

# DSO 552: SQL Databases for Business Analysts

## Homework 03

**Due Date: Thursday Oct 3, 2019 (at the end of the day at 11:59pm)**

### Northwind Traders Company

Northwind Traders is a company that imports and exports food globally. The database captures all the sales transactions that occurs between the company i.e. Northwind traders and its customers as well as the purchase transactions between Northwind and its suppliers.

The following explains each table (used in this assignment) in the Northwind database:

Table	Description
Customers	who buy from Northwind
Orders	stores transaction sale orders from customers
OrderDetails	stores line items of sale orders
Products	the products that Northwind trades in
Suppliers	who supply to the company
Shippers	details of the shippers who ship the products from the traders to the end-customers
Employees	who work for Northwind

Check Figure 1 (on the last page) for more details for each of the above tables.

1. *(1 point)* Show the top 5 countries with the highest number of Customers. Your output should have two columns: country, number\_of\_customers.
2. *(1 point)* Find the total number of products in each category of products. Your output should have two columns: categoryname and totalproducts.
3. *(1 point)* Northwind Traders will re-order a certain product if: (1) UnitsInStock plus UnitsOnOrder are less than or equal to ReorderLevel, and (2) the product is not discontinued (Discontinued = 0). Which products need to be reordered? Your output should have two columns: productid and productname.
4. *(1.5 points)* How many orders were shipped by United Package in 1997. (Hint: shipvia is the shipper id in the orders table). Your output should have two columns: ship\_year and total.
5. *(1.5 points)* Some of the countries have a very high freight charges. For 1996, return the three ship countries with the highest average freight overall, in descending order by average freight. Your output should have three columns: lastname, firstname, and total\_late\_orders.
6. *(2 point)* Some salespeople have more orders arriving late than other salespeople (RequiredDate <= ShippedDate). Which salespeople have at least 5 orders arriving late? Your output should have three columns: companyname, orderid, and totalorderamount.
7. *(2 points)* Suppose that the company wants to send all of the high-value customers a special VIP gift. A high-value customer is anyone who've made at least 1 order with a total value (quantity x unit price) equal to \$10,000 or more. Query all of these high-value customer in 1996.

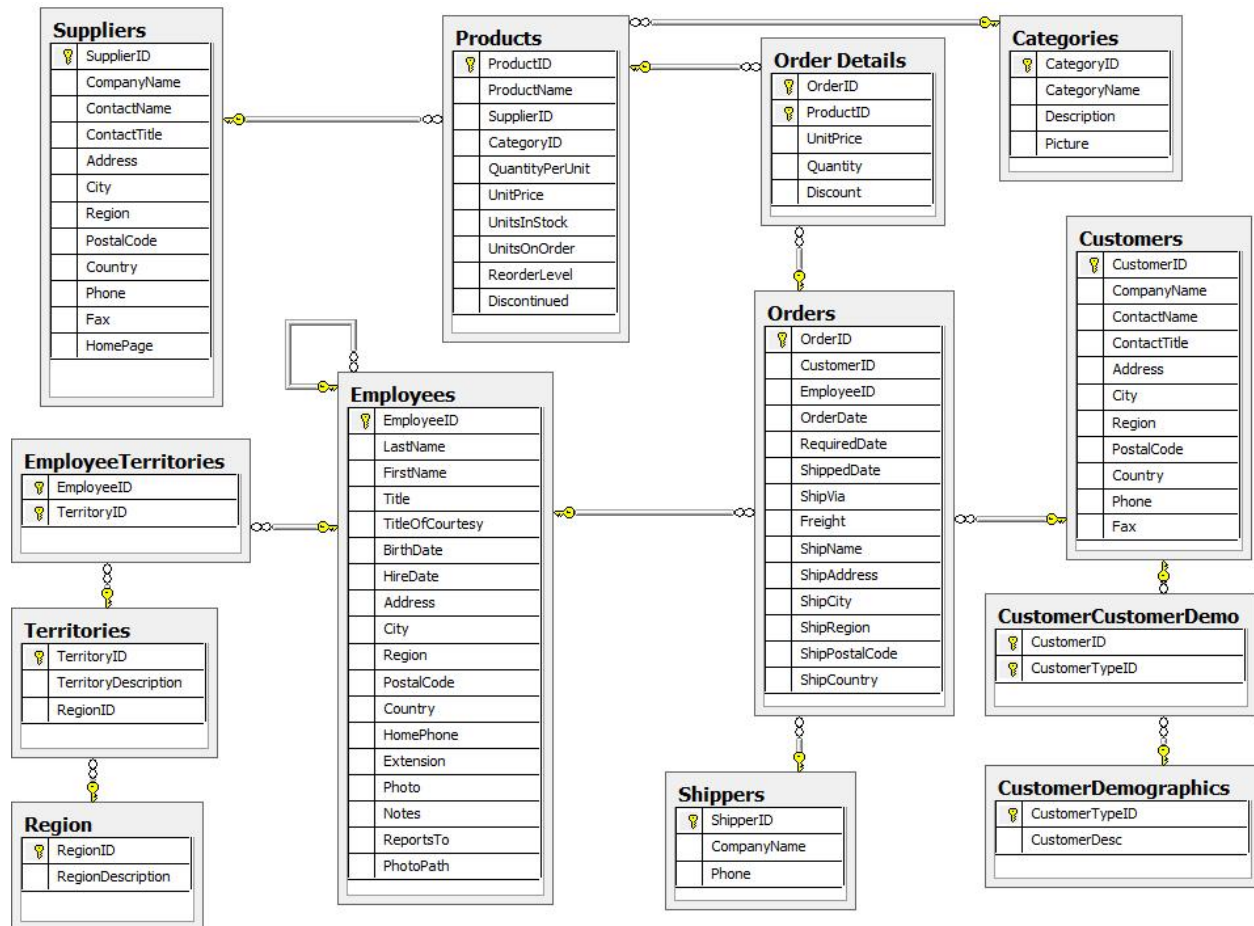


Figure 1: Northwind ERD