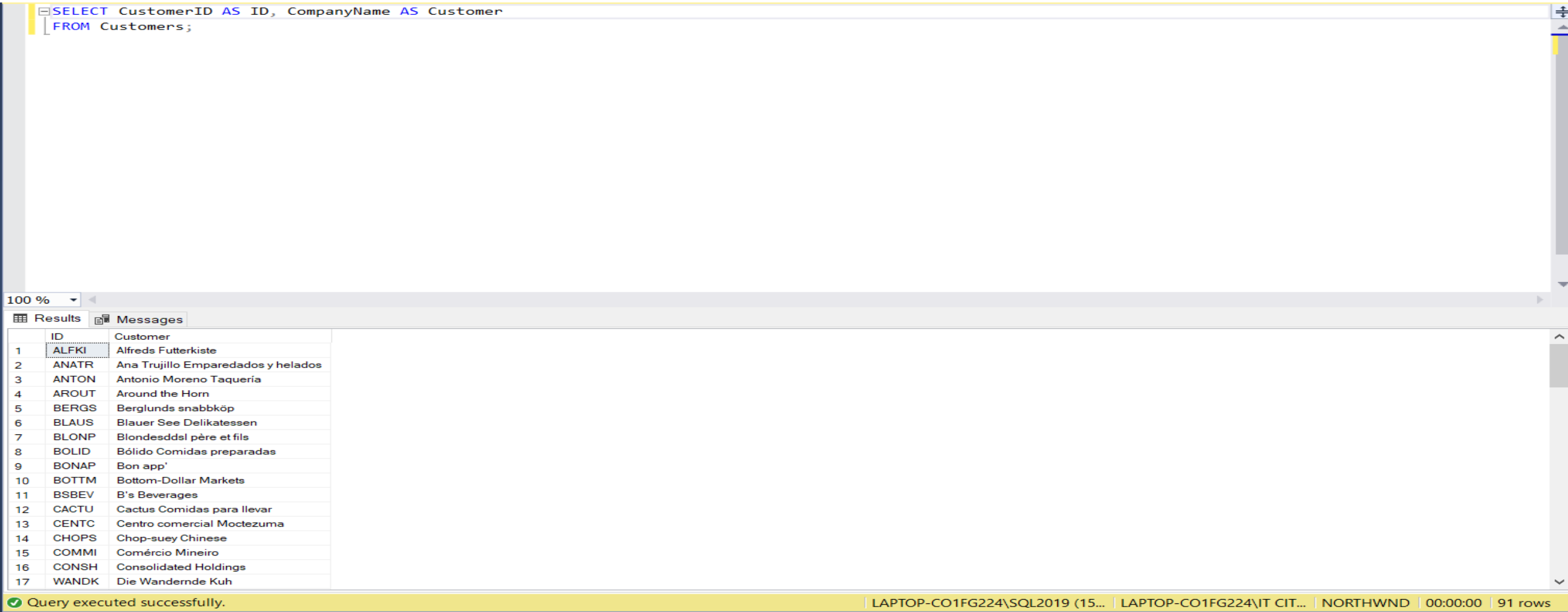


برای دادن نامی موقت به جدول یا ستون از دستور Aliases استفاده میشود



The screenshot shows the SQL Server Enterprise Manager interface. The top pane displays a SQL query: `SELECT CustomerID AS ID, CompanyName AS Customer FROM Customers;`. The bottom pane shows the results of the query, which is a table with two columns: `ID` and `Customer`. The table contains 17 rows of data. The status bar at the bottom indicates that the query was executed successfully and returned 91 rows.

```
SELECT CustomerID AS ID, CompanyName AS Customer
FROM Customers;
```

ID	Customer
1	ALFKI
2	ANATR
3	ANTON
4	AROUT
5	BERGS
6	BLAUS
7	BLONP
8	BOLID
9	BONAP
10	BOTTM
11	BSBEV
12	CACTU
13	CENTC
14	CHOPS
15	COMMI
16	CONSH
17	WANDK

Query executed successfully. | LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | NORTHWND | 00:00:00 | 91 rows

از این دستور برای اضافه کردن یک ستون در جدول استفاده میشود

SQLQuery4.sql - LA...FG224\IT CITY (52))\* SQL UNION.sql - LA...FG224\IT CITY (72))

```
--ALTER TABLE Customers
--ADD Email varchar(255);
SELECT * FROM Customers
```

