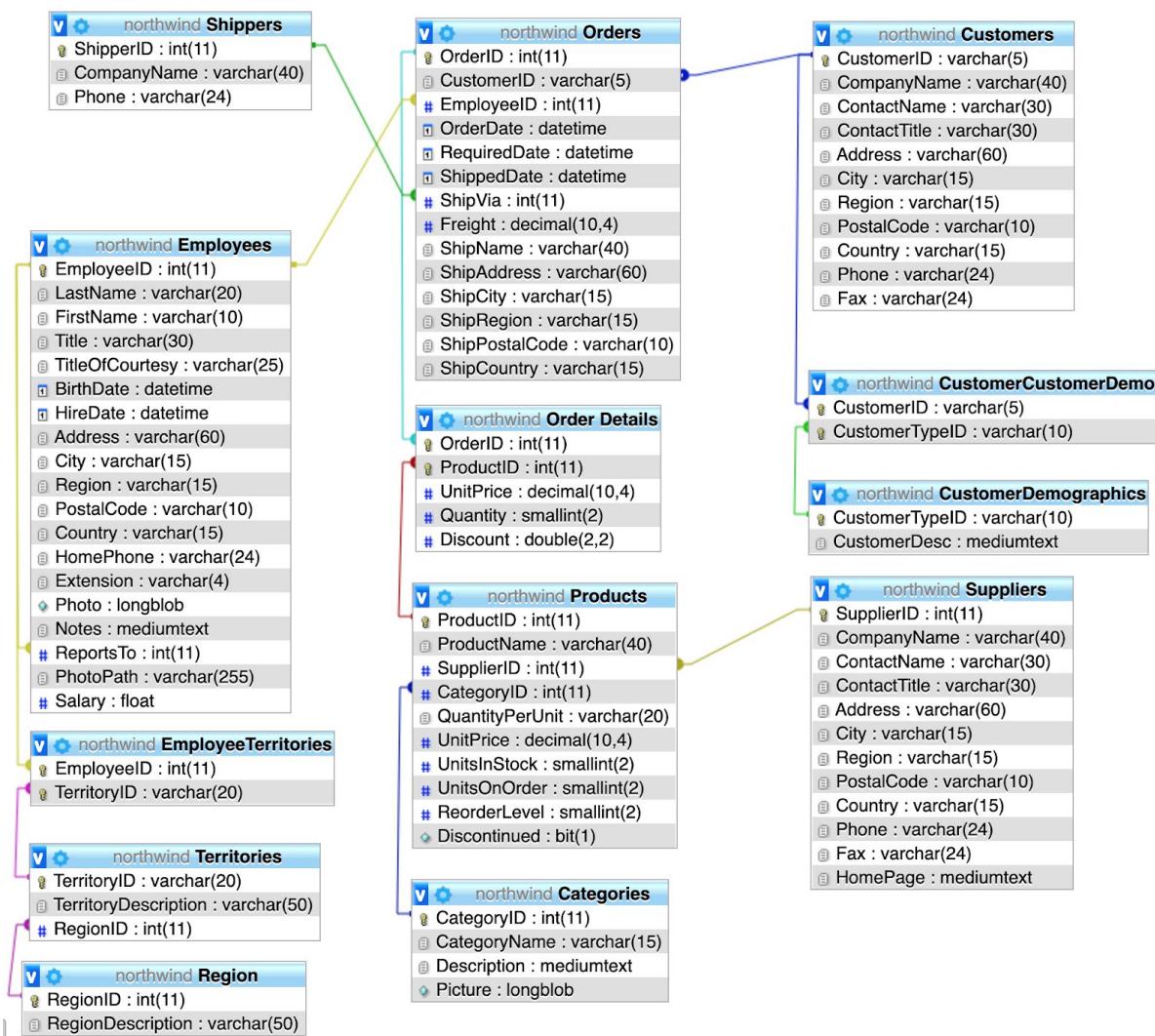


Course: Database management

Unit: Introduction to SQL II

Material: Northwind

# NORTHWIND



Download the script to create the database here:

[https://drive.google.com/file/d/1u\\_H6YXfmoCoGOuqZKv4vnRU\\_1CCwRLsr/view?usp=sharing](https://drive.google.com/file/d/1u_H6YXfmoCoGOuqZKv4vnRU_1CCwRLsr/view?usp=sharing)

The exercises are not sorted by order of difficulty...

1.- Show total cost of every order in May 1998 (also called “subtotal”).

