Northwind Database - 50 Business Questions (June 2024)

Software used: SQL (MySQL)/ MySQL Workbench
Link to Script File: Found on my GitHub page **here**.

Data	The popular open source database 'Northwind', a fictional food supplier company.
Data Source	Kaggle/GitHub.Credit for the 50 Business Questions I answered to the user Musili Adebayo.
Database Structure	Tables: **categories, customers, employees, order details, orders, products, suppliers, shippers**. See Figure 1 for a full detailed model of DB.*
Functions used/Objectives met	SQL - Using/editing an automated script to build and populate a database. Data Manipulation/Retrieval of a database → USE, SELECT, WHERE (LIKE, NOT IN, WILDCARD %, SUBSTRING, CONCAT, LEFT, RIGHT,IS NULL, IS NOT NULL, MOD, AND, OR etc), JOIN (Inner, Left, Right, Full Outer, Self-Join), ORDER BY (ASC, DESC), GROUP BY, HAVING, LIMIT. Use of alibis to make script writing more accessible and efficient. View creation and deletion. Table creation, alteration and deletion. Create a duplicate table. Gained intimate knowledge of this particular database in order to more efficiently answer business questions. Creation of ER diagram model using reverse engineer feature and MySQL workbench model builder functionality (showing nature of relationships, primary keys, foreign keys etc). Use of descriptions at the line level (- - -) and longer (/* */) to explain work.

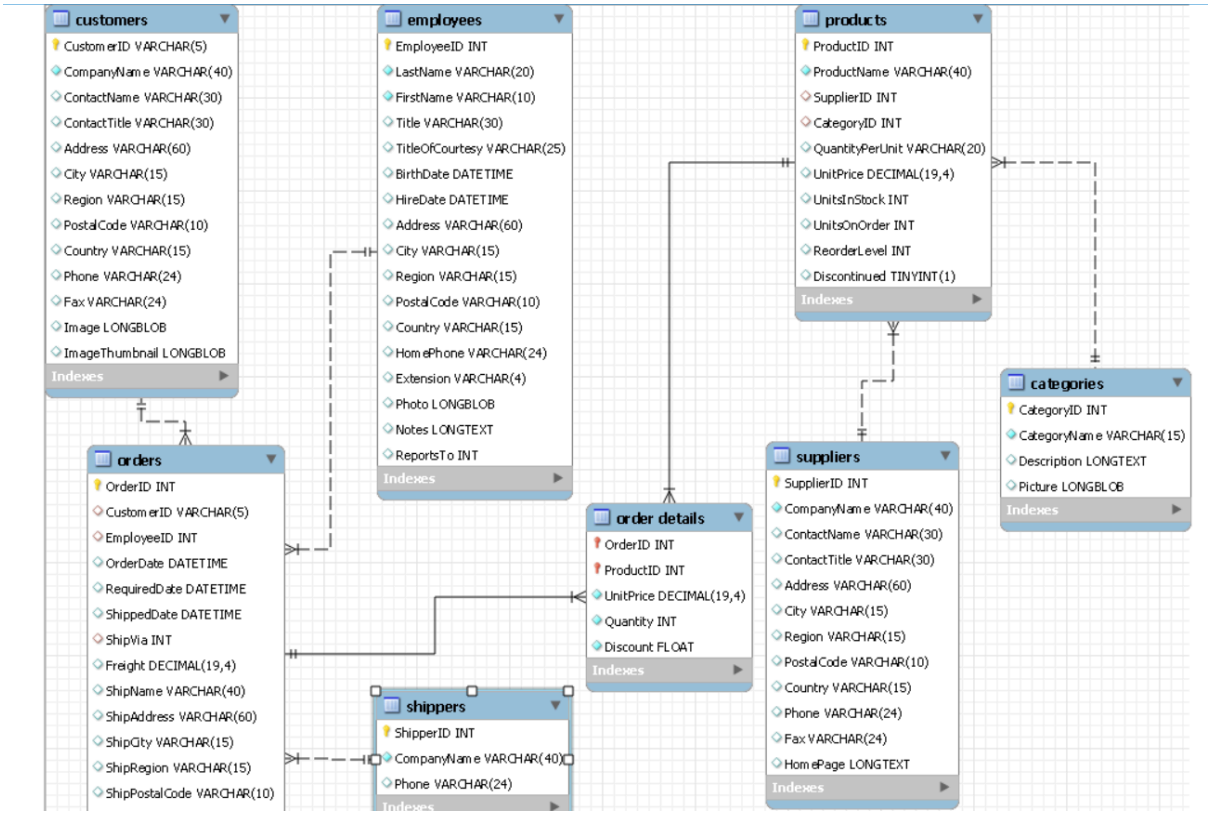

Figure 1 - *ER diagram of my version of Northwind DB*

Questions and Answers

There were 50 business questions to answer in this example work. All 50 of my responses can be found in the .sql script here. Below are a select few of some of my responses to showcase:

