

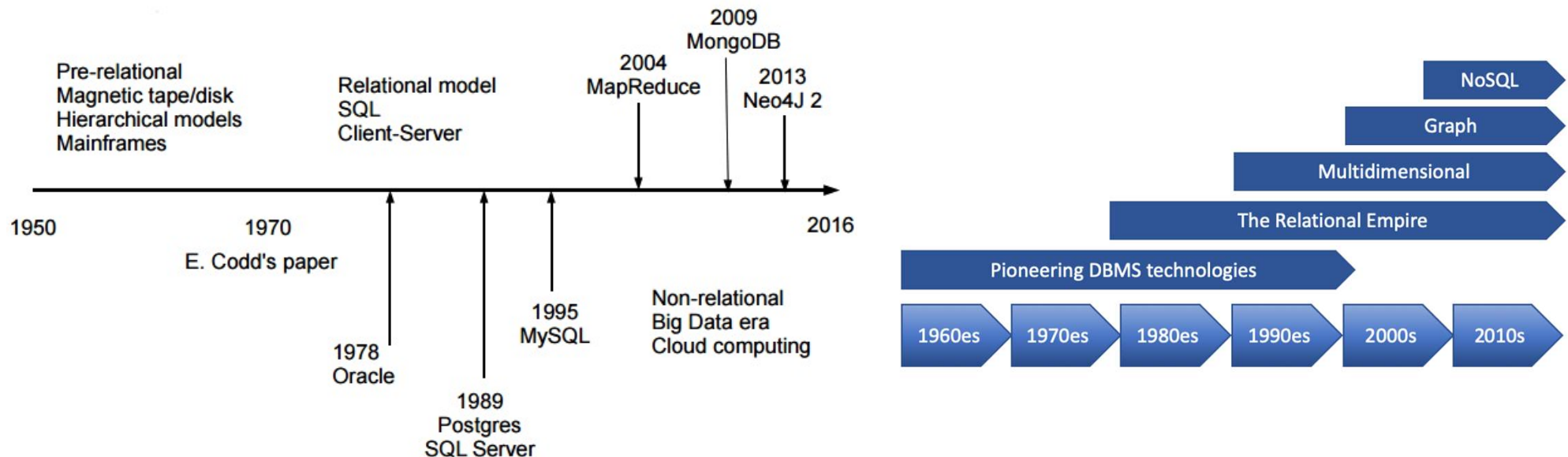
# Database Management System

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The database evolution happened in five “waves”:

- The first wave consisted of network, hierarchical, inverted list, and (in the 1990's) object-oriented DBMSs; it took place from roughly 1960 to 1999.
- The relational wave introduced all of the SQL products (and a few non-SQL) around 1990 and began to lose users around 2008.
- The decision support wave introduced Online Analytical Processing (OLAP) and specialized DBMSs around 1990, and is still in full force today.
- The graph wave began with The Semantic Web stack from the Worldwide Web Consortium in 1999, with property graphs appearing around 2008
- The NoSQL wave includes big data and much more; it began in 2008.



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# Syllabus

- **Lecture 1 : Basic SQL Commands**
- Lecture 2 : Advanced SQL Commands
- Lecture 3 : Stored Procedures and Functions
- Lecture 4 : Trigger, Transaction, Cursor and Temporary Table
- Lecture 5 : Security, Role, Server Backup, and Server Recovery
- Lecture 6 : Data Synchronization, SQL Profiler, Linked Server, Job Schedule
- Lecture 7 : Basic MongoDB Commands
- Lecture 8 : Advanced MongoDB Commands
- Lecture 9 : SQL Server and MongoDB connection from Application
- Lecture 10 : Final Project