100 %

Results Messages

	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax	Email	
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	NULL	12209	Germany	030-0074321	030-0076545	NULL	
2	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222	México D.F.	NULL	05021	Mexico	(5) 555-4729	(5) 555-3745	NULL	
3	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	NULL	05023	Mexico	(5) 555-3932	NULL	NULL	
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	NULL	WA1 1DP	UK	(171) 555-7788	(171) 555-6750	NULL	
5	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvsvägen 8	Luleå	NULL	S-958 22	Sweden	0921-12 34 65	0921-12 34 67	NULL	
6	BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Forsterstr. 57	Mannheim	NULL	68306	Germany	0621-08460	0621-08924	NULL	
7	BLONP	Blondesddsl père et fils	Frédérique Citeaux	Marketing Manager	24, place Kléber	Strasbourg	NULL	67000	France	88.60.15.31	88.60.15.32	NULL	
8	BOLID	Bóldo Comidas preparadas	Martín Sommer	Owner	C/ Araquil, 67	Madrid	NULL	28023	Spain	(91) 555 22 82	(91) 555 91 99	NULL	
9	BONAP	Bon app'	Laurence Lebihan	Owner	12, rue des Bouchers	Marseille	NULL	13008	France	91.24.45.40	91.24.45.41	NULL	
10	BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawassen Blvd.	Tsawassen	BC	T2F 8M4	Canada	(604) 555-4729	(604) 555-3745	NULL	
11	BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntleroy Circus	London	NULL	EC2 5NT	UK	(171) 555-1212	NULL	NULL	
12	CACTU	Cactus Comidas para llevar	Patricio Simpson	Sales Agent	Cerrito 333	Buenos Aires	NULL	1010	Argentina	(1) 135-5555	(1) 135-4892	NULL	
13	CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierras de Granada 9993	México D.F.	NULL	05022	Mexico	(5) 555-3392	(5) 555-7293	NULL	
14	CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 29	Bern	NULL	3012	Switzerland	0452-076545	NULL	NULL	
15	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	Av. dos Lusíadas, 23	Sao Paulo	SP	05432-043	Brazil	(11) 555-7647	NULL	NULL	
16	CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkeley Gardens 12 Brewery	London	NULL	WX1 6LT	UK	(171) 555-2282	(171) 555-9199	NULL	
17	DRACD	Drachenblut Delikatessen	Sven Ottlieb	Order Administrator	Walserweg 21	Aachen	NULL	52066	Germany	0241-039123	0241-059428	NULL	

✔ Query executed successfully.

LAPTOP-CO1FG224\SQL2019 (15...	LAPTOP-CO1FG224\IT CIT...	NORTHWND	00:00:00	91 rows
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از "اند" برای فیلتر کردن رکوردها بر اساس بیش از یک شرط استفاده می شوند

```
SELECT * FROM Customers  
WHERE Country='Germany' AND City='Berlin';
```

100 %

Results Messages

	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	NULL	12209	Germany	030-0074321	030-0076545

تابع "میانگین" مقدار متوسط یک ستون عددی را برمی گرداند

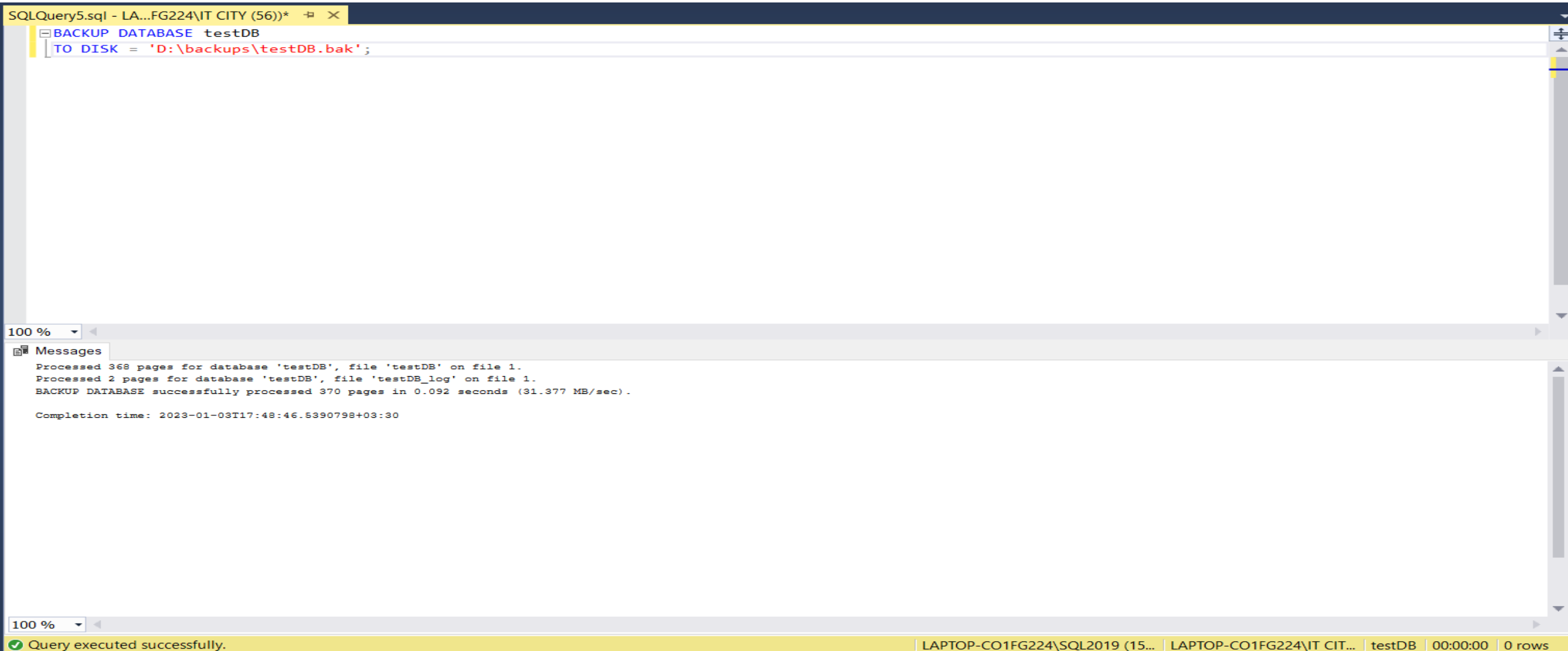
```
SELECT AVG(ProductID)
FROM Products;
```

