

DSO 552: SQL Databases for Business Analysts

Homework 3

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. However, do not include customers from Oregon (OR) or Texas (TX) in the counts for USA.

Sample Output:

country	numberofcustomers
Germany	11
France	11
Brazil	9
USA	9
UK	7

2. *(1 point)* Find the total number of products in each category of products. Show the categories with the most products first.

Sample Output:

categoryname	totalproducts
Confections	13
Condiments	12
Beverages	12
Seafood	12
Dairy Products	10
Grains/Cereals	7
Meat/Poultry	6
Produce	5

3. (1 point) Northwind Traders will prioritize re-ordering a certain product if: (1) UnitsInStock plus UnitsOnOrder are less than or equal to ReorderLevel, (2) the product is not discontinued (Discontinued = 0), and 3) the product has been ordered more than 1 time. Which products need to be prioritized for reordering?

Sample Output:

productid	productname
30	Nord-Ost Matjeshering
70	Outback Lager

4. (1 points) How many orders were shipped by United Package and Speedy Express (combined) in 1997? (Hint: shipvia is the shipper id in the orders table)

Sample Output:

ship_year	total
1997	273

5. (1 points) Northwind's operations team has noted the high cost of freight charges for Speedy Express shipments. For 1996, return the three ship countries with the highest average freight overall, in descending order by average freight, for orders fulfilled by Speedy Express.

Sample Output:

shipcountry	avg_freight
Finland	136.53999
Austria	130.99750
Germany	77.84833

6. (1 point) Some salespeople have more orders arriving late than other salespeople (defined as RequiredDate <= ShippedDate). Which salespeople have at least 5 orders arriving late? Do not show any employees with less than 5 late orders

Sample Output:

lastname	firstname	totallateorders
Peacock	Margaret	10
Callahan	Laura	5
Dodsworth	Anne	5
Leverling	Janet	5

7. (1 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.

Sample Output:

companyname	orderid	totalorderamount
Queen Cozinha	10372	12281.2
Piccolo und mehr	10353	10741.6

8. (1 points) Northwind's inventory supply chain team wants a report each day of products that have unit prices above the average unit price for all products but below average units in stock. This helps them better plan restock and purchasing decisions. Product this report for them.

Sample Output:

productname	unitprice	unitsinstock
Uncle Bob's Organic Dried Pears	30.00	15
Northwoods Cranberry Sauce	40.00	6
Mishi Kobe Niku	97.00	29
Ikura	31.00	31
Alice Mutton	39.00	0
Sir Rodney's Marmalade	81.00	40
Gumbär Gummibärchen	31.23	15
Rössle Sauerkraut	45.60	26
Thüringer Rostbratwurst	123.79	0
Mascarpone Fabioli	32.00	9
Côte de Blaye	263.50	17
Ipoh Coffee	46.00	17
Manjimup Dried Apples	53.00	20
Perth Pasties	32.80	0
Gnocchi di nonna Alice	38.00	21
Camembert Pierrot	34.00	19
Tarte au sucre	49.30	17
Vegie-spread	43.90	24
Wimmers gute Semmelknödel	33.25	22
Gudbrandsdalsost	36.00	26
Mozzarella di Giovanni	34.80	14

9. (1 points) What is the average number of orders processed by a Northwind employee?

Sample Output:

avg_orders_per_employee
92.22222

10. (1 points) Which product categories have the above average line item total discounted value (this is defined as discount * unitprice * quantity at the order details level). Hint: first find the average total discounted value for all order details, you'll then need to plug plug this into a HAVING filter.

Sample Output:

categoryname	avg_line_item_discount
Beverages	46.18507
Meat/Poultry	87.66729
Dairy Products	45.96507

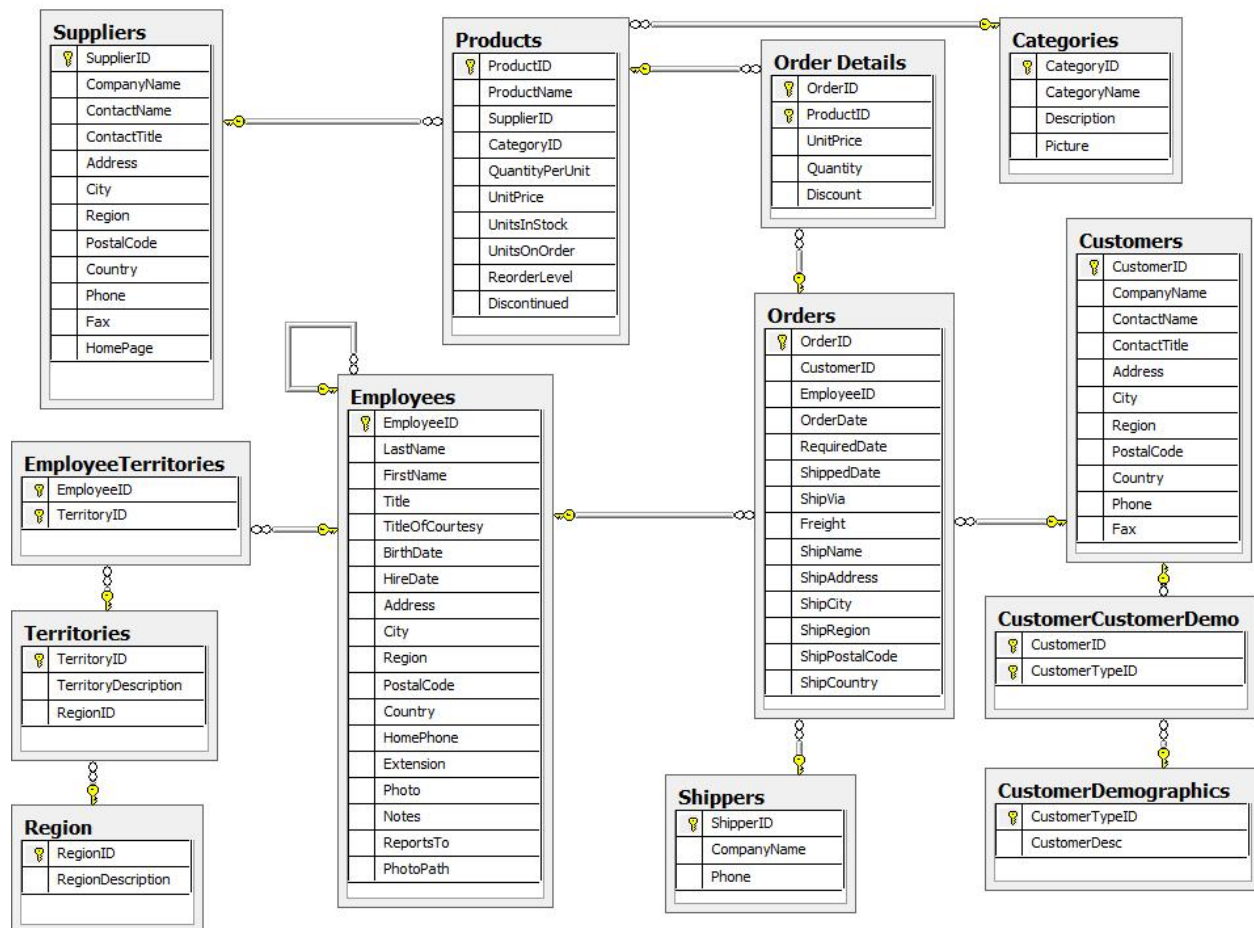


Figure 1: Northwind ERD