# Outline



SQL Select

SQL Where

SQL Insert

SQL Update

SQL Delete

SQL Order By

SQL Select Top

SQL Offset-Fetch

SQL Select Distinct

SQL Min, Max

SQL Count, Sum, Avg

SQL And, Or, Not

SQL Between

SQL In

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SQL Is Null

SQL Group By

SQL Having

SQL Alias

SQL Join

SQL Left Join

SQL Right Join

SQL Full Join

SQL Self Join

SQL Union

SQL Subquery

SQL Any, All

SQL Exists

SQL Select Into

SQL Insert Into

# Database Commands



```
SELECT name FROM master.dbo.sysdatabases
```

```
IF NOT EXISTS (SELECT name FROM master.dbo.sysdatabases
                WHERE name = N'Northwind')
CREATE DATABASE [Northwind]
USE [Northwind]
```

```
IF db_id('Northwind') IS NOT NULL
BEGIN
    SELECT 'database does exist'
END
ELSE
BEGIN
    SELECT 'database does not exist'
END
```

Results		Messages	
name			
1	master		
2	tempdb		
3	model		
4	msdb		
5	SmartPhoneDB		
6	CsdlHangkhong		
7	Student Database		
8	EmployeeDB		

# DB Northwind



## Supplier

Supplier		
<u>Id</u>	int	<pk>
CompanyName	nvarchar(40)	
ContactName	nvarchar(50)	
ContactTitle	nvarchar(40)	
City	nvarchar(40)	
Country	nvarchar(40)	
Phone	nvarchar(30)	
Fax	nvarchar(30)	
IndexSupplierName		
IndexSupplierCountry		

## Product

Product		
<u>Id</u>	int	<pk>
ProductName	nvarchar(50)	
SupplierId	int	<fk>
UnitPrice	decimal(12,2)	
Package	nvarchar(30)	
IsDiscontinued	bit	
IndexProductSupplierId		
IndexProductName		

## Customer

Customer		
<u>Id</u>	int	<pk>
FirstName	nvarchar(40)	
LastName	nvarchar(40)	
City	nvarchar(40)	
Country	nvarchar(40)	
Phone	nvarchar(20)	
IndexCustomerName		

## Order

Order		
<u>Id</u>	int	<pk>
OrderDate	datetime	
OrderNumber	nvarchar(10)	
CustomerId	int	<fk>
TotalAmount	decimal(12,2)	
IndexOrderCustomerId		
IndexOrderOrderDate		

## OrderItem

OrderItem		
<u>Id</u>	int	<pk>
OrderId	int	<fk1>
ProductId	int	<fk2>
UnitPrice	decimal(12,2)	
Quantity	int	
IndexOrderItemOrderId		
IndexOrderItemProductId		

# SELECT

## The SQL SELECT general form

1. **SELECT** column-names
2. **FROM** table-name
3. **WHERE** condition
4. **ORDER BY** sort-order

Example:

1. **SELECT** FirstName, LastName, City, Country
2. **FROM** Customer
3. **WHERE** City = 'Paris'
4. **ORDER BY** LastName

	Results	Messages				
	FirstName	LastName	City	Country		
1	Marie	Bertrand	Paris	France		
2	Dominique	Perrier	Paris	France		



# SELECT

```
SELECT * FROM Customer
```

```
SELECT FirstName, LastName, City  
FROM Customer
```



Id	FirstName	LastName	City	Country	Phone
1	Maria	Anders	Berlin	Germany	030-0074321
2	Ana	Trujillo	México D.F.	Mexico	(5) 555-4729
3	Antonio	Moreno	México D.F.	Mexico	(5) 555-3932
4	Thomas	Hardy	London	UK	(171) 555-7788
5	Christina	Berglund	Luleå	Sweden	0921-12 34 65
...					