Q4)

```
/* 4. Create a report that shows the top 10 OrderID, OrderDate, ShippedDate, CustomerID, Freight from the orders table sorted
by Freight in descending order.
*/

select orderid, OrderDate, ShippedDate, CustomerID, Freight
from orders
order by freight desc
limit 10;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

orderid	OrderDate	ShippedDate	CustomerID	Freight
10540	1995-06-19 00:00:00	1995-07-14 00:00:00	QUICK	1007.6400
10372	1995-01-04 00:00:00	1995-01-09 00:00:00	QUEEN	890.7800
11030	1996-05-17 00:00:00	1996-05-27 00:00:00	SAVEA	830.7500
10691	1995-11-03 00:00:00	1995-11-22 00:00:00	QUICK	810.0500
10514	1995-05-23 00:00:00	1995-06-16 00:00:00	ERNSH	789.9500
11017	1996-05-13 00:00:00	1996-05-20 00:00:00	ERNSH	754.2600
10816	1996-02-06 00:00:00	1996-03-06 00:00:00	GREAL	719.7800
10479	1995-04-19 00:00:00	1995-04-21 00:00:00	RATTC	708.9500
10983	1996-04-26 00:00:00	1996-05-06 00:00:00	SAVEA	657.5400
11032	1996-05-17 00:00:00	1996-05-23 00:00:00	WHITC	606.1900

Q9)

```
/* 9. Create a report showing all the ContactName, Address, City of all customers not from Germany, Mexico, Spain */

select ContactName, Address, City
from customers
where country not in ('Germany', 'Mexico', 'Spain');
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

ContactName	Address	City
Thomas Hardy	120 Hanover Sq.	London
Christina Berglund	Berguvsvägen 8	Luleå
Frédérique Citeaux	24, place Kléber	Strasbourg
Laurence Lebihan	12, rue des Bouchers	Marseille
Elizabeth Lincoln	23 Tsawassen Blvd.	Tsawassen
Victoria Ashworth	Fauntleroy Circus	London
Patricio Simpson	Cerrito 333	Buenos Aires
Yang Wang	Hauptstr. 29	Bern
Pedro Afonso	Av. dos Lusíadas, 23	São Paulo

Q13)

```
/* 13. Create a report that shows the City, CompanyName, ContactName of customers from cities starting with A or B. */

select City, CompanyName, ContactName
from customers
where city like 'A%' OR CITY LIKE 'B%';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

City	CompanyName	ContactName
Aachen	Drachenblut Delikatessen	Sven Ottlieb
Albuquerque	Rattlesnake Canyon Grocery	Paula Wilson
Anchorage	Old World Delicatessen	Rene Phillips
Århus	Vaffeljernet	Palle Ibsen
Barcelona	Galería del gastrónomo	Eduardo Saavedra
Barquisimeto	LILA-Supermercado	Carlos González
Bergamo	Magazzini Alimentari Riuniti	Giovanni Rovelli
Berlin	Alfreds Futterkiste	Maria Anders
Bern	Chop-suey Chinese	Yang Wang
Boise	Save-a-lot Markets	Jose Pavarotti
Bräcke	Folk och fä HB	Maria Larsson
Brandenburg	Königlich Essen	Philip Cramer
Bruxelles	Maison Dewey	Catherine Dewey
Buenos Aires	Cactus Comidas para llevar	Patricio Simpson
Buenos Aires	Océano Atlántico Ltda.	Yvonne Moncada
Buenos Aires	Rancho grande	Sergio Gutiérrez

Q14)

