

Homework 4

Instructions:

- Write your answers in a .doc or .pdf file and then submit it on Brightspace by the due date. The file should include for each question you are answering the following:
 - The question number
 - The SQL query that you created to answer the question
 - A screenshot of the output that your query produces.
 - This assignment will require you to use again Northwind database, the one you used in the previous homeworks.
 - Below some of the questions there is a sample output, either all the rows or just the first few rows for long outputs (so if your output is longer than the one given to you in this homework, it's just because we limit the sample we show you to just a few lines, it doesn't mean that your answer is wrong). This sample output is aimed to guide you towards creating the correct query. Keep in mind though that, even if your output is the same with the given, your query may not be entirely correct, since different queries may lead to the same output. Grading is based on the correctness of the query and not only the correctness of the output.
 - Feel free to work in teams. However, each student must submit their own answers.
 - **Please do not include your name, username or usc id in your submitted file! Grading is anonymized.**
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Northwind Traders is a company that imports and exports food globally. The database captures all the sales transactions that occur between the company (Northwind) 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 the ERD diagram below for more details on each of the above tables.

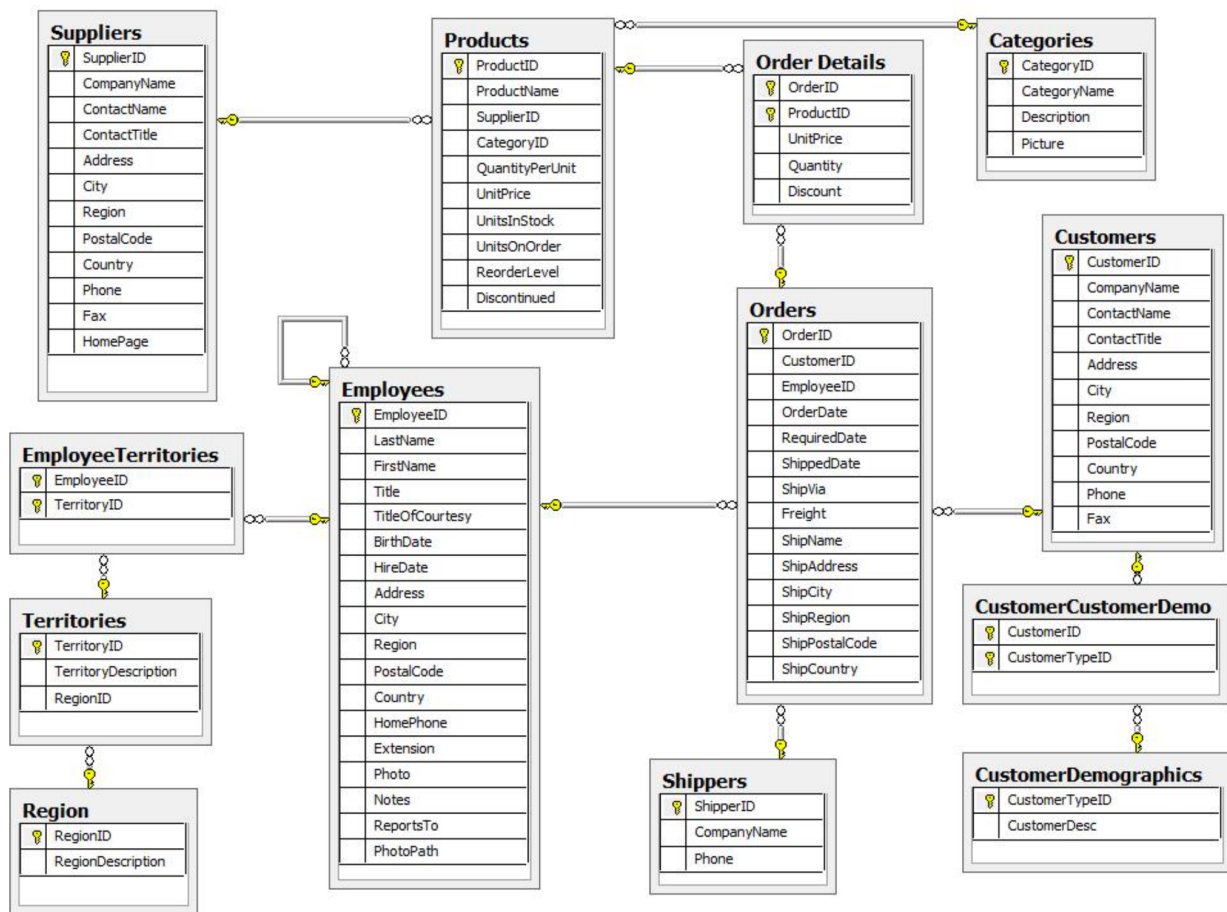


Figure 1: Northwind ERD

1. 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. 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. Northwind Traders will prioritize re-ordering a certain product if: (1) UnitsIn-Stock 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? Only display product id and name and sort output by product id.

Sample Output:

productid	productname
30	Nord-Ost Matjeshering
70	Outback Lager