# INSERT



## The SQL INSERT general form

1. `INSERT table-name (column-names)`
2. `VALUES (column-values)`

Example:

1. `INSERT Supplier (Name, ContactName, City, Country)`
2. `VALUES ('Oxford Trading', 'Ian Smith', 'Oxford', 'UK')`

**Problem:** Add a record for a new customer

1. `INSERT INTO Customer (FirstName, LastName, City, Country, Phone)`
2. `VALUES ('Craig', 'Smith', 'New York', 'USA', 1-01-993 2800)`

**Results:** 1 new record inserted

# INSERT



```
INSERT INTO Customer (FirstName, LastName, City, Country, Phone)
SELECT    LEFT(ContactName, CHARINDEX(' ',ContactName) - 1),
          SUBSTRING(ContactName, CHARINDEX(' ',ContactName) + 1, 100),
          City, Country, Phone
FROM Supplier
WHERE CompanyName = 'Bigfoot Breweries'
```

	Id	CompanyName	ContactName	ContactTitle	City	Country	Phone	Fax
1	16	Bigfoot Breweries	Cheryl Saylor	NULL	Bend	USA	(503) 555-9931	NULL



	(No column name)	(No column name)	City	Country	Phone
1	Cheryl	Saylor	Bend	USA	(503) 555-9931

# UPDATE

The SQL UPDATE general form

1. `UPDATE table-name`
2. `SET column-name = column-value`
3. `WHERE condition`

Example:

1. `UPDATE OrderItem`
2. `SET Quantity = 2`
3. `WHERE Id = 388`

1. `UPDATE Supplier`
2. `SET City = 'Oslo', Phone = '(0)1-953530', Fax = '(0)1-953555'`
3. `WHERE Id = 15`



# DELETE

## The SQL DELETE general form

1. `DELETE table-name`
2. `WHERE condition`

Example:

1. `DELETE Customer`
2. `WHERE Email = 'alex@gmail.com'`

**TRUNCATE TABLE Customer**



# ORDER BY

```
SELECT CompanyName, ContactName, City, Country  
FROM Supplier  
ORDER BY CompanyName
```

```
SELECT CompanyName, ContactName, City, Country  
FROM Supplier  
ORDER BY CompanyName DESC
```

```
SELECT Id, CompanyName, City, Country  
FROM Supplier  
WHERE Country IN ('USA', 'Japan', 'Germany')  
ORDER BY Country ASC, CompanyName DESC
```

Id	CompanyName
18	Aux joyeux ecclésiastiques
16	Bigfoot Breweries
5	Cooperativa de Quesos 'Las Cabras'
27	Escargots Nouveaux
1	Exotic Liquids

# SELECT TOP

```
SELECT TOP 10 Id, ProductName, UnitPrice, Package  
FROM Product  
ORDER BY UnitPrice DESC
```

Id	ProductName	UnitPrice	Package
38	Côte de Blaye	263.50	12 - 75 cl bottles
29	Thüringer Rostbratwurst	123.79	50 bags x 30 sausgs.
9	Mishi Kobe Niku	97.00	18 - 500 g pkgs.
20	Sir Rodney's Marmalade	81.00	30 gift boxes
18	Carnarvon Tigers	62.50	16 kg pkg.
59	Raclette Courdavault	55.00	5 kg pkg.
51	Manjimup Dried Apples	53.00	50 - 300 g pkgs.
62	Tarte au sucre	49.30	48 pies
43	Ipoh Coffee	46.00	16 - 500 g tins
28	Rössle Sauerkraut	45.60	25 - 825 g cans

## The SQL SELECT TOP syntax

The general syntax is:

1. **SELECT TOP n column-names**
2. **FROM table-name**

# ORDER BY OFFSET

- Select all product skip 10 first expensive ones

```
SELECT Id, ProductName, UnitPrice, Package
FROM Product
ORDER BY UnitPrice DESC
OFFSET 10 ROWS
```

```
1. SELECT column-names
2. FROM table-name
3. ORDER BY column-names
4. OFFSET n ROWS
5. FETCH NEXT m ROWS ONLY
```

- - Select all product with highest unitprice from 10 to 15

```
SELECT Id, ProductName, UnitPrice, Package
FROM Product
ORDER BY UnitPrice DESC
OFFSET 10 ROWS
FETCH NEXT 5 ROWS ONLY
```

# SELECT DISTINCT

```
SELECT DISTINCT Country  
FROM Supplier  
ORDER BY COUNTRY
```

```
SELECT COUNT (DISTINCT Country)  
FROM Supplier
```

The general syntax is:

```
1. SELECT DISTINCT column-name  
2. FROM table-name
```

**Results:** 16 rows

Country

Australia

Brazil

Canada

Denmark

...