100 %

Results Messages

	(No column name)
1	39

برای بکاپ گرفتن از این دستور استفاده میکنیم



The screenshot shows the SQL Server Enterprise Manager interface. The top pane displays a SQL query for backing up the 'testDB' database to a disk file. The bottom pane shows the execution messages, confirming that the backup was successful and providing details on the pages processed and completion time.

```
SQLQuery5.sql - LA...FG224\IT CITY (56))* X
```

```
BACKUP DATABASE testDB
TO DISK = 'D:\backups\testDB.bak';
```

100 %

Messages

Processed 368 pages for database 'testDB', file 'testDB' on file 1.  
Processed 2 pages for database 'testDB', file 'testDB\_log' on file 1.  
BACKUP DATABASE successfully processed 370 pages in 0.092 seconds (31.377 MB/sec) .

Completion time: 2023-01-03T17:48:46.5390798+03:30

100 %

Query executed successfully.

LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | testDB | 00:00:00 | 0 rows

عملگر "بتتوین" مقادیری را در یک محدوده مشخص انتخاب می کند. مقادیر می توانند اعداد، متن یا تاریخ باشند

```
SELECT * FROM Products  
WHERE ProductID BETWEEN 10 AND 20;
```

100 %

Results Messages

	ProductID	ProductName	SupplierID	CategoryID	QuantityPerUnit	UnitPrice	UnitsInStock	UnitsOnOrder	ReorderLevel	Discontinued
1	10	Ikura	4	8	12 - 200 ml jars	31.00	31	0	0	0
2	11	Queso Cabrales	5	4	1 kg pkg.	21.00	22	30	30	0
3	12	Queso Manchego La Pastora	5	4	10 - 500 g pkgs.	38.00	86	0	0	0
4	13	Konbu	6	8	2 kg box	6.00	24	0	5	0
5	14	Tofu	6	7	40 - 100 g pkgs.	23.25	35	0	0	0
6	15	Genen Shouyu	6	2	24 - 250 ml bottles	15.50	39	0	5	0
7	16	Pavlova	7	3	32 - 500 g boxes	17.45	29	0	10	0
8	17	Alice Mutton	7	6	20 - 1 kg tins	39.00	0	0	0	1
9	18	Carnarvon Tigers	7	8	16 kg pkg.	62.50	42	0	0	0
10	19	Teatime Chocolate Biscuits	8	3	10 boxes x 12 pieces	9.20	25	0	5	0
11	20	Sir Rodney's Marmalade	8	3	30 gift boxes	81.00	40	0	0	0

برای کامنت کردن از این "--" کارکتر استفاده می کنیم



The screenshot shows a SQL query editor window with a dark blue title bar. The title bar contains the text "SQLQuery2.sql - LA...FG224\IT CITY (52))\*" followed by a maximize icon and a close icon. The main area of the window is white and contains a single line of SQL code: "--SELECT \* FROM Customers;". The code is written in a monospaced font, with "--" in black, "SELECT" in green, "\*" in black, "FROM" in green, "Customers;" in black, and a semicolon in green. The status bar at the bottom is yellow and contains the text "Connected. (1/1)" on the left and "LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | NORTHWND | 00:00:00 | 0 rows" on the right.

```
--SELECT * FROM Customers;
```

عملگر "کانت" تعداد ردیف هایی را برمی گرداند که با یک معیار مشخص مطابقت دارند

```
SELECT COUNT(ProductID)
FROM Products;
```

100 %	
Results	Messages
	(No column name)
1	77



برای ساخت یک جدول از این دستور استفاده میکنیم

The screenshot displays the Microsoft SQL Server Management Studio (SSMS) interface. The title bar indicates the file 'SQLQuery1.sql' is open in the 'testDB' database. The menu bar includes File, Edit, View, Project, Tools, Window, and Help. The toolbar contains icons for various database operations. The Object Explorer on the left shows the 'testDB' database expanded, with the 'dbo.Persons22' table visible under the 'Tables' folder. The main query editor window shows the following SQL code:

```
CREATE TABLE Persons22(  
    Person22ID int,  
    LastName varchar(255),  
    FirstName varchar(255),  
    Address varchar(255),  
    City varchar(255)  
);
```

The Messages pane at the bottom shows the execution results:

```
Commands completed successfully.  
Completion time: 2023-01-03T17:12:40.2203699+03:30
```

The status bar at the bottom indicates 'Query executed successfully.' and shows the current database context: 'LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | testDB | 00:00:00 | 0 rows'.