4. How many orders were shipped by United Package and Speedy Express (combined) in 1997?

Sample Output:

orders1997
273

5. 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, in descending average freight order, for orders fulfilled by Speedy Express.

Sample Output:

shipcountry	avg_freight
Finland	137
Austria	131
Germany	78

6. Some salespeople have more orders arriving late than other salespeople (“late” defined as RequiredDate <= ShippedDate). Which salespeople have at least 5 orders arriving late? Do not show any employees with less than 5 late orders and sort output starting with the employee that has the most late orders.

Sample Output:

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

7. Suppose that Northwind 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. Find all of these high-value customers for 1996.

Sample Output:

companyname	orderid	totalorderamount
Queen Cozinha	10,372	12,281
Piccolo und mehr	10,353	10,742

8. Which customers never placed any order?

Sample Output:

companyname
Paris spécialités
FISSA Fabrica Inter. Salchichas S.A.

9. Which employees and which territories are not assigned yet (to territories and employees respectively), if any.

Sample Output:

employeeid	territoryid
[NULL]	75234
[NULL]	72716
[NULL]	78759
[NULL]	29202

10. What are the shippers that Northwind did not work with?

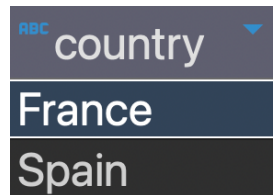
Sample Output:

companyname
Alliance Shippers
UPS
DHL

11. Produce a report showing a list of countries where there are customers who have never placed an order. In your answer, you should not use FULL

JOIN. Also, make sure that your query (and your output) would be correct for any data, not only the specific data that we happen to have here.

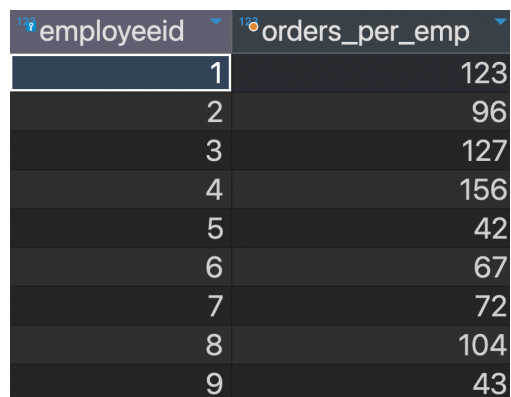
Sample Output:



country
France
Spain

- 12.** How many orders were processed by every Northwind employee? In your answer, you should not use FULL JOIN. Also, make sure that your query (and your output) would be correct for any data, not only the specific data that we happen to have here.

Sample Output:



employeeid	orders_per_emp
1	123
2	96
3	127
4	156
5	42
6	67
7	72
8	104
9	43