**Results:**

Count

16



# SELECT MIN, MAX

```
SELECT MAX(TotalAmount)
FROM [Order]
WHERE YEAR(OrderDate) = 2014
```

Results:

TotalAmount
17250.00

```
SELECT MAX(OrderDate)
FROM [Order]
WHERE YEAR(OrderDate) = 2013
```

OrderDate
2013-12-31 00:00:00.000



```
1. SELECT MIN(column-name)
2. FROM table-name
```

```
1. SELECT MAX(column-name)
2. FROM table-name
```

# SELECT COUNT, SUM, and AVG

```
SELECT COUNT(Id)  
FROM Customer
```

Results:

Count

91

```
SELECT SUM(TotalAmount)  
FROM [Order]  
WHERE YEAR(OrderDate) = 2013
```

Sum

658388.75

```
SELECT AVG(TotalAmount)  
FROM [Order]
```

Average

1631.877819

# WHERE AND, OR, NOT



```
SELECT Id, FirstName, LastName, City, Country
FROM Customer
WHERE FirstName = 'Thomas' AND LastName = 'Hardy'
```

```
SELECT column-names
FROM table-name
WHERE condition1 AND condition2
```

```
SELECT Id, FirstName, LastName, City, Country
FROM Customer
WHERE Country = 'Spain' OR Country = 'France'
```

```
UPDATE table-name
SET column-name = value
WHERE condition1 OR condition2
```

```
SELECT Id, FirstName, LastName, City, Country
FROM Customer
WHERE NOT Country = 'USA'
```

```
DELETE table-name
WHERE NOT condition
```

# WHERE BETWEEN

```
SELECT Id, ProductName, UnitPrice
FROM Product
WHERE UnitPrice BETWEEN 10 AND 20
ORDER BY UnitPrice
```

```
SELECT Id, ProductName, UnitPrice
FROM Product
WHERE UnitPrice NOT BETWEEN 5 AND 100
ORDER BY UnitPrice
```

```
SELECT COUNT(Id), SUM(TotalAmount)
FROM [Order]
WHERE OrderDate BETWEEN '1/1/2013' AND '1/31/2013'
```



Count	TotalAmount
33	66692.80

# WHERE IN



```
SELECT Id, CompanyName, City, Country
FROM Supplier
WHERE Country IN ('USA', 'UK', 'Japan')
```

```
SELECT Id, ProductName, UnitPrice
FROM Product
WHERE UnitPrice NOT IN (10,20,30,40,50)
```

```
SELECT Id, FirstName, LastName, Country
FROM Customer
WHERE Country IN
      (SELECT Country
       FROM Supplier)
```

Id	FirstName	LastName	Country
1	Maria	Anders	Germany
4	Thomas	Hardy	UK
5	Christina	Berglund	Sweden
6	Hanna	Moos	Germany
7	Frédérique	Citeaux	France
...			