```
/* 14. Create a report showing all the even numbers of OrderID from the orders table. */

select orderid as even_orders
from orders
where substring(orderid,5,1) in (0,2,4,6,8);
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

even_orders
10248
10250
10252
10254
10256
10258
10260
10262
10264

Q22)

```
/* 22. Create a report that shows the FirstName, LastName, BirthDate of employees born in the 1950s */

use northwind2;

select FirstName, LastName, BirthDate
from employees
where BirthDate >= '1950-01-01' and BirthDate < '1960-01-01'
order by firstname;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

FirstName	LastName	BirthDate
Andrew	Fuller	1952-02-19 00:00:00
Laura	Callahan	1958-01-09 00:00:00
Steven	Buchanan	1955-03-04 00:00:00

Q25)

```
/* 25. Create a report that shows the SupplierID, ProductName, CompanyName from all product Supplied by Exotic Liquids,
Specialty Biscuits, Ltd., Escargots Nouveaux sorted by the supplier ID */

select products.SupplierID, ProductName, CompanyName
from suppliers
right join products on suppliers.supplierid = products.supplierid
where companyname in ('Exotic Liquids', 'Specialty Biscuits, Ltd.', 'Escargots Nouveaux')
order by supplierid asc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

SupplierID	ProductName	CompanyName
1	Chai	Exotic Liquids
1	Chang	Exotic Liquids
1	Aniseed Syrup	Exotic Liquids
8	Teatime Chocolate Biscuits	Specialty Biscuits, Ltd.
8	Sir Rodney's Marmalade	Specialty Biscuits, Ltd.
8	Sir Rodney's Scones	Specialty Biscuits, Ltd.
8	Scottish Longbreads	Specialty Biscuits, Ltd.
27	Escargots de Bourgogne	Escargots Nouveaux

Q29)

```
/* 29. Create a report that shows the CompanyName, ContactTitle, City, Country of all customers in any city in Mexico or other
cities in Spain other than Madrid. */

select CompanyName, ContactTitle, City, Country
from customers
where country = 'Mexico' or (country = 'Spain' AND city != 'Madrid')
order by Country, City, CompanyName asc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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
Pericles Comidas clásicas	Sales Representative	México D.F.	Mexico
Tortuga Restaurante	Owner	México D.F.	Mexico
Galería del gastrónomo	Marketing Manager	Barcelona	Spain
Godos Cocina Típica	Sales Manager	Sevilla	Spain

Q32)

```
/* 32. Create a report that shows the average UnitPrice rounded to the next whole number, total price of UnitsInStock and
maximum number of orders from the products table. All saved as AveragePrice, TotalStock and MaxOrder respectively. */

select round(avg(unitprice),0) as AveragePrice,
round(sum(unitprice*unitsinstock),2) as TotalStock,
max(UnitsOnOrder) as MaxOrder
from products;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

AveragePrice	TotalStock	MaxOrder
29	74050.85	100

Q35)

```
/* 35. Create a report that shows the OrderID, ContactName, UnitPrice, Quantity, Discount from the order details, orders and
customers table with discount given on every purchase */

select OD.OrderID, Companyname, ContactName, UnitPrice, Quantity, Discount
from northwind2.`order details` as OD
left join orders as O ON OD.OrderID = O.orderid
left join customers as C on O.customerid = C.customerID
where discount != 0
order by Companyname asc, contactname, discount desc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

OrderID	Companyname	ContactName	UnitPrice	Quantity	Discount
10643	Alfreds Futterkiste	Maria Anders	45.6000	15	0.25
10643	Alfreds Futterkiste	Maria Anders	18.0000	21	0.25
10643	Alfreds Futterkiste	Maria Anders	12.0000	2	0.25
10835	Alfreds Futterkiste	Maria Anders	13.0000	2	0.2
10952	Alfreds Futterkiste	Maria Anders	25.0000	16	0.05
11011	Alfreds Futterkiste	Maria Anders	13.2500	40	0.05
10507	Antonio Moreno Taquería	Antonio Moreno	46.0000	15	0.15

Q48)

```
/* 48. - Create a select statement that ouputs the following from the employees table.
NB: The age might differ depending on the year you are attempting this query. */

SELECT firstname, lastname, birthdate, concat( (DATE_FORMAT(FROM_DAYS(DATEDIFF(NOW(), birthdate)), '%Y')
+ 0), ' Years') AS age
from employees;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

firstname	lastname	birthdate	age
Nancy	Davolio	1948-12-08 00:00:00	75 Years
Andrew	Fuller	1952-02-19 00:00:00	72 Years
Janet	Leverling	1963-08-30 00:00:00	60 Years
Margaret	Peacock	1937-09-19 00:00:00	86 Years