Clue:  $\text{price} * \text{quantity} * (1 - \text{discount})$

OrderID	OrderDate	Subtotal
11064	1998-05-01 00:00:00	9208.4850
11065	1998-05-01 00:00:00	492.4920
11066	1998-05-01 00:00:00	1811.0625
11067	1998-05-04 00:00:00	169.3575
11068	1998-05-04 00:00:00	4650.3600
11069	1998-05-04 00:00:00	702.0000
11070	1998-05-05 00:00:00	3653.3250
11071	1998-05-05 00:00:00	994.5000
11072	1998-05-05 00:00:00	10175.1000
11073	1998-05-05 00:00:00	585.0000
11074	1998-05-06 00:00:00	476.3850
11075	1998-05-06 00:00:00	1142.7000
11076	1998-05-06 00:00:00	2061.1500
11077	1998-05-06 00:00:00	2417.4930

14 rows in set (0.001 sec)

## 2.- Show the total sales by year.

OrderYear	Subtotal
1996	438818.2500
1997	1283858.0625
1998	915791.1360

3 rows in set (0.010 sec)

## 3.- Total sales by country.

ShipCountry	Subtotal
Argentina	15832.2450
Austria	272018.4285
Belgium	68513.2110
Brazil	224188.5360
Canada	107901.4950
Denmark	67825.3875
Finland	38567.9775
France	166722.5820
Germany	477049.2285
Ireland	111768.9105
Italy	32575.0425
Mexico	46943.2275
Norway	11183.5425
Poland	6887.3025
Portugal	24313.8675
Spain	37892.1855
Sweden	116071.2150
Switzerland	64193.0250
UK	118202.1945
USA	513955.6110
Venezuela	118589.0355

21 rows in set (0.008 sec)

## 4.- Show employee sales order by sales amount

**descendent.**

LastName	FirstName	EmployeeID	Subtotal
Peacock	Margaret	4	487859.4435
Leverling	Janet	3	415097.5140
Davolio	Nancy	1	393351.2700
Fuller	Andrew	2	346611.0570
King	Robert	7	275527.1805
Callahan	Laura	8	258721.0860
Dodsworth	Anne	9	161779.8000
Suyama	Michael	6	152248.7850
Buchanan	Steven	5	147271.3125

9 rows in set (0.007 sec)

**5.- Show employee sales by country order by country ascendent and sales amount descendent.**

LastName	FirstName	EmployeeID	ShipCountry	Subtotal
Callahan	Laura	8	Argentina	5363.4750
King	Robert	7	Argentina	2994.8100
Peacock	Margaret	4	Argentina	2592.3300
Dodsworth	Anne	9	Argentina	1841.7750
Davolio	Nancy	1	Argentina	1339.0650
...				
Buchanan	Steven	5	USA	31494.6450
Leverling	Janet	3	Venezuela	25349.8635
Callahan	Laura	8	Venezuela	20135.4270
Davolio	Nancy	1	Venezuela	19467.0450
Peacock	Margaret	4	Venezuela	16421.7300
King	Robert	7	Venezuela	13992.6150
Buchanan	Steven	5	Venezuela	10049.5200
Suyama	Michael	6	Venezuela	6598.4100
Fuller	Andrew	2	Venezuela	5837.3250
Dodsworth	Anne	9	Venezuela	737.1000

167 rows in set (0.012 sec)

**6.- Sales per category.**

CategoryID	CategoryName	Subtotal
1	Beverages	558499.2075
2	Condiments	221511.7125
3	Confections	344943.0855
4	Dairy Products	489632.4420
5	Grains/Cereals	196372.8585
6	Meat/Poultry	346658.2275
7	Produce	205168.3822
8	Seafood	275681.5327

8 rows in set (0.012 sec)

**7.- Number of products by category.**

CategoryID	CategoryName	Number
1	Beverages	12
2	Condiments	12
3	Confections	13
4	Dairy Products	10
5	Grains/Cereals	7
6	Meat/Poultry	6
7	Produce	5
8	Seafood	12

8 rows in set (0.001 sec)

#### 8.- Order details of the order number 10248.

OrderID	ProductID	ProductName	UnitPrice	Quantity	Discount	ExtendedPrice
10248	11	Queso Cabrales	27.3000	12	0.10	294.84
10248	42	Singaporean Hokkien Fried Mee	19.1100	10	0.10	171.99
10248	72	Mozzarella di Giovanni	67.8600	5	0.10	305.37

3 rows in set (0.002 sec)

#### 9.- Total amount for order 10248.

TotalPrice
772.2000

1 row in set (0.003 sec)

#### 10.- Order heading for order 10248.

OrderID	OrderDate	RequiredDate	CustomerID	CompanyName	Address	City	Region	PostalCode	Country	ShippedDate	CompanyName	Freight	ShipAddress	ShipCity	ShipRegion	ShipPostalCode	ShipCountry	SalesPerson
10248	1996-07-04 00:00:00	1996-08-01 00:00:00	VINET	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	NULL	51100	France	1996-07-16 00:00:00	Federal Shipping	32.3889	59 rue de l'Abbaye	Reims	NULL	51100	France	Steven Buchanan