# WHERE LIKE

```
SELECT Id, ProductName, UnitPrice, Package
FROM Product
WHERE ProductName LIKE 'Ca%'
```

```
SELECT Id, ProductName, UnitPrice, Package
FROM Product
WHERE ProductName LIKE 'Cha_' OR ProductName LIKE 'Chan_'
```



Id	ProductName	UnitPrice	Package
18	Carnarvon Tigers	62.50	16 kg pkg.
60	Camembert Pierrot	34.00	15-300 g rounds

Id	ProductName	UnitPrice	Package
1	Chai	18.00	10 boxes x 20 bags
2	Chang	19.00	24 - 12 oz bottles

# IS NULL

```
SELECT Id, CompanyName, Phone, Fax
FROM Supplier
WHERE Fax IS NULL
```

```
SELECT Id, CompanyName, Phone, Fax
FROM Supplier
WHERE Fax IS NOT NULL
```



Id	CompanyName	Phone	Fax
1	Exotic Liquids	(171) 555-2222	NULL
2	New Orleans Cajun Delights	(100) 555-4822	NULL
4	Tokyo Traders	(03) 3555-5011	NULL
5	Cooperativa de Quesos 'Las Cabras'	(98) 598 76 54	NULL
6	Mayumi's	(06) 431-7877	NULL
...			

# GROUP BY

```
SELECT COUNT(Id), Country
FROM Customer
GROUP BY Country
```

```
1. SELECT column-names
2.   FROM table-name
3.   WHERE condition
4.   GROUP BY column-names
5.   ORDER BY column-names
```

**Results:** 21 records.

Count	Country
3	Argentina
2	Austria
2	Belgium
9	Brazil
3	Canada
...	



# GROUP BY

```
SELECT COUNT(Id), Country
FROM Customer
GROUP BY Country
ORDER BY COUNT(Id) DESC
```

```
SELECT SUM(O.TotalPrice), C.FirstName, C.LastName
FROM [Order] O JOIN Customer C
ON O.CustomerId = C.Id
GROUP BY C.FirstName, C.LastName
ORDER BY SUM(O.TotalPrice) DESC
```

1. **SELECT** column-names
2. **FROM** table-name
3. **WHERE** condition
4. **GROUP BY** column-names
5. **ORDER BY** column-names

Results: 21 records.

Count	Country
13	USA
11	France
11	Germany
9	Brazil
7	UK
...	

Sum	FirstName	LastName
117483.39	Horst	Kloss
115673.39	Jose	Pavarotti
113236.68	Roland	Mendel
57317.39	Patricia	McKenna
52245.90	Paula	Wilson
34101.15	Mario	Pontes
32555.55	Maria	Larsson
...		

# HAVING

```
SELECT COUNT(Id), Country  
FROM Customer  
GROUP BY Country  
HAVING COUNT(Id) > 10
```

1. SELECT column-names
2. FROM table-name
3. WHERE condition
4. GROUP BY column-names
5. HAVING condition

**Results:** 3 records

Count	Country
11	France
11	Germany
13	USA

# HAVING

1. **SELECT** column-names
2. **FROM** table-name
3. **WHERE** condition
4. **GROUP BY** column-names
5. **HAVING** condition

```
SELECT COUNT(Id), Country
FROM Customer
WHERE Country <> 'USA'
GROUP BY Country
HAVING COUNT(Id) >= 9
ORDER BY COUNT(Id) DESC
```

Count	Country
11	France
11	Germany
9	Brazil

Results: 10 records

Average	FirstName	LastName
1081.215000	Miguel	Angel Paolino
1063.420000	Isabel	de Castro
1008.440000	Alexander	Feuer
1062.038461	Thomas	Hardy
1107.806666	Pirkko	Koskitalo
1174.945454	Janete	Limeira
1073.621428	Antonio	Moreno
1065.385000	Rita	Müller
1183.010000	José	Pedro Freyre
1057.386666	Carine	Schmitt

```
SELECT AVG(TotalAmount), FirstName, LastName
FROM [Order] O JOIN Customer C ON O.CustomerId = C.Id
GROUP BY FirstName, LastName
HAVING AVG(TotalAmount) BETWEEN 1000 AND 1200
```

