

DSO 552: SQL Databases for Business Analysts

Homework 1

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. *(1point)* Which companies do Northwind Traders use for shipping their products? Provide the names of these companies, as well as their IDs

```
select shipperid, companyName
from shippers
```

Sample Output:

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

2. *(1point)* Find the first name, last name, and the hiring date of all employees with the title “Sales Representative” or “Inside Sales Coordinator”.

```
select firstname, lastname, hiredate
from employees
where title IN ('Sales Representative', 'Inside Sales Coordinator')
```

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. (1point) Create a report showing the first name, last name, and country of all employees not in the United States. Order result alphabetically, by last name.

```
select firstname, lastname, country
from employees
where country NOT LIKE 'USA'
ORDER BY lastname
LIMIT 5
```

Sample Output:

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

4. (1point) 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 find out who is the newest hire.

```
select firstname, lastname, hiredate
from employees
where hiredate < '1994-01-01'
order by hiredate desc
```

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. (1point) Show all orders (and return all columns) that happened in Madrid in year 1996.

```
select * from orders
where shipcity = 'Madrid' AND
      (orderdate >= '1996-1-1' AND orderdate < '1997-1-1')
```

Sample Output:

orderid	customerid	employeeid	orderdate	requireddate	shippeddate	shipvia	freight	shipname	shipaddress	shipcity	shipregion	shippostcode	shipcountry
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	Bóldo Comidas preparadas	C/ Araquil, 67	Madrid	NA	28023	Spain

6. (1point) Find and return only the product id and name for all “queso” products that have a unit price greater than 30

```
select productid, productname
from products
where productname ILIKE '%QUESO%' AND unitprice > 30
```

Sample Output:

productid	productname
12	Queso Manchego La Pastora

7. (1point) Query all the orders (order id, customer id, and 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.

```
select orderid, customerid, shipcountry
from orders
where shipcountry in ('Brazil', 'Mexico', 'Argentina', 'Venezuela')
order by freight DESC
limit 10;
```

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. (1point) 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.

```
select companyname, contacttitle, city, country
from customers
where country in ('Mexico', 'Spain', 'Brazil') AND city NOT LIKE 'Madrid'
```

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. (1point) What is the most expensive discontinued product that currently has units in stock? (Hint: A product is discontinued if the the value of the value of 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.

```
select *
from products
where discontinued = 1 AND unitsinstock > 0
order by unitprice desc
```

Sample Output:

productid	productname	supplierid	categoryid	quantityperunit	unitprice	unitsinstock	unitsonorder	reorderlevel	discontinued
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. (1point) Which order (order id) has the highest total value after the discount? Return 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.

```
select orderid,productid, unitprice, quantity, discount,
       unitprice*quantity - (unitprice*quantity*discount) as totalvalue
from order_details
order by totalvalue desc
limit 1
```

Sample Output:

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

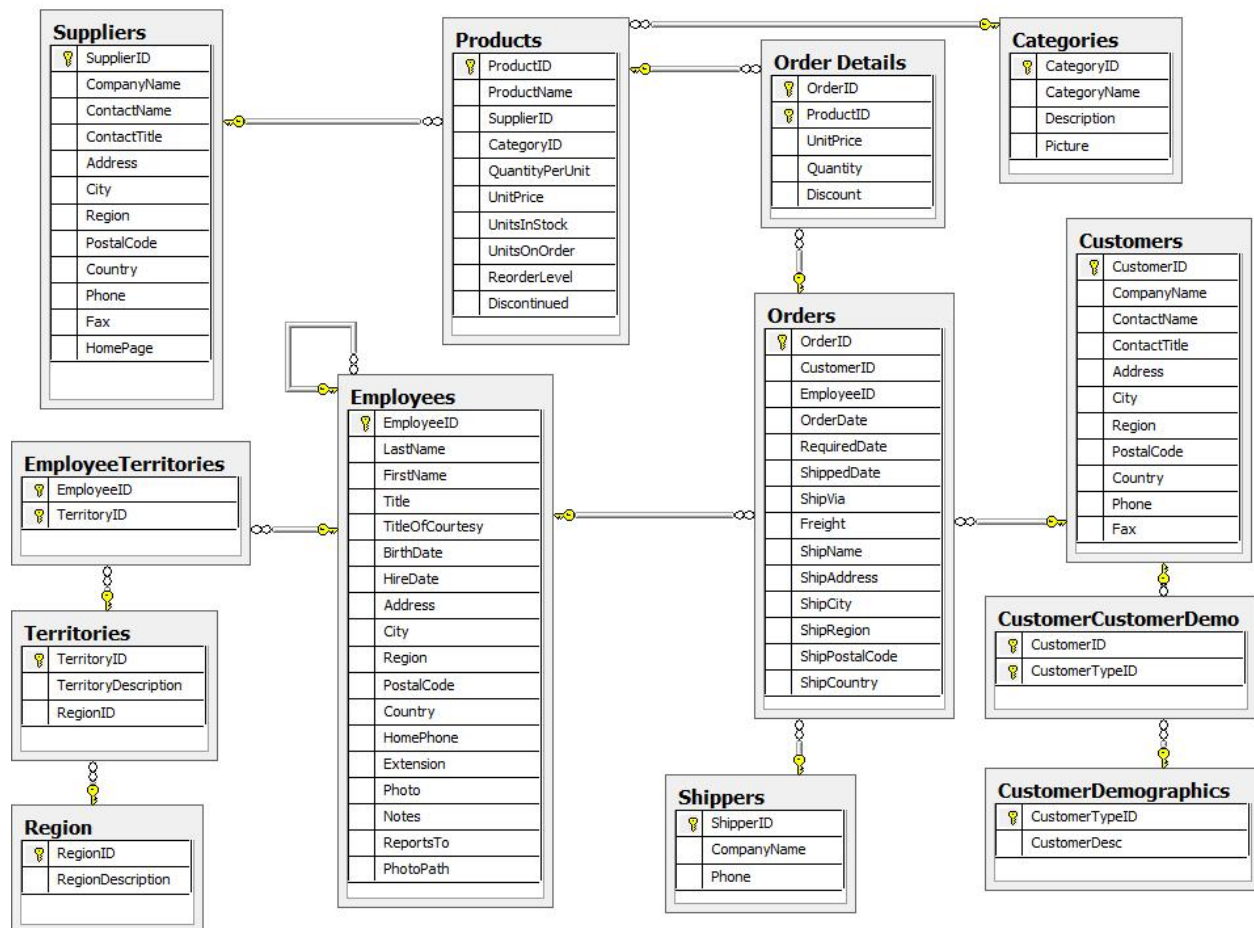


Figure 1: Northwind ERD