1 row in set (0.001 sec)

#### 11.- Top 10 products with more units sold.

ProductName	Units
Camembert Pierrot	1577
Raclette Courdavault	1496
Gorgonzola Telino	1397
Gnocchi di nonna Alice	1263
Pavlova	1158
Rhnbru Klosterbier	1155
Guaran Fantstica	1125
Boston Crab Meat	1103
Tarte au sucre	1083
Chang	1057

10 rows in set (0.003 sec)

#### 12.- List of products with its price and its prices in orders. In the table Products UnitPrice is the cost price of the products (what we paid to the providers), in Order Details we have the price that we sold the products to the customers.

ProductID	UnitPrice	UnitPriceSold
1	18.0000	28.0800
1	18.0000	35.1000
2	19.0000	29.6400
2	19.0000	37.0500
3	10.0000	15.6000
3	10.0000	19.5000
4	22.0000	34.3200
4	22.0000	42.9000
5	21.3500	33.1500
5	21.3500	41.6325
6	25.0000	39.0000
6	25.0000	48.7500
...		
70	15.0000	29.2500
71	21.5000	33.5400
71	21.5000	41.9250
72	34.8000	67.8600
72	34.8000	54.2100
73	15.0000	23.4000
73	15.0000	29.2500
74	10.0000	15.6000
74	10.0000	19.5000
75	7.7500	12.0900
75	7.7500	15.1125
76	18.0000	28.0800
76	18.0000	35.1000
77	13.0000	20.2800
77	13.0000	25.3500

156 rows in set (0.008 sec)

### 13.- Ten most expensive products.

ProductID	ProductName	UnitPrice
38	Cte de Blaye	263.5000
29	Thringer Rostbratwurst	123.7900
9	Mishi Kobe Niku	97.0000
20	Sir Rodney's Marmalade	81.0000
18	Carnarvon Tigers	62.5000
59	Raclette Courdavault	55.0000
51	Manjimup Dried Apples	53.0000
62	Tarte au sucre	49.3000
43	Ipoh Coffee	46.0000
28	Rssle Sauerkraut	45.6000

10 rows in set (0.000 sec)

### 14.- Top ten products that gave more profit per unit (with year in which they were sold and ordered by profit).

ProductID	year	UnitPrice	UnitPrice	profit
38	1997	263.5000	513.8250	250.3250
38	1998	263.5000	513.8250	250.3250
38	1996	263.5000	411.0600	147.5600
38	1997	263.5000	411.0600	147.5600
29	1998	123.7900	241.3905	117.6005
29	1997	123.7900	241.3905	117.6005
9	1997	97.0000	189.1500	92.1500
9	1998	97.0000	189.1500	92.1500
20	1998	81.0000	157.9500	76.9500
20	1997	81.0000	157.9500	76.9500

10 rows in set (0.002 sec)

### 15. Top ten products in profit in sales.

ProductID	ProductName	Total_Profit
38	Cte de Blaye	128308.6900
29	Thringer Rostbratwurst	78014.7025
59	Raclette Courdavault	66497.2000
60	Camembert Pierrot	44081.6800
62	Tarte au sucre	43772.5050
51	Manjimup Dried Apples	40265.2660
56	Gnocchi di nonna Alice	39992.3400
17	Alice Mutton	31048.2900
18	Carnarvon Tigers	28322.5000
28	Rssle Sauerkraut	23203.9200

10 rows in set (0.005 sec)

#### 16.- Products above average price (ordered by price descendent).

ProductID	ProductName	UnitPrice
38	Cte de Blaye	263.5000
29	Thringer Rostbratwurst	123.7900
9	Mishi Kobe Niku	97.0000
20	Sir Rodney's Marmalade	81.0000
18	Carnarvon Tigers	62.5000
59	Raclette Courdavault	55.0000
51	Manjimup Dried Apples	53.0000
62	Tarte au sucre	49.3000
43	Ipoh Coffee	46.0000
28	Rssle Sauerkraut	45.6000
27	Schoggi Schokolade	43.9000
63	Vegie-spread	43.9000
8	Northwoods Cranberry Sauce	40.0000
17	Alice Mutton	39.0000
12	Queso Manchego La Pastora	38.0000
56	Gnocchi di nonna Alice	38.0000
69	Gudbrandsdalsost	36.0000
72	Mozzarella di Giovanni	34.8000
60	Camembert Pierrot	34.0000
64	Wimmers gute Semmelkndel	33.2500
53	Perth Pasties	32.8000
32	Mascarpone Fabioli	32.0000
26	Gumbr Gummibrchen	31.2300
10	Ikura	31.0000
7	Uncle Bob's Organic Dried Pears	30.0000

