Homework #7

CIS 4301 - Fall 2024

Submission Format

Submit a soft copy of your solution via e-Learning (`http://elearning.ufl.edu`) by the end of the day (23:59 / 11:59 PM) on Wednesday, Dec 4th. Save your solution as a PDF file and name it `hw7.pdf`. Include your name, assignment number, and due date at the top of the file.

Problem Statement

This assignment uses the same Travel Agency database schema. You will create standard views, query them, and demonstrate your understanding of how views can simplify complex queries.

```
-- Traveler
INSERT INTO Traveler (name, ssn, dob) VALUES
('John Doe', 101, '1985-06-12'),
('Alice Brown', 102, '1992-03-05'),
('Mike Johnson', 103, '1998-09-17'),
('Lisa Turner', 104, '2000-12-22'),
('Sarah Connor', 105, '2003-11-01'),
('David Harris', 106, '1980-07-15'),
('Emma Watson', 107, '1995-01-08'),
('James Miller', 108, '1999-05-21');

-- TravelAgent
INSERT INTO TravelAgent (name, years_experience, phone) VALUES
```

```
('Emily Clark', 12, '123-456-7890'),
('Robert Smith', 8, '234-567-8901'),
('Anna Wilson', 15, '345-678-9012'),
('Michael Davis', 10, '456-789-0123'),
('Mary Johnson', 3, '567-890-1234'),
('Sarah Williams', 18, '678-901-2345');

-- Trip
INSERT INTO Trip (id, start_location, end_location, start_date, end_date) VALUES
(201, 'New York', 'Paris', '2022-07-10', '2022-07-20'),      -- Past trip
(202, 'Tokyo', 'Sydney', '2023-08-01', '2023-08-15'),        -- Past trip
(203, 'London', 'Rome', '2024-11-10', '2024-11-15'),         -- Ongoing trip
(204, 'Berlin', 'Tokyo', '2024-11-18', '2024-11-20'),        -- Ongoing trip
(205, 'Miami', 'New York', '2024-11-22', '2024-11-25'),      -- Future trip
(206, 'Madrid', 'Dubai', '2024-12-01', '2024-12-15'),        -- Future trip
(207, 'Beijing', 'Hong Kong', '2025-01-10', '2025-01-20'),   -- Future trip
(208, 'Los Angeles', 'Paris', '2025-02-15', '2025-02-25');   -- Future trip

-- Passport
INSERT INTO Passport (passport_number, country, expirationDate, holderName) VALUES
(3001, 'USA', '2025-11-30', 'John Doe'),
(3002, 'Canada', '2026-08-20', 'Alice Brown'),
(3003, 'UK', '2024-09-15', 'Mike Johnson'),
(3004, 'Australia', '2027-02-10', 'Lisa Turner'),
(3005, 'France', '2023-12-05', 'Sarah Connor'),
(3006, 'Germany', '2028-06-25', 'David Harris'),
(3007, 'USA', '2025-01-30', 'Emma Watson'),
(3008, 'Italy', '2025-08-20', 'James Miller');

-- Owns
INSERT INTO Owns (ssn, passport_number, country) VALUES
(101, 3001, 'USA'),
(102, 3002, 'Canada'),
(103, 3003, 'UK'),
(104, 3004, 'Australia'),
(105, 3005, 'France'),
```

```
(106, 3006, 'Germany'),
(107, 3007, 'USA'),
(108, 3008, 'Italy');

-- Booking
INSERT INTO Booking (agent, traveler_ssn, trip_id) VALUES
('Emily Clark', 101, 201),
('Robert Smith', 102, 202),
('Anna Wilson', 103, 203),
('Michael Davis', 104, 204),
('Emily Clark', 105, 205),
('Sarah Williams', 106, 206),
('Anna Wilson', 107, 207),
('Emily Clark', 108, 208);

-- GoesOn
INSERT INTO GoesOn (ssn, id) VALUES
(101, 201),
(102, 202),
(103, 203),
(104, 204),
(105, 205),
(106, 206),
(107, 207),
(108, 208);

-- Leg
INSERT INTO Leg (trip_id, startLocation, endLocation, startDate, endDate) VALUES
(201, 'New York', 'Paris', '2022-07-10', '2022-07-20'),
(202, 'Tokyo', 'Sydney', '2023-08-01', '2023-08-15'),
(203, 'London', 'Rome', '2024-11-10', '2024-11-15'),
(204, 'Berlin', 'Tokyo', '2024-11-18', '2024-11-20'),
(205, 'Miami', 'New York', '2024-11-22', '2024-11-25'),
(206, 'Madrid', 'Dubai', '2024-12-01', '2024-12-15'),
(207, 'Beijing', 'Hong Kong', '2025-01-10', '2025-01-20'),
(208, 'Los Angeles', 'Paris', '2025-02-15', '2025-02-25');
```

Part 1: Create Standard Views (70 points)

Using the schema provided, write SQL statements to create the following standard views:

1. **View: TopAgents (10 points)**

   Create a view named `TopAgents` that lists all travel agents who have more than 10 years of experience. Include the `name` and `years_experience` columns.

2. **View: ActiveTrips (10 points)**

   Create a view named `ActiveTrips` that includes details of all trips where the `end_date` is later than the current date. Include the `id`, `start_location`, `end_location`, and `end_date` columns.

3. **View: PassportHoldersByCountry (15 points)**

   Create a view named `PassportHoldersByCountry` that lists the number of passport holders grouped by `country`. Include `country` and the count of passport holders as `passport_count`.

4. **View: AgentBookings (15 points)**

   Create a view named `AgentBookings` that lists each agent's name along with the total number of trips they have booked. Include the `agent` and the total number of trips as `trip_count`.

5. **View: UpcomingTripsByTraveler (20 points)**

   Create a view named `UpcomingTripsByTraveler` that lists each traveler's name, their upcoming trips (trips starting after today), and the trip start and end dates. Include `name`, `id`, `start_date`, and `end_date`.

Part 2: Scenarios and Queries (30 points)

Answer the following questions using views created in Part 1. Submit the SQL queries and their corresponding outputs.

1. **(5 points)** List all travel agents who have booked trips for travelers on trips starting after today.

2. **(5 points)** Identify the country with the highest number of passport holders.

3. **(10 points)** Find the traveler(s) who have the most upcoming trips.

4. **(10 points)** List all active trips (as per `ActiveTrips`) with their corresponding travel agents.

What to Submit

For this assignment, include the following in your submission:

- **Part 1: SQL Commands for Standard Views**
  Submit the SQL commands for creating each view and the queries used to retrieve data, along with screenshots of the output.

- **Part 2: SQL Queries and Outputs for Scenarios**
  Submit the SQL queries used to answer each scenario in Part 2 and include screenshots of the outputs.

Ensure all SQL commands and screenshots are clearly labeled and formatted for readability.