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| DMIT1508 – Database Fundamentals Lab 2B Due: **5:00 pm, Nov 7, 2022** |
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Flights of Fancy - Lab 2B

# Objectives

Upon successful completion of this lab, you will have demonstrated your ability to:

Select data from tables using queries.

Prove/Test the validity of your queries.

Insert, Update, and Delete data using DML.

Create and use SQL Views.

# Requirements

This is **not** a group project. Working with another student on lab material may result in a grade of 0 for this lab.

See the Lab Submission portion of these instructions for details on submitting your lab.

Use Lab-2B-Setup.sql to create the tables and populate them with data. You may want to add or change the data to fully test your queries. Place your answers in the Lab-2B.sql file.

Part 1 - Queries (**26 marks**)

Write queries to select the following information from the database.

1. (**1 mark**) Select the airport name, city, country, and timezone of the airport with the code 1028. Show the city and country as one column titled "Serving City" with a comma between the city and the country.
2. (**3 marks**) For all bookings, select the flight code, confirmation number and the number of passengers on the booking
3. (**1 mark**) Select the average payment amount.
4. (**3 marks**) Select the flight codes for all bookings whose total payment amounts are less than $ 10,000.
5. (**4 marks**) Select the flight number, departure date, and the full names of all passengers on all of the scheduled flights for December 15 that are leaving from Edmonton. Include those flights that do not have any passengers.
6. (**1 mark**) Select all airports that do not have the word "International" in their name.
7. (**3 marks**) Select the amount of money that was made each day in the month of August (based on the timestamp in the Payments table). Show the day's number and weekday name along with the total paments on that day. List the days in chronological order.
8. (**2 marks**) Select the names of the airlines without any scheduled flights. (Use a subquery for your answer.)
9. (**5 marks**) Select the name(s) of airline(s) with the most number of scheduled flights in December. (*Hint: A subquery is required for this problem.*) Prove your solution by creating another seperate query the shows all airline names and the number of scheduled flights in December sorted from highest to lowest number of flights.
10. (**3 marks**) Select the time and flight number for all flights going into and out of the 'Lester B. Pearson International Airport' on December 22. Ensure the time displayed is appropriate (the arrival time for flights entering Lester B. Pearson and departure time for flights leaving Lester B.

Pearson). Include a column stating "Arriving" if it's an arrival or "Departing" if it's a departure. Sort the results by time in ascending order. (*Hint:*

*A union operation works best.*)

Part 2 - Views (**4 marks**)

1. (**2 marks**) Create a view called AirlineSchedule that returns the airline name, flight number, departure date (without the time), departure time (in 24-hour format), name of the departure city, name of the arrival city, and arrival time (in 24-hour format). (Hint: To convert a DateTime to 24hour format, use CONVERT(VARCHAR(8), F.Arrival, 108))
2. (**2 marks**) Using the **AirlineSchedule** view as your query source, select all flights arriving at Toronto on Dec 25.

Part 3 - DML (**10 marks**)

Write DML statements to accomplish the following:

1. (**1 mark**) Insert the following records into the Airports table:

## Name City Country IATA ICAO Latitude Longitude Altitude TimeZone TzDatabaseTimeZone

Kelowna

International Kelowna Canada YLW CYLW 49.9561004639 -119.377998352 1421 -8 America/Vancouver

Airport

2. (**2 marks**) Insert the following records into the Airports table, using subqueries where appropriate:

**TimeZone &**

## Name City Country IATA ICAO Latitude Longitude Altitude

**TzDatabaseTimeZone**

The same time zone as used Fort McMurray Fort

Canada YMM CYMM 56.653301239 -111.222000122 1211 for the Edmonton Airport Mcmurray

International Airport

1. (**2 marks**) Change all the flights on December 24 for airline code 'ACA' to indicate that they are now full.
2. (**3 marks**) The runways in **Abbotsford**'s airport are getting repaved. Cancel all scheduled flights arriving at or departing from that airport between Christmas and New Years Eve.
3. (**2 marks**) Remove all the airlines that do not have scheduled flights.

# Lab Submission

Place your answers in **Lab-2B.sql** that contains clearly identified comments for each question in the lab.

The top of your script file must include a comment block containing:

Your name

Course name and section number

Instructor name

Any deficiencies in your lab (known errors, skipped requirements, etc.)

Failure to document known errors may result in additional 1/2 mark deductions for each undocumented error up to 3 marks total.

Additional marks will be deducted for incomplete lab submissions.

Your script file will be submitted to moodle.

**Late labs are not allowed** and will be assigned a mark of **zero (0)**.

Your instructor will inform you of any adjustments or alterations to these specs.

Other Considerations

Do not make assumptions. If you have questions about the company, ask your instructor (client). This is not a group project. Working with another student on lab material may result in a grade of 0 for this lab.