برای ساخت یک دیتابیس از این دستور استفاده میکنیم

The screenshot displays the Microsoft SQL Server Management Studio (SSMS) interface. The title bar indicates the current file is 'SQLQuery3.sql' located in 'LAPTOP-CO1FG224\SQL2019.testDB (LAPTOP-CO1FG224\IT CITY (53))\* - Microsoft SQL Server Management Studio'. The menu bar includes File, Edit, View, Query, Project, Tools, Window, and Help. The toolbar contains various icons for file operations, query execution, and server management. The 'Object Explorer' on the left shows a tree view of the server 'LAPTOP-CO1FG224\IT CITY (53)' with folders for 'master', 'model', 'msdb', 'NORTHWND', 'tempdb', 'testD2B', 'testDB', 'Polybase', 'Always On High Availability', 'Management', 'Integration Services Catalogs', 'SQL Server Agent (Agent XPs disabled)', and 'XEvent Profiler'. The 'Query Editor' in the center shows a single query: 'CREATE DATABASE testD2B;'. The 'Messages' pane at the bottom displays the execution results: 'Commands completed successfully.' and 'Completion time: 2023-01-03T16:47:59.5393233+03:30'. The status bar at the very bottom shows 'Query executed successfully.' and the current context: 'LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | testDB | 00:00:00 | 0 rows'.

SQLQuery3.sql - LAPTOP-CO1FG224\SQL2019.testDB (LAPTOP-CO1FG224\IT CITY (53))\* - Microsoft SQL Server Management Studio

Quick Launch (Ctrl+Q)

File Edit View Query Project Tools Window Help

testDB

Execute

Object Explorer

AdventureWorks2019

master

model

msdb

server 15.0.2095

SQLQuery3.sql - LA...FG224\IT CITY (53))\*

CREATE DATABASE testD2B;

100 %

Messages

Commands completed successfully.

Completion time: 2023-01-03T16:47:59.5393233+03:30

100 %

Query executed successfully.

LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | testDB | 00:00:00 | 0 rows

از دستور "دیلیت" برای حذف رکوردهای موجود در جدول استفاده می شود

```
DELETE FROM Customers WHERE City='Stavanger';
```

100 %

Messages

(0 rows affected)

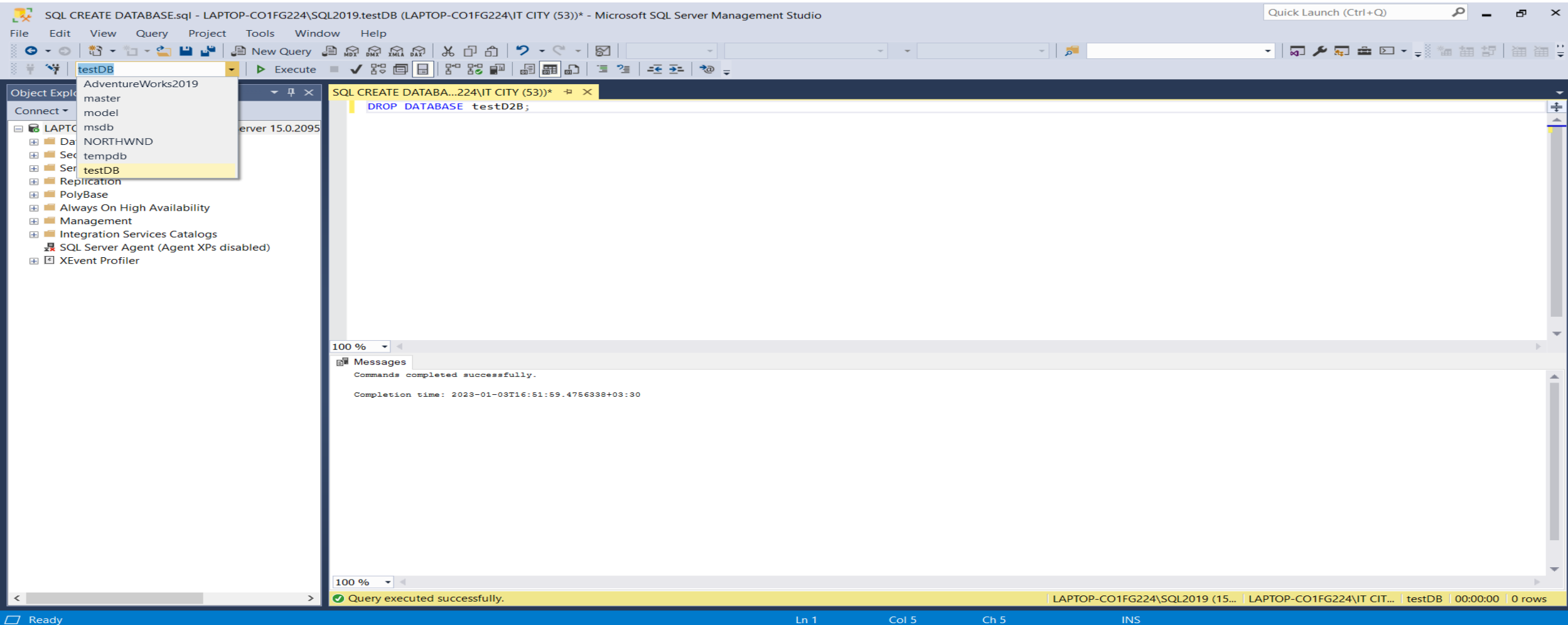
Completion time: 2022-12-01T00:16:10.5459389+03:30

