MSBA 5223 – Database Foundations
Assignment 11

The purpose of this assignment is to help you practice the following skills that are essential to your success in this course and in your professional life beyond school as a business analyst.

- Use the skills developed in this class to solve problems.

Another purpose of this assignment is for you to possibly struggle and feel confused while you apply what you have learned in a slightly different context than what was provided in examples. This will allow you to internalize the use of the various techniques and develop your own approach for addressing problems. The purpose is NOT to make you struggle overmuch and hit your head against a brick wall. Work with your study group! If you don't know why something isn't working, ask me! If you are not sure why something is doing something other than you expected, ask me. I am here to help you learn although I do expect you to think about it and try before asking!

Notes about submitting your assignment:

More detailed information was in Assignment 2.

Be sure to save your document periodically. When you have finished the assignment, save the document as a PDF.

Submit the PDF to the assignment.

More SQL Queries

1. Management at AdventureWorks wants to determine the day of the week which have the most sales in 2012. You will use the Sales.SalesOrderHeader table. You will need the following functions – DATENAME, SUM, COUNT. List the Day of the Week, Total Revenue (based on the SubTotal), the number of orders and the Revenue per Order. Sort the results by the Revenue per Order with the largest first.

   Paste your entire query into Word.
   Use the Snipping Tool to capture the Results area of your query. Paste it into your Word document as Answer #1.

2. A new manager at AdventureWorks believes that Special Offers have been underutilized. During a Special Offer meeting, you are asked to create a report about Special Offers **NOT assigned** to products. Use a JOIN to determine if a special offer is assigned to a product. Once Special Offers not assigned to products have been identified, report the following information:

   a. SpecialOfferID

   b. SpecialOfferDescription

   c. SpecialOfferEndDate

   d. All results must reflect Special Offers that have not yet ended, with discounts greater than 0%. To evaluate ending dates, assume today is January 1, 2012.

   e. Use Sales.SpecialOffer and Sales.SpecialOfferProduct

   Paste your entire query into Word.
   Use the Snipping Tool to capture the Results area of your query. Paste it into your Word document as Answer #2.

3. Create a summary table that shows, by territory, the percentage of orders placed online in comparison to orders not placed online. Include TerritoryID, the total number of orders, the percentage of orders placed online, the percentage of orders not placed online. Display percentages with a % sign without decimals. For example, 95%. Use the Sales.SalesOrderHeader table. You will need to use aggregate functions, CASE expressions, either CAST or CONVERT and possibly ROUND.
    a. Remember when you divide two integers, SQL will give the answer as an integer.
    b. You can use a CASE expression anywhere you would have a table column.
    c. You do not have to write the entire query at once. Work on small steps. It's easier to see what's going on.

    Paste your entire query into Word.
    Use the Snipping Tool to capture the Results area of your query. Paste it into your Word document as Answer #3.

4. The Marketing department is preparing an email-blast to notify individual retail customers about a clearance sale. You are asked to report on the depth of email addresses within the company's databases.

    The email address counts should be based on email preferences. Email preferences are recorded in the Person.Person table in the column EmailPromotion.

    The value "0" indicates "Contact does not wish to receive email promotions."
    The value "1" indicates "Contact does wish to receive email promotions from AdventureWorks."
    The value "2" indicates "Contact does wish to receive email promotions from AdventureWorks and selected partners."

    You will use a JOIN but you will also use a CASE expression.

    Your output should look like

Email Preference	Count
Contact does not wish to receive email promotions.	999
Contact does wish to receive email promotions from AdventureWorks.	999
Contact does wish to receive email promotions from AdventureWorks and selected partners.	999

    Paste your entire query into Word.
    Use the Snipping Tool to capture the Results area of your query. Paste it into your Word document as Answer #4.

5. Rank commission percentages by salesperson. A rank of "1" should relate to the salesperson with the greatest commission percentage. If commission percentages are equal among sales people, rank by Bonus in descending order. Include BusinessEntityID, Commission Percent, Bonus, Rank.

   Determine rank using a new function – DENSE_RANK.

   DENSE_RANK has the syntax – **`DENSE_RANK ( ) OVER ( [ partition_by_clause ] order_by_clause )`**

   You will be concerned with ranking based on the order so you will choose the **order_by_clause** for the **OVER**. An example would be DENSE_RANK () OVER (ORDER BY LastName) AS NameRank.

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SELECT      BusinessEntityID, CommissionPct, Bonus,
            DENSE_RANK () OVER (ORDER BY CommissionPct DESC, Bonus DESC)
FROM  Sales.SalesPerson
```

   Paste your entire query into Word.
   Use the Snipping Tool to capture the Results area of your query. Paste it into your Word document as Answer #5.

5. Submit your PDF to Assignment 11.