

DSO 435: Enterprise Data Architecture

Homework 1

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 create one new database: Northwind. The SQL file to create the database is [northwind.sql](#)
 - Below each question there is a sample output, either all the rows or just the first few rows for long outputs (so if you 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 Company

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.

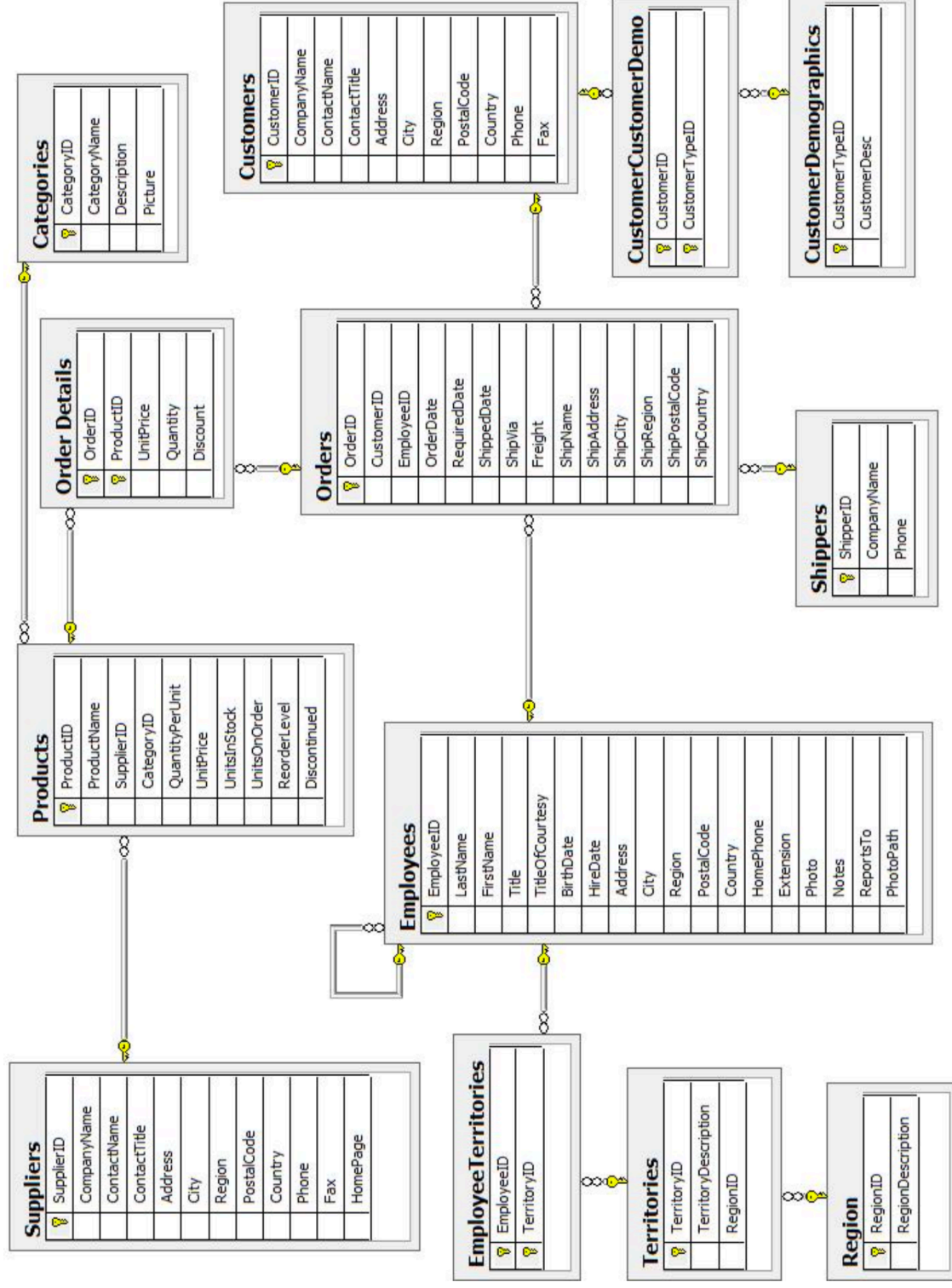


Figure 1: Northwind ERD

1. Which companies do Northwind Traders use for shipping their products? Provide the names of these companies, as well as their IDs. **No other columns should show up in the output.** (1 point)

Sample Output:

shipperid	companyname
1	Speedy Express
2	United Package
3	Federal Shipping
4	Alliance Shippers
5	UPS
6	DHL

2. Find the first name, last name, and hiring date of all employees with the title “Sales Representative” or “Inside Sales Coordinator”. **No other columns should show up in the output.** (2 points)

Sample Output:

firstname	lastname	hiredate
Nancy	Davolio	1992-05-01
Janet	Leverling	1992-04-01
Margaret	Peacock	1993-05-03
Michael	Suyama	1993-10-17
Robert	King	1994-01-02
Laura	Callahan	1994-03-05
Anne	Dodsworth	1994-11-15