100 %

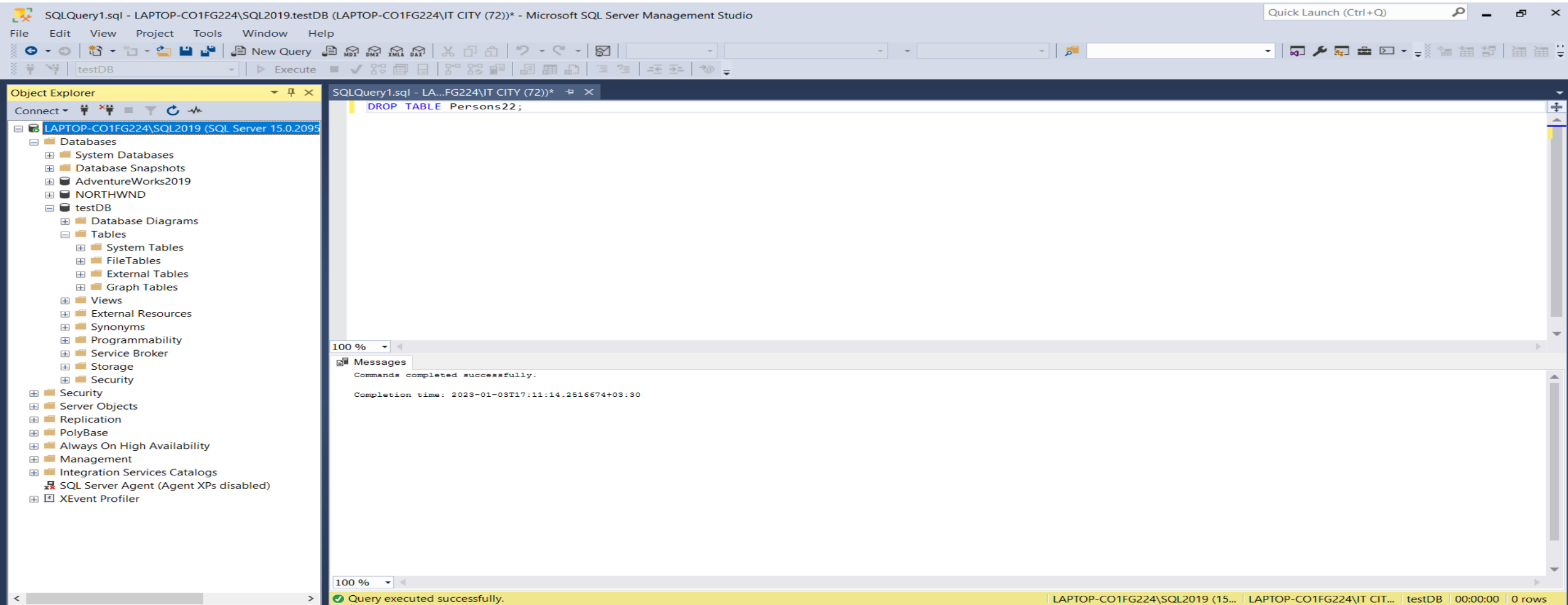
Query executed successfully.

LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | NORTHWND | 00:00:00 | 0 rows

برای دراپ کردن یک دیتابیس از این دستور استفاده میکنیم



برای دراپ کردن یک جدول از این دستور استفاده میکنیم



عبارت "گروپ بای" ردیف‌هایی را که مقادیر یکسانی دارند در ردیف‌های خلاصه گروه‌بندی می‌کند، مانند «تعداد مشتریان در هر کشور را بیابید».

SQLQuery1.sql - LA...FG224\IT CITY (68))\*

```
SELECT COUNT(CustomerID), Country
FROM Customers
GROUP BY Country;
```

100 %

Results Messages

	(No column name)	Country
1	3	Argentina
2	2	Austria
3	2	Belgium
4	9	Brazil
5	3	Canada
6	2	Denmark
7	2	Finland
8	11	France
9	11	Germany
10	1	Ireland
11	3	Italy
12	5	Mexico
13	1	Norway
14	1	Poland
15	2	Portugal
16	5	Spain
17	2	Sweden

Query executed successfully.

LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | NORTHWND | 00:00:00 | 21 rows

عملگر IN به شما امکان می دهد چندین مقدار را در یک عبارت WHERE مشخص کنید.

```
SELECT * FROM Customers  
WHERE Country IN (SELECT Country FROM Suppliers);
```

100 %

Results Messages

	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax	
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	NULL	12209	Germany	030-0074321	030-0076545	
2	AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	NULL	WA1 1DP	UK	(171) 555-7788	(171) 555-6750	
3	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvsvägen 8	Luleå	NULL	S-958 22	Sweden	0921-12 34 65	0921-12 34 67	
4	BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Forsterstr. 57	Mannheim	NULL	68306	Germany	0621-08460	0621-08924	
5	BLONP	Blondesddsl père et fils	Frédérique Citeaux	Marketing Manager	24, place Kléber	Strasbourg	NULL	67000	France	88.60.15.31	88.60.15.32	
6	BOLID	Bólido Comidas preparadas	Martin Sommer	Owner	C/ Araquil, 67	Madrid	NULL	28023	Spain	(91) 555 22 82	(91) 555 91 99	
7	BONAP	Bon app'	Laurence Lebihan	Owner	12, rue des Bouchers	Marseille	NULL	13008	France	91.24.45.40	91.24.45.41	
8	BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawassen Blvd.	Tsawassen	BC	T2F 8M4	Canada	(604) 555-4729	(604) 555-3745	
9	BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntleroy Circus	London	NULL	EC2 5NT	UK	(171) 555-1212	NULL	
10	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	Av. dos Lusíadas, 23	Sao Paulo	SP	05432-043	Brazil	(11) 555-7647	NULL	
11	CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkeley Gardens 12 Brewery	London	NULL	WX1 6LT	UK	(171) 555-2282	(171) 555-9199	
12	DRACD	Drachenblut Delikatessen	Sven Ottlieb	Order Administrator	Walserweg 21	Aachen	NULL	52066	Germany	0241-039123	0241-059428	
13	DUMON	Du monde entier	Janine Labrune	Owner	67, rue des Cinquante Otages	Nantes	NULL	44000	France	40.67.88.88	40.67.89.89	
14	EASTC	Eastern Connection	Ann Devon	Sales Agent	35 King George	London	NULL	WX3 6FW	UK	(171) 555-0297	(171) 555-3373	
15	FAMIA	Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua Orós, 92	Sao Paulo	SP	05442-030	Brazil	(11) 555-9857	NULL	
16	FISSA	FISSA Fabrica Inter. Salchichas S.A.	Diego Roel	Accounting Manager	C/ Moralzarzal, 86	Madrid	NULL	28034	Spain	(91) 555 94 44	(91) 555 55 93	
17	FOLIG	Folies gourmandes	Martine Rancé	Assistant Sales Agent	184, chaussée de Tournai	Lille	NULL	59000	France	20.16.10.16	20.16.10.17	

