

Data Management

SQL Assignment 2

In this assignment, you will be writing some database queries based upon the AdventureWorks database that we have been using in class. You'll want to make reference to both the schema diagram and the data dictionary. You also should use SQL Server Management Studio to explore the database. Remember, it's not unusual for database administrators to change the database structure and forget to update the documentation! Check your results carefully.

Problem 1

You are a business analyst at AdventureWorks and are assisting the Sales management team with analyzing sales results. They would like to look at sales revenue both by territory and by individual salesperson..

Each time a customer places an order, the salesperson creates a sales order record in the SalesOrderHeader table. The SalesOrderHeader contains information about the entire order. Orders may consist of one or more product types. The SalesOrderDetail table contains information about individual products that were included in each order and there may be multiple SalesOrderDetail records for each sales order.

When recognizing revenue for sales purposes, the company does not include tax or shipping charges. They also use the date that the order was placed as the date of record.

Part A

The first thing that the sales manager would like to know is the total sales revenue associated with each sales territory. Create a report showing the total sales revenue broken out by territory name. You can determine this by adding together the SubTotal figures from the relevant SalesOrderHeader records. Round the revenue figures to the nearest dollar and sort the list so that the highest revenue territory appears first.

Part B

The sales manager would now like to drill into the 2013 sales results. Revise your query from Part A to focus only on results from 2013 and break the results down by month. Your result set should include four columns: Name (of the territory), Month, Year, and SalesRevenue. This time, sort the list first by territory name and then by month.

Part C

The sales manager would like to recognize territories that had **at least** one month in 2013 with monthly sales over \$750,000. Create a report listing these territories. **It should contain only a single column named AwardWinners and should be sorted alphabetically.** Territories can only win this award once, regardless of the number of months where they exceeded the threshold, so don't include duplicate values in your list.

Part D

The sales manager would like to offer additional training to those territories that did not achieve the \$750,000 at least once in 2013. Create a list of territories that did not achieve their target, sorted alphabetically. **Do this by using set theory, adding a few lines to your query from Part C. The only line in your query from Part C that you may need to modify is the ORDER BY clause.**

Problem 2

Your next assignment is to work with the production manager on a series of questions that he has about your product catalog.

Part A

The production manager is considering dropping some products and would like to generate a report that lists finished goods products where the total sales volume is under 50 units. Create a report showing the **product name** and the **total number of units ordered**.

Part B

The production manager is working on profit projections for the coming year. She needs to make some assumptions about the sales tax rates in various countries and wants to use a **conservatively selected single rate for each country**.

Create a report showing the maximum sales tax rate for each country served by AdventureWorks. Use the full country name in the report. Sort the list by tax rate with the highest tax rate first.

Part C

The quality assurance department is issuing a recall for **all helmets** shipped during the **first five days of February 2014 due to a safety issue**. Stores will handle the notification of individual customers, but the sales department needs your help to follow up with stores that serve customers who received the helmets. Produce a listing of stores that shipped helmets during the recall

period. Your result should have two columns:

- a. StoreName
- b. TerritoryName

Sort the list in alphabetical order, first by territory name and then by store name. Each store should only appear once in the list, regardless of the number of orders.

Hint: My solution to this problem used five INNER JOINS. Most of the tables are ones that you're already familiar with using. You will need to bring in the Sales.SalesOrderDetail table as well to link to product information. If you aren't sure how to join two tables together, be sure to consult the data dictionary!

What You Should Turn In

You should upload a single file to Sakai named lastname_2.sql (e.g. chapple_2.sql) that contains your solutions to all problem parts.. Include your full name in the submission and use comments to separate the sections from each other. Your file should be a plain text file, which you can generate by saving the query window in SQL Server Management Studio. Do NOT turn in a Word document, PDF, or other file format, as I will not be able to execute your queries.

The first command in your file, before your solution to the first problem, should set the current database to AdventureWorks2014.

Please see this [sample SQL submission file](#) for an example of the proper formatting.