# Alias

```
SELECT COUNT(C.Id) AS TotalCustomers, C.Country AS  
Nation  
FROM Customer C  
GROUP BY C.Country
```

```
SELECT C.Id AS Identifier, C.LastName + ', ' + C.FirstName AS CustomerName,  
SUM(O.TotalAmount) AS TotalSpent  
FROM [Order] O JOIN Customer C ON O.CustomerId = C.Id  
GROUP BY C.Id, C.LastName + ', ' + C.FirstName  
ORDER BY TotalSpent DESC
```

```
1. SELECT column-name AS alias-name  
2. FROM table-name alias-name  
3. WHERE condition
```

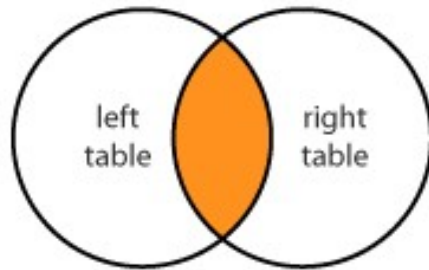
Results: 21 records

TotalCustomers	Nation
3	Argentina
2	Austria
2	Belgium
9	Brazil
3	Canada
...	

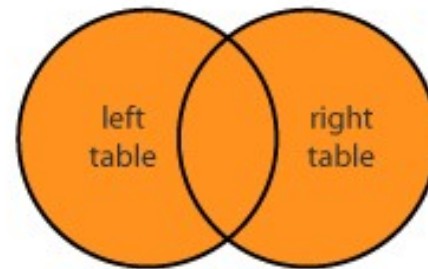
Identifier	CustomerName	TotalSpent
63	Kloss, Horst	117483.39
71	Pavarotti, Jose	115673.39

# JOIN

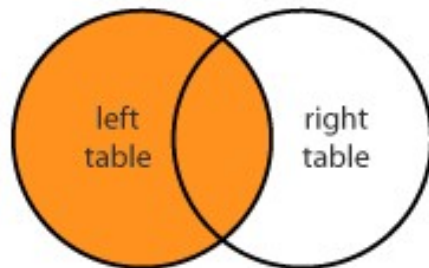
INNER JOIN



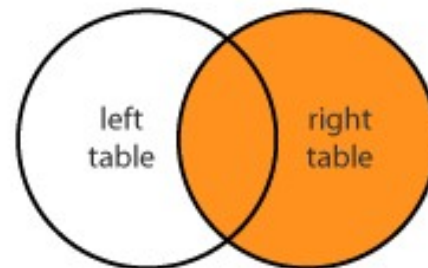
FULL JOIN



LEFT JOIN



RIGHT JOIN



# JOIN

```
SELECT OrderNumber, TotalAmount, FirstName,  
       LastName, City, Country  
FROM [Order] JOIN Customer  
ON [Order].CustomerId = Customer.Id
```



OrderNumber	TotalAmount	FirstName	LastName	City	Country
542378	440.00	Paul	Henriot	Reims	France
542379	1863.40	Karin	Josephs	Münster	Germany
542380	1813.00	Mario	Pontes	Rio de Janeiro	Brazil
542381	670.80	Mary	Saveley	Lyon	France
542382	3730.00	Pascale	Cartrain	Charleroi	Belgium
542383	1444.80	Mario	Pontes	Rio de Janeiro	Brazil
542384	625.20	Yang	Wang	Bern	Switzerland
...					

# JOIN

```
SELECT O.OrderNumber, CONVERT(date,O.OrderDate) AS Date,  
P.ProductName, I.Quantity, I.UnitPrice  
FROM [Order] O  
      JOIN OrderItem I ON O.Id = I.OrderId  
      JOIN Product P ON P.Id = I.ProductId  
ORDER BY O.OrderNumber
```