✔ Query executed successfully.

LAPTOP-CO1FG224\SQL2019 (15...	LAPTOP-CO1FG224\IT CIT...	NORTHWND	00:00:00	69 rows
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از عملگر LIKE در یک عبارت WHERE برای جستجوی یک الگوی مشخص در یک ستون استفاده می شود

```
SELECT * FROM Customers  
WHERE CustomerID LIKE 'a%';
```

100 %

Results Messages

	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	NULL	12209	Germany	030-0074321	030-0076545
2	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222	México D.F.	NULL	05021	Mexico	(5) 555-4729	(5) 555-3745
3	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	NULL	05023	Mexico	(5) 555-3932	NULL
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	NULL	WA1 1DP	UK	(171) 555-7788	(171) 555-6750



برای نمایش محصولات خارج از محدوده از NOT BETWEEN استفاده میکنیم

```
SELECT * FROM Products
WHERE ProductID NOT BETWEEN 10 AND 20;
```

100 %

Results Messages

	ProductID	ProductName	SupplierID	CategoryID	QuantityPerUnit	UnitPrice	UnitsInStock	UnitsOnOrder	ReorderLevel	Discontinued
1	1	Chai	1	1	10 boxes x 20 bags	18.00	39	0	10	0
2	2	Chang	1	1	24 - 12 oz bottles	19.00	17	40	25	0
3	3	Aniseed Syrup	1	2	12 - 550 ml bottles	10.00	13	70	25	0
4	4	Chef Anton's Cajun Seasoning	2	2	48 - 6 oz jars	22.00	53	0	0	0
5	5	Chef Anton's Gumbo Mix	2	2	36 boxes	21.35	0	0	0	1
6	6	Grandma's Boysenberry Spread	3	2	12 - 8 oz jars	25.00	120	0	25	0
7	7	Uncle Bob's Organic Dried Pears	3	7	12 - 1 lb pkgs.	30.00	15	0	10	0
8	8	Northwoods Cranberry Sauce	3	2	12 - 12 oz jars	40.00	6	0	0	0
9	9	Mishi Kobe Niku	4	6	18 - 500 g pkgs.	97.00	29	0	0	1
10	21	Sir Rodney's Scones	8	3	24 pkgs. x 4 pieces	10.00	3	40	5	0
11	22	Gustaf's Knäckebröd	9	5	24 - 500 g pkgs.	21.00	104	0	25	0
12	23	Tunnbröd	9	5	12 - 250 g pkgs.	9.00	61	0	25	0
13	24	Guaraná Fantástica	10	1	12 - 355 ml cans	4.50	20	0	0	1
14	25	NuNuCa Nuß-Nougat-Creme	11	3	20 - 450 g glasses	14.00	76	0	30	0
15	26	Gumbär Gummibärchen	11	3	100 - 250 g bags	31.23	15	0	0	0
16	27	Schoggi Schokolade	11	3	100 - 100 g pieces	43.90	49	0	30	0
17	28	Rössle Sauerkraut	12	7	25 - 825 g cans	45.60	26	0	0	1

Query executed successfully.

LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | NORTHWND | 00:00:00 | 66 rows

مثلا اگر بخواهیم تمام کشور ها را انتخاب کنیم جز چند کشور از NOT IN استفاده میکنیم

```
SELECT * FROM Customers
WHERE Country NOT IN ('Germany', 'France', 'UK');
```

