Sure! I'll guide you through creating a **Travel Booking System** database step-by-step in MySQL Workbench, including tables and sample data, then provide the SQL queries for your tasks.

**Step 1: Create Database**

CREATE DATABASE travel\_booking;

USE travel\_booking;

**Step 2: Create Tables**

Here are the core tables you might need based on the tasks:

-- Customers

CREATE TABLE Customers (

CustomerID INT AUTO\_INCREMENT PRIMARY KEY,

Name VARCHAR(100),

Email VARCHAR(100)

);

-- Bookings (general bookings with destination city)

CREATE TABLE Bookings (

BookingID INT AUTO\_INCREMENT PRIMARY KEY,

CustomerID INT,

DestinationCity VARCHAR(100),

BookingDate DATE,

FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)

);

-- Payments

CREATE TABLE Payments (

PaymentID INT AUTO\_INCREMENT PRIMARY KEY,

BookingID INT,

PaymentDate DATE,

Amount DECIMAL(10, 2),

FOREIGN KEY (BookingID) REFERENCES Bookings(BookingID)

);

-- Flights

CREATE TABLE Flights (

FlightID INT AUTO\_INCREMENT PRIMARY KEY,

Airline VARCHAR(100),

FlightNumber VARCHAR(20),

DepartureCity VARCHAR(100),

ArrivalCity VARCHAR(100)

);

-- HotelBookings

CREATE TABLE HotelBookings (

HotelBookingID INT AUTO\_INCREMENT PRIMARY KEY,

CustomerID INT,

HotelName VARCHAR(100),

HotelCategory VARCHAR(10), -- e.g., '3-star', '4-star'

BookingDate DATE,

FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)

);

-- Trips (individual trips made by customers)

CREATE TABLE Trips (

TripID INT AUTO\_INCREMENT PRIMARY KEY,

CustomerID INT,

StartDate DATE,

EndDate DATE,

FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)

);

**Step 3: Insert Sample Data**

-- Customers

INSERT INTO Customers (Name, Email) VALUES

('John Doe', 'john@example.com'),

('Jane Smith', 'jane@example.com');

-- Bookings

INSERT INTO Bookings (CustomerID, DestinationCity, BookingDate) VALUES

(1, 'New York', '2023-01-10'),

(1, 'Paris', '2023-02-15'),

(2, 'New York', '2023-03-20'),

(2, 'Tokyo', '2022-12-25'),

(1, 'Paris', '2023-04-05');

-- Payments

INSERT INTO Payments (BookingID, PaymentDate, Amount) VALUES

(1, '2023-01-11', 500.00),

(2, '2023-02-16', 700.00),

(3, '2023-03-21', 450.00),

(4, '2022-12-26', 1200.00),

(5, '2023-04-06', 700.00);

-- Flights

INSERT INTO Flights (Airline, FlightNumber, DepartureCity, ArrivalCity) VALUES

('Airways A', 'AA101', 'New York', 'Paris'),

('Airways B', 'BB202', 'Paris', 'Tokyo'),

('Airways A', 'AA103', 'Tokyo', 'New York'),

('Airways C', 'CC303', 'New York', 'London');

-- HotelBookings

INSERT INTO HotelBookings (CustomerID, HotelName, HotelCategory, BookingDate) VALUES

(1, 'Hotel Lux', '5-star', '2023-02-10'),

(1, 'Budget Inn', '3-star', '2023-02-12'),

(2, 'Comfort Stay', '4-star', '2023-03-15'),

(2, 'Hotel Lux', '5-star', '2023-04-20');

-- Trips

INSERT INTO Trips (CustomerID, StartDate, EndDate) VALUES

(1, '2023-01-10', '2023-01-15'),

(1, '2023-02-15', '2023-02-20'),

(2, '2022-11-01', '2022-11-10'),

(2, '2023-03-05', '2023-03-12');

**Step 4: Queries for Your Tasks**

**1. Total number of bookings for each destination city**

SELECT DestinationCity, COUNT(\*) AS TotalBookings

FROM Bookings

GROUP BY DestinationCity;

**2. Extract year from booking\_date and total revenue earned per year from Payments**

SELECT YEAR(PaymentDate) AS Year, SUM(Amount) AS TotalRevenue

FROM Payments

GROUP BY Year;

**3. Number of bookings in each month of 2023**

SELECT MONTH(BookingDate) AS Month, COUNT(\*) AS BookingsCount

FROM Bookings

WHERE YEAR(BookingDate) = 2023

GROUP BY Month

ORDER BY Month;

**4. Total number of flights operated by each airline**

SELECT Airline, COUNT(\*) AS TotalFlights

FROM Flights

GROUP BY Airline;

**5. Number of hotel bookings grouped by hotel category**

SELECT HotelCategory, COUNT(\*) AS TotalBookings

FROM HotelBookings

GROUP BY HotelCategory;

**6. Average trip duration per customer (in days)**

SELECT CustomerID, AVG(DATEDIFF(EndDate, StartDate)) AS AvgTripDuration

FROM Trips

GROUP BY CustomerID;

**7. Number of trips started in each quarter of 2022**

SELECT QUARTER(StartDate) AS Quarter, COUNT(\*) AS TripsCount

FROM Trips

WHERE YEAR(StartDate) = 2022

GROUP BY Quarter;

**8. Count how many bookings were made on weekends (Saturday & Sunday)**

SELECT COUNT(\*) AS WeekendBookings

FROM Bookings

WHERE DAYOFWEEK(BookingDate) IN (1, 7); -- Sunday=1, Saturday=7 in MySQL

If you'd like me to walk you through running this in MySQL Workbench or add more sample data, just let me know! Would you like me to help with anything else?