OrderNumber	Date	ProductName	Quantity	UnitPrice
542378	7/4/2012 12:00:00 AM	Queso Cabrales	12	14.00
542378	7/4/2012 12:00:00 AM	Singaporean Hokkien Fried Mee	10	9.80
542378	7/4/2012 12:00:00 AM	Mozzarella di Giovanni	5	34.80
542379	7/5/2012 12:00:00 AM	Tofu	9	18.60
542379	7/5/2012 12:00:00 AM	Manjimup Dried Apples	40	42.40
542380	7/8/2012 12:00:00 AM	Jack's New England Clam Chowder	10	7.70
542380	7/8/2012 12:00:00 AM	Manjimup Dried Apples	35	42.40

# LEFT JOIN

```
SELECT OrderNumber, TotalAmount, FirstName, LastName, City,  
Country  
FROM Customer C LEFT JOIN [Order] O  
ON O.CustomerId = C.Id  
ORDER BY TotalAmount
```



OrderNumber	TotalAmount	FirstName	LastName	City	Country
NULL	NULL	Diego	Roel	Madrid	Spain
NULL	NULL	Marie	Bertrand	Paris	France
542912	12.50	Patricio	Simpson	Buenos Aires	Argentina
542937	18.40	Paolo	Accorti	Torino	Italy
542897	28.00	Pascale	Cartrain	Charleroi	Belgium
542716	28.00	Maurizio	Moroni	Reggio Emilia	Italy
543028	30.00	Yvonne	Moncada	Buenos Aires	Argentina
543013	36.00	Fran	Wilson	Portland	USA



# RIGHT JOIN



```
SELECT TotalAmount, FirstName, LastName, City, Country
FROM [Order] O RIGHT JOIN Customer C
ON O.CustomerId = C.Id
WHERE TotalAmount IS NULL
```

ORDER	
Id	PK
OrderDate	
OrderNumber	
CustomerId	
TotalAmount	

CUSTOMER	
Id	PK
FirstName	
LastName	
City	
Country	
Phone	

**Results:** 2 records

TotalAmount	FirstName	LastName	City	Country
NULL	Diego	Roel	Madrid	Spain
NULL	Marie	Bertrand	Paris	France

# FULL JOIN

```
SELECT C.FirstName, C.LastName, C.Country AS  
CustomerCountry,  
S.Country AS SupplierCountry, S.CompanyName  
FROM Customer C FULL JOIN Supplier S  
ON C.Country = S.Country  
ORDER BY C.Country, S.Country
```



FirstName	LastName	CustomerCountry	SupplierCountry	CompanyName
NULL	NULL	NULL	Australia	Pavlova, Ltd.
NULL	NULL	NULL	Australia	G'day, Mate
Patricio	Simpson	Argentina	NULL	NULL
Yvonne	Moncada	Argentina	NULL	NULL
Bernardo	Batista	Brazil	Brazil	Refrescos Americanas LTDA
Lúcia	Carvalho	Brazil	Brazil	Refrescos Americanas LTDA

# SELF JOIN

```
SELECT B.FirstName AS FirstName1, B.LastName AS LastName1,  
A.FirstName AS FirstName2, A.LastName AS LastName2,  
B.City, B.Country  
FROM Customer A, Customer B  
WHERE      A.Id <> B.Id  
          AND A.City = B.City  
          AND A.Country = B.Country  
          ORDER BY A.Country
```



FirstName1	LastName1	FirstName2	LastName2	City	Country
Patricio	Simpson	Yvonne	Moncada	Buenos Aires	Argentina
Patricio	Simpson	Sergio	Gutiérrez	Buenos Aires	Argentina
Yvonne	Moncada	Patricio	Simpson	Buenos Aires	Argentina
Yvonne	Moncada	Sergio	Gutiérrez	Buenos Aires	Argentina
Sergio	Gutiérrez	Patricio	Simpson	Buenos Aires	Argentina

# UNION



```
SELECT      'Customer' As Type,
            FirstName + ' ' + LastName AS ContactName,
            City, Country, Phone
FROM Customer
UNION
SELECT      'Supplier',
            ContactName,
            City, Country, Phone
FROM Supplier
```