3. Create a report showing the first name, last name, and country of all employees that are not in the United States. Order result alphabetically, by last name. **No other columns should show up in the output.** (2 points)

Sample Output:

firstname	lastname	country
Steven	Buchanan	UK
Anne	Dodsworth	UK
Robert	King	UK
Michael	Suyama	UK

4. Query all employee names (first and last) who are hired before Jan 1, 1994. Sort your results from the newest hire to the oldest to point out who is the newest hire. **In the output only the first name, last name and hiredate should appear.** (3 points)

Sample Output:

firstname	lastname	hiredate
Steven	Buchanan	1993-10-17
Michael	Suyama	1993-10-17
Margaret	Peacock	1993-05-03
Andrew	Fuller	1992-08-14
Nancy	Davolio	1992-05-01
Janet	Leverling	1992-04-01

5. Show all orders (and return all columns) that happened in Madrid in year 1996. (3 points)

Sample Output:

10281	ROMEY	4	1996-08-14	1996-08-28	1996-08-21	1	2.94	Romero y tomillo	Gran Vía, 1	Madrid	NA	28001	Spain
10282	ROMEY	4	1996-08-15	1996-09-12	1996-08-21	1	12.69	Romero y tomillo	Gran Vía, 1	Madrid	NA	28001	Spain
10306	ROMEY	1	1996-09-16	1996-10-14	1996-09-23	3	7.56	Romero y tomillo	Gran Vía, 1	Madrid	NA	28001	Spain
10326	BOLID	4	1996-10-10	1996-11-07	1996-10-14	2	77.92	Bólido Comidas preparadas	C/ Araquil, 67	Madrid	NA	28023	Spain

6. Find and return only the product id and name for all “queso” products (i.e. products whose name includes “queso”) that have unit price greater than 30. Only print out product id and product name. (3 points)

Sample Output:

productid	productname
12	Queso Manchego La Pastora

7. Query all the orders (only the columns orderid, customerid, shipcountry) shipping to the following countries in Latin America: Brazil, Mexico, Argentina, Venezuela. Sort by freight value, with the heaviest freight first. Show the first 10 results only. (4 points)

Sample Output:

orderid	customerid	shipcountry
10372	QUEEN	Brazil
10518	TORTU	Mexico
10986	OCEAN	Argentina
10709	GOURL	Brazil
10490	HILAA	Venezuela
10637	QUEEN	Brazil
10981	HANAR	Brazil
10868	QUEEN	Brazil
10395	HILAA	Venezuela
10641	HILAA	Venezuela

8. Create a report that shows the company name, contact title, city and country of all customers in Mexico, Brazil, or in any city in Spain except Madrid. **No other columns should show up in the output. (4 points)**

Sample Output:

companyname	contacttitle	city	country
Ana Trujillo Emparedados y helados	Owner	México D.F.	Mexico
Antonio Moreno Taquería	Owner	México D.F.	Mexico
Centro comercial Moctezuma	Marketing Manager	México D.F.	Mexico
Comércio Mineiro	Sales Associate	Sao Paulo	Brazil
Familia Arquibaldo	Marketing Assistant	Sao Paulo	Brazil
Galería del gastrónomo	Marketing Manager	Barcelona	Spain
Godos Cocina Típica	Sales Manager	Sevilla	Spain
Gourmet Lanchonetes	Sales Associate	Campinas	Brazil
Hanari Carnes	Accounting Manager	Rio de Janeiro	Brazil
Pericles Comidas clásicas	Sales Representative	México D.F.	Mexico
Que Delícia	Accounting Manager	Rio de Janeiro	Brazil
Queen Cozinha	Marketing Assistant	Sao Paulo	Brazil
Ricardo Adocicados	Assistant Sales Agent	Rio de Janeiro	Brazil
Tortuga Restaurante	Owner	México D.F.	Mexico
Tradição Hipermercados	Sales Representative	Sao Paulo	Brazil
Wellington Importadora	Sales Manager	Resende	Brazil

9. What is the most expensive discontinued product that currently has units in stock? (Hint: A product is discontinued if the value of attribute “discontinued” in the table is 1 otherwise it is 0 if the product is not discontinued). Show all columns from the products table and order your results from most expensive to least expensive. (4 points)

Sample Output:

9	Mishi Kobe Niku	4	6	18 - 500 g pkgs.	97.0	29	0	0	1
28	Rössle Sauerkraut	12	7	25 - 825 g cans	45.6	26	0	0	1
2	Chang	1	1	24 - 12 oz bottles	19.0	17	40	25	1
1	Chai	8	1	10 boxes x 30 bags	18.0	39	0	10	1
42	Singaporean Hokkien Fried Mee	20	5	32 - 1 kg pkgs.	14.0	26	0	0	1
24	Guaraná Fantástica	10	1	12 - 355 ml cans	4.5	20	0	0	1

10. Which order (order id) has the highest total value after the discount? Return only the orderid, productid, unitprice, quantity, discount, and total value of the order (in a column called totalvalue). Order the results in descending order of total value. Return only one result! (5 points)

Sample Output:

orderid	productid	unitprice	quantity	discount	totalvalue
10981	38	263.5	60	0	15810