOIN   passenger p ON b.passengerID = p.passengerID  
WHERE  b.booking_id = 22
```

**\*train seats capacity**

```
ALTER TABLE train ADD capacity INT NOT NULL DEFAULT 100
```

**\*Generate Train Occupancy Report showing train booking info**

```
SELECT t.train_Id, t.train_name, t.status,  
       t.capacity, COUNT(b.booking_id) AS booked_seats,  
       (t.capacity - COUNT(b.booking_id)) AS available_seats  
FROM   train t  
LEFT JOIN  
booking b ON t.train_Id = b.train_id  
GROUP BY  
t.train_Id, t.train_name, t.status, t.capacity;
```

**\*List Trains with Available Seats (by Origin & Destination)**

```
SELECT t.train_Id, t.train_name, t.start_location,t.end_location,
       t.capacity, COUNT(b.booking_id) AS booked_seats,
       (t.capacity - COUNT(b.booking_id)) AS available_seats
FROM   train t
LEFT JOIN
       booking b ON t.train_Id = b.train_id
WHERE
       t.start_location = 'thane' AND
       t.end_location = 'kolhapur'
GROUP BY
       t.train_Id, t.train_name, t.start_location, t.end_location, t.capacity
HAVING
       (t.capacity - COUNT(b.booking_id)) > 0;
```