25 rows in set (0.001 sec)

#### 17.- Describe what the following query does.

```

select c.CategoryName as "Product Category",
       case when s.Country in
             ('UK','Spain','Sweden','Germany','Norway',
              'Denmark','Netherlands','Finland','Italy','France')
             then 'Europe'
       when s.Country in ('USA','Canada','Brazil')
             then 'America'
       else 'Asia-Pacific'
       end as "Supplier Continent",
       sum(p.UnitsInStock) as UnitsInStock
from Suppliers s, Products p, Categories c
  
```

```

where p.SupplierID=s.SupplierID and
      c.CategoryID=p.CategoryID
group by c.CategoryName,
         case when s.Country in
               ('UK','Spain','Sweden','Germany','Norway',
                'Denmark','Netherlands','Finland','Italy','France')
               then 'Europe'
               when s.Country in ('USA','Canada','Brazil')
               then 'America'
               else 'Asia-Pacific'
         end;

```

**18.- Top 10 suppliers with more products in our system ordered by number of products descendent and company name ascendent.**

SupplierID	CompanyName	qty
7	Pavlova, Ltd.	5
12	Plutzer Lebensmittelgrossmärkte AG	5
2	New Orleans Cajun Delights	4
8	Specialty Biscuits, Ltd.	4
16	Bigfoot Breweries	3
1	Exotic Liquids	3
14	Formaggi Fortini s.r.l.	3
24	G'day, Mate	3
3	Grandma Kelly's Homestead	3
11	Heli Swaren GmbH & Co. KG	3

**10 rows in set (0.001 sec)**

**19.- Number of customers from Barcelona.**

NumberBCN
1

**1 row in set (0.001 sec)**

**20.- Make a complete list of customers with more than 25 orders placed.**

CompanyName	NumOrders
Ernst Handel	30
QUICK-Stop	28
Save-a-lot Markets	31

**3 rows in set (0.002 sec)**

**21.- Customer who has placed the maximum number of orders.**

CompanyName	NumOrders
Save-a-lot Markets	31

1 row in set (0.002 sec)

**22.- Make a list of shippers and the number of orders handled by each.**

CompanyName	NumOrders
United Package	326
Federal Shipping	255
Speedy Express	249

3 rows in set (0.002 sec)

**23. Make a list of the employees (full name) and for each employee show the number of times that employee has used each of the shippers.**

FullName	CompanyName	NumTimes
Buchanan, Steven	Federal Shipping	13
Buchanan, Steven	Speedy Express	14
Buchanan, Steven	United Package	15
Callahan, Laura	Federal Shipping	29
Callahan, Laura	Speedy Express	27
Callahan, Laura	United Package	48
Davolio, Nancy	Federal Shipping	41
Davolio, Nancy	Speedy Express	38
Davolio, Nancy	United Package	44
Dodsworth, Anne	Federal Shipping	14
Dodsworth, Anne	Speedy Express	10
Dodsworth, Anne	United Package	19
Fuller, Andrew	Federal Shipping	25
Fuller, Andrew	Speedy Express	35
Fuller, Andrew	United Package	36
King, Robert	Federal Shipping	28
King, Robert	Speedy Express	20
King, Robert	United Package	24
Leverling, Janet	Federal Shipping	46
Leverling, Janet	Speedy Express	36
Leverling, Janet	United Package	45
Peacock, Margaret	Federal Shipping	40
Peacock, Margaret	Speedy Express	46
Peacock, Margaret	United Package	70
Suyama, Michael	Federal Shipping	19
Suyama, Michael	Speedy Express	23
Suyama, Michael	United Package	25

27 rows in set (0.007 sec)

**24. Make a list of products that are out of stock.**

ProductID	ProductName
17	Alice Mutton
5	Chef Anton's Gumbo Mix
31	Gorgonzola Telino
53	Perth Pasties
29	Thringer Rostbratwurst

5 rows in set (0.001 sec)

**25. Make a list of products that are out of stock and have not been discontinued.**

**Include the suppliers' names.**

ProductID	ProductName	CompanyName
31	Gorgonzola Telino	Formaggi Fortini s.r.l.

1 row in set (0.007 sec)

**26.- Make a list of products that need to be re-ordered i.e. where the units in stock (the number you have) and the units on order (the number you have coming) is less than the reorder level (the number that prompts you to order more).**

ProductID	ProductName
30	Nord-Ost Matjeshering
70	Outback Lager

2 rows in set (0.003 sec)

**27. Top 10 orders with bigger discount (as an amount).**

CompanyName	NumOrders
Save-a-lot Markets	31

1 row in set (0.002 sec)