DBAS 4002 – Stored Procedures Exercise

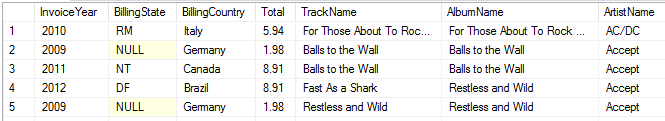
The following exercise walks you through building a series of stored procedures. It is intended to give you practice writing stored procs and building some programmatic aspects into your database.

This exercise offers practice of the following concepts:

* CREATE and ALTER PROCEDURE statements
* Calling stored procedures
* Using stored procs with parameters
* Using TSQL variables and conditional statements
* Using the ISNULL function

# Using the Chinook database, complete the following steps:

1. Create a SELECT query that gathers all the following data:
   1. Invoice Year only (do some research on TSQL’s Year() function)
   2. Billing State and Country
   3. Order Total
   4. Name of Track, Album and Artist
   5. Ensure all fields are aliased as shown in the following screenshot, which displays the first 5 of approx. 2240 rows returned:



1. Save your query from step 1 as a new VIEW, called **vwOrderData**.
2. Create a new stored procedure, called **spOrdersByYear**, which will be used to query the view created in step two. The stored proc should accept as a parameter a numeric value representing a 4-digit year. If a year value is provided, the results will be filtered by the selected year. If no year value is provided at all, all records will be returned, with no filter.
3. Test your proc! Add statements to run the stored proc from step 3 twice:
   1. With no parameter (~2240 – all records returned)
   2. With a year value of 2010, which should return ~455 rows.
4. Create a NEW stored proc, based on the stored proc from step 3. Call it **spOrdersByYear\_ValidYear**. This SP will add functionality to the previous version to verify that if a Year value was passed as a parameter, data will only be returned if that year has at least one invoice. If so, the results will be filtered by the selected year as before. If a year value is entered for a year with NO orders, print a message indicating “No records exist for that year”. If no year value is provided at all, all records will be returned, with no filter applied
5. Test your proc! Add statements to run the stored proc from step 5 three times:
   1. With no parameter (~2240 – all records returned)
   2. With a year value of 2010, which should return ~455 rows
   3. With a value of 2050, which should print your “No records exist for that year” message.
6. Write a NEW stored proc called **spOrdersByCountryAndState**. It will accept up to two parameters for country and state, and should exhibit the following behavior:
   1. A country must always be provided
   2. If the country is Canada or USA, a value for state/prov must also be provided.
      1. If both are provided, return all records that match that country and state/province.
      2. If not, print a message similar to “**For Canada or the US, you must enter a province or state abbreviation**.”
   3. If the country is any other besides Canada or USA, filter the results by country only.
7. Test your proc! Add statements to run the stored proc from step 7 four times:
   1. With no parameters (should cause an error)
   2. With a country value of “United Kingdom”, which should return ~114 rows
   3. With a country value of ‘Canada, but no province, which should print your custom “must enter a province/state” message.
   4. With a country value of Canada and a province value of NS, which should return ~38 records