UNION

result set 1

+

result set 2

Type	ContactName	City	Country	Phone
Customer	Alejandra Camino	Madrid	Spain	(91) 745 6200
Customer	Alexander Feuer	Leipzig	Germany	0342-023176
Supplier	Anne Heikkonen	Lappeenranta	Finland	(953) 10956
Supplier	Antonio del Valle Saavedra	Oviedo	Spain	(98) 598 76 54

# Subqueries

```
SELECT column-names  
  FROM table-name1  
 WHERE value IN (SELECT column-name  
                  FROM table-name2  
                  WHERE condition)
```



```
SELECT column1 = (SELECT column-name FROM table-name WHERE condition),  
       column-names  
  FROM table-name  
 WHERE condition
```

# Subqueries



```
SELECT ProductName
FROM Product
WHERE Id IN (SELECT ProductId
             FROM OrderItem
             WHERE Quantity > 100)
```

ProductName

Guaraná Fantástica

Schoggi Schokolade

Chartreuse verte

```
SELECT FirstName, LastName,
       OrderCount = (SELECT COUNT(O.Id) FROM [Order] O WHERE O.CustomerId = C.Id)
FROM Customer C
```

FirstName	LastName	OrderCount
Maria	Anders	6
Ana	Trujillo	4
Antonio	Moreno	7

# WHERE ANY, ALL



```
SELECT ProductName
FROM Product
WHERE Id = ANY ( SELECT ProductId
                  FROM OrderItem
                  WHERE Quantity = 1)
```

ProductName

Chef Anton's Cajun Seasoning

Grandma's Boysenberry Spread

Uncle Bob's Organic Dried Pears

```
SELECT DISTINCT FirstName + ' ' + LastName as
CustomerName
FROM Customer, [Order]
WHERE Customer.Id = [Order].CustomerId
      AND TotalAmount > ALL
      (SELECT AVG(TotalAmount)
       FROM [Order]
       GROUP BY CustomerId)
```

CustomerName

Art Braunschweiger

Christina Berglund

Elizabeth Lincoln

Frédérique Citeaux

# WHERE EXISTS

```
SELECT CompanyName
FROM Supplier
WHERE EXISTS
    (SELECT ProductName
     FROM Product
     WHERE SupplierId = Supplier.Id
     AND UnitPrice > 100)
```



**Results:** 2 records

CompanyName
-------------

Plutzer Lebensmittelgroßmärkte AG
-----------------------------------

Aux joyeux ecclésiastiques
----------------------------



# SELECT INTO

```
SELECT * INTO SupplierUSA
FROM Supplier
WHERE Country = 'USA'
```



**Results:** 4 rows affected

Here are the records in the newly created table SupplierUSA:

Id	CompanyName	ContactName	City	Country	Phone	Fax
2	New Orleans Cajun Delights	Shelley Burke	New Orleans	USA	(100) 555-4822	NULL
3	Grandma Kelly's Homestead	Regina Murphy	Ann Arbor	USA	(313) 555-5735	(313) 555-3349
16	Bigfoot Breweries	Cheryl Saylor	Bend	USA	(100) 555-4822	NULL
19	New England Seafood Cannery	Robb Merchant	Boston	USA	(617) 555-3267	(617) 555-3389

# INSERT INTO

```
INSERT INTO Customer (FirstName, LastName, City, Country, Phone)
SELECT LEFT(ContactName, CHARINDEX(' ',ContactName) - 1) AS FirstName,
        SUBSTRING(ContactName, CHARINDEX(' ',ContactName) + 1, 100) AS LastName,
        City, Country, Phone
FROM Supplier
WHERE Country = 'Canada'
```



**Results:** 2 rows affected.

These are the two new Customer records

FirstName	LastName	City	Country	Phone
Jean-Guy	Lauzon	Montréal	Canada	(514) 555-9022
Chantal	Goulet	Ste-Hyacinthe	Canada	(514) 555-2955



THANK YOU

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