

Flights of Fancy

#### Objectives:

1. Create, execute, and test stored procedures involving queries and DML statements
2. Demonstrate error checking and RaisError
3. SQL Transactions

#### Requirements:

Create the following stored procedures as described.

* Do not add any functionality or validation not asked for.
* Make your procedures as maintainable and efficient as possible (i.e. avoid selecting the same data more than once from the database, clear logic, etc.).
* Ensure that transactions are only used where required.
* Raise a user-friendly error if:
  + Required parameters were not passed to the procedure - if any parameters are missing, you may raise a single error
  + A DML statement fails
  + Records to be updated or deleted do not exist

An ERD has been provided for you as well as the relevant table create statements and some sample data in Lab3.sql. You may wish to insert/delete/update the data in the tables to fully test your stored procedures.

1. Write a stored procedure called **LookUpPassengers** that will be passed a ConfirmationNumber. Return the FirstName and LastName (as one column), DateOfBirth ordered by CustomerID. If the ConfirmationNumber does not exist, raise an error. (3 marks)
2. Write a stored procedure called **AddAirport** that accepts a Name, City, Country, IATA, ICAO, Latitude, Longitude, Altitude, Timezone, and TzDatabaseTimeZone. If the airport name already exists in the table, raise an appropriate error message, and do not add it. Otherwise add the new airport to the Airports table and select the new AirportCode. (4 marks)
3. Write a stored procedure called **LookUpFlights** that accepts a part of a FlightCode as a parameter. Return the FlightCode, FlightNumber, Date, Departure Airport Name, and the Arrival Airport Name for any flights that have that input parameter somewhere in the FlightCode. If no flights exist with that FlightCode part, raise an error. (4 marks)
4. Write a stored procedure called **ArchiveBookings** that will **move** a Bookings record to the BookingsArchive table for storage. A booking can only be archived if it does **not** have any passengers. A ConfirmationNumber will be passed to this procedure as a parameter. Error messages are required if the ConfirmationNumber does not exist or if the booking cannot be archived because it has passengers. (6 marks)
5. Write a stored procedure called **DeleteAirlines** that accepts an AirlineCode as a parameter. If the record does not exist in the Airlines table, raise an appropriate message. If there are flights with that AirlineCode, raise an appropriate message. Otherwise, delete the record from the Airlines table. (5 marks)
6. Write a procedure **AddPassenger** that will add a record to the Passengers table and update the PassengerCount column in the Bookings table. Input parameters will be ConfirmationNumber, FirstName, LastName, and DateOfBirth. The CustomerID will start at 1 for the first passenger and increment by 1 for each additional passenger added on to that ConfirmationNumber. All input parameters will be valid. (6 marks)

Lab Submission is to include the following:

* A single script file submitted to Moodle called “Lab3\_LastName\_FirstName.sql” that contains all the stored procedures with drop procedure statements at the **top** of your script in the correct order.
  + Use SQL comments to label and separate each stored procedure **clearly**
  + No test data, random comments or commented out code should be included. ONLY YOUR ANSWERS.
* In your script, include a **short** discussion about the lab including:
  + What you liked/disliked about the lab
  + How long it took you to complete the lab
  + How prepared you felt you were for the lab
  + If there are any known errors in your solution, please identify them in your discussion
* Any additional requirements as specified by your instructor.
* Do not make assumptions. If you have questions, ask your instructor. This is not a group project. Working with another student on lab material will result in a grade of **zero (0)** for this lab.
* Up to 3 Marks may be deducted for incomplete lab submission requirements.

Lab 3 ERD