100 %											
Results Messages											
	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222	México D.F.	NULL	05021	Mexico	(5) 555-4729	(5) 555-3745
2	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	NULL	05023	Mexico	(5) 555-3932	NULL
3	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvsvägen 8	Luleå	NULL	S-958 22	Sweden	0921-12 34 65	0921-12 34 67
4	BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	C/ Araquil, 67	Madrid	NULL	28023	Spain	(91) 555 22 82	(91) 555 91 99
5	BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawassen Blvd.	Tsawassen	BC	T2F 8M4	Canada	(604) 555-4729	(604) 555-3745
6	CACTU	Cactus Comidas para llevar	Patricio Simpson	Sales Agent	Cerrito 333	Buenos Aires	NULL	1010	Argentina	(1) 135-5555	(1) 135-4892
7	CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierras de Granada 9993	México D.F.	NULL	05022	Mexico	(5) 555-3392	(5) 555-7293
8	CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 29	Bern	NULL	3012	Switzerland	0452-076545	NULL
9	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	Av. dos Lusíadas, 23	Sao Paulo	SP	05432-043	Brazil	(11) 555-7647	NULL
10	ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchgasse 6	Graz	NULL	8010	Austria	7675-3425	7675-3426
11	FAMIA	Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua Orós, 92	Sao Paulo	SP	05442-030	Brazil	(11) 555-9857	NULL
12	FISSA	FISSA Fabrica Inter. Salchichas S.A.	Diego Roel	Accounting Manager	C/ Moralzarzal, 86	Madrid	NULL	28034	Spain	(91) 555 94 44	(91) 555 55 93
13	FOLKO	Folk och få HB	Maria Larsson	Owner	Åkergatan 24	Bräcke	NULL	S-844 67	Sweden	0695-34 67 21	NULL
14	FRANS	Franchi S.p.A.	Paolo Accorti	Sales Representative	Via Monte Bianco 34	Torino	NULL	10100	Italy	011-4988260	011-4988261
15	FURIB	Furia Bacalhau e Frutos do Mar	Lino Rodriguez	Sales Manager	Jardim das rosas n. 32	Lisboa	NULL	1675	Portugal	(1) 354-2534	(1) 354-2535
16	GALED	Galería del gastrónomo	Eduardo Saavedra	Marketing Manager	Rambla de Cataluña, 23	Barcelona	NULL	08022	Spain	(93) 203 4560	(93) 203 4561
17	GODOS	Godos Cocina Típica	José Pedro Freyre	Sales Manager	C/ Romero, 33	Sevilla	NULL	41101	Spain	(95) 555 82 82	NULL

دستور NOT NULL یک ستون را مجبور می کند تا مقادیر NULL را نپذیرد

The screenshot displays the Microsoft SQL Server Enterprise Manager interface. On the left, the 'Object Explorer' pane shows the database structure for 'P-CO1FG224\SQL2019 (SQL Server 15.0.2095.3 - LAPTOP-...)'. The 'Tables' folder is expanded, showing 'dbo.Persons22', 'dbo.Persons23', and 'dbo.Persons24'. The 'Columns' folder is also expanded for 'dbo.Persons24', showing columns: 'ID (int, not null)', 'LastName (varchar(255), not null)', 'FirstName (varchar(255), not null)', and 'Age (int, null)'. The main window shows the SQL query editor with the following code:

```
CREATE TABLE Persons24 (  
    ID int NOT NULL,  
    LastName varchar(255) NOT NULL,  
    FirstName varchar(255) NOT NULL,  
    Age int  
)
```

The 'Messages' pane at the bottom shows the execution results:

```
Commands completed successfully.  
  
Completion time: 2023-01-03T17:59:18.1961193+03:30
```

The status bar at the bottom indicates 'Query executed successfully.' and shows the current database context: 'LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | testDB | 00:00:00 | 0 rows'.

## از دستور NOT برای اعمال محدودیت ها استفاده میکنیم

```
SELECT * FROM Customers
WHERE NOT Country='Germany';
```

100 %

Results Messages

	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222	México D.F.	NULL	05021	Mexico	(5) 555-4729	(5) 555-3745
2	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	NULL	05023	Mexico	(5) 555-3932	NULL
3	AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	NULL	WA1 1DP	UK	(171) 555-7788	(171) 555-6750
4	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvsvägen 8	Luleå	NULL	S-958 22	Sweden	0921-12 34 65	0921-12 34 67
5	BLONP	Blondesddsl père et fils	Frédérique Citeaux	Marketing Manager	24, place Kléber	Strasbourg	NULL	67000	France	88.60.15.31	88.60.15.32
6	BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	C/ Araquil, 67	Madrid	NULL	28023	Spain	(91) 555 22 82	(91) 555 91 99
7	BONAP	Bon app'	Laurence Lebihan	Owner	12, rue des Bouchers	Marseille	NULL	13008	France	91.24.45.40	91.24.45.41
8	BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawassen Blvd.	Tsawassen	BC	T2F 8M4	Canada	(604) 555-4729	(604) 555-3745
9	BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntleroy Circus	London	NULL	EC2 5NT	UK	(171) 555-1212	NULL
10	CACTU	Cactus Comidas para llevar	Patricio Simpson	Sales Agent	Cerrito 333	Buenos Aires	NULL	1010	Argentina	(1) 135-5555	(1) 135-4892
11	CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierras de Granada 9993	México D.F.	NULL	05022	Mexico	(5) 555-3392	(5) 555-7293
12	CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 29	Bern	NULL	3012	Switzerland	0452-076545	NULL
13	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	Av. dos Lusíadas, 23	Sao Paulo	SP	05432-043	Brazil	(11) 555-7647	NULL
14	CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkeley Gardens 12 Brewery	London	NULL	WX1 6LT	UK	(171) 555-2282	(171) 555-9199
15	DUMON	Du monde entier	Janine Labrune	Owner	67, rue des Cinquante Otages	Nantes	NULL	44000	France	40.67.88.88	40.67.89.89
16	EASTC	Eastern Connection	Ann Devon	Sales Agent	35 King George	London	NULL	WX3 6FW	UK	(171) 555-0297	(171) 555-3373
17	ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchgasse 6	Graz	NULL	8010	Austria	7675-3425	7675-3426

Query executed successfully.

LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | NORTHWND | 00:00:00 | 80 rows

از عملگر OR برای فیلتر کردن رکوردها بر اساس بیش از یک شرط استفاده می شود

```
SELECT * FROM Customers
WHERE Country='Germany' OR Country='Spain';
```

100 %

Results Messages

	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	NULL	12209	Germany	030-0074321	030-0076545
2	BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Forsterstr. 57	Mannheim	NULL	68306	Germany	0621-08460	0621-08924
3	BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	C/ Araquil, 67	Madrid	NULL	28023	Spain	(91) 555 22 82	(91) 555 91 99
4	DRACD	Drachenblut Delikatessen	Sven Ottlieb	Order Administrator	Walserweg 21	Aachen	NULL	52066	Germany	0241-039123	0241-059428
5	FISSA	FISSA Fabrica Inter. Salchichas S.A.	Diego Roel	Accounting Manager	C/ Moralzarzal, 86	Madrid	NULL	28034	Spain	(91) 555 94 44	(91) 555 55 93
6	FRANK	Frankenversand	Peter Franken	Marketing Manager	Berliner Platz 43	München	NULL	80805	Germany	089-0877310	089-0877451
7	GALED	Galería del gastrónomo	Eduardo Saavedra	Marketing Manager	Rambla de Cataluña, 23	Barcelona	NULL	08022	Spain	(93) 203 4560	(93) 203 4561
8	GODOS	Godos Cocina Típica	José Pedro Freyre	Sales Manager	C/ Romero, 33	Sevilla	NULL	41101	Spain	(95) 555 82 82	NULL
9	KOENE	Königlich Essen	Philip Cramer	Sales Associate	Maubelstr. 90	Brandenburg	NULL	14776	Germany	0555-09876	NULL
10	LEHMS	Lehmanns Marktstand	Renate Messner	Sales Representative	Magazinweg 7	Frankfurt a.M.	NULL	60528	Germany	069-0245984	069-0245874
11	MORGK	Morgenstern Gesundkost	Alexander Feuer	Marketing Assistant	Heerstr. 22	Leipzig	NULL	04179	Germany	0342-023176	NULL
12	OTTIK	Ottilies Käseladen	Henriette Pfalzheim	Owner	Mehrheimerstr. 369	Köln	NULL	50739	Germany	0221-0644327	0221-0765721
13	QUICK	QUICK-Stop	Horst Kloss	Accounting Manager	Taucherstraße 10	Cunewalde	NULL	01307	Germany	0372-035188	NULL
14	ROMEY	Romero y tomillo	Alejandra Camino	Accounting Manager	Gran Vía, 1	Madrid	NULL	28001	Spain	(91) 745 6200	(91) 745 6210
15	TOMSP	Toms Spezialitäten	Karin Josephs	Marketing Manager	Luisenstr. 48	Münster	NULL	44087	Germany	0251-031259	0251-035695
16	WANDK	Die Wandernde Kuh	Rita Müller	Sales Representative	Adenauerallee 900	Stuttgart	NULL	70563	Germany	0711-020361	0711-035428

Query executed successfully.

LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | NORTHWND | 00:00:00 | 16 rows

از دستور ORDER BY برای مرتب کردن مجموعه نتایج, به ترتیب صعودی یا نزولی استفاده می شود.

```
SELECT * FROM Customers  
ORDER BY Country;
```

100 %											
Results Messages											
	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	CACTU	Cactus Comidas para Llevar	Patricio Simpson	Sales Agent	Cerrito 333	Buenos Aires	NULL	1010	Argentina	(1) 135-5555	(1) 135-4892
2	OCEAN	Océano Atlántico Ltda.	Yvonne Moncada	Sales Agent	Ing. Gustavo Moncada 8585 Piso 20-A	Buenos Aires	NULL	1010	Argentina	(1) 135-5333	(1) 135-5535
3	RANCH	Rancho grande	Sergio Gutiérrez	Sales Representative	Av. del Libertador 900	Buenos Aires	NULL	1010	Argentina	(1) 123-5555	(1) 123-5556
4	PICCO	Piccolo und mehr	Georg Phipps	Sales Manager	Geislweg 14	Salzburg	NULL	5020	Austria	6562-9722	6562-9723
5	ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchgasse 6	Graz	NULL	8010	Austria	7675-3425	7675-3426
6	MAISD	Maison Dewey	Catherine Dewey	Sales Agent	Rue Joseph-Bens 532	Bruxelles	NULL	B-1180	Belgium	(02) 201 24 67	(02) 201 24 68
7	SUPRD	Suprêmes délices	Pascale Cartrain	Accounting Manager	Boulevard Tirou, 255	Charleroi	NULL	B-6000	Belgium	(071) 23 67 22 20	(071) 23 67 22 21
8	TRADH	Tradição Hipermercados	Anabela Domingues	Sales Representative	Av. Inês de Castro, 414	Sao Paulo	SP	05634-030	Brazil	(11) 555-2167	(11) 555-2168
9	WELLI	Wellington Importadora	Paula Parente	Sales Manager	Rua do Mercado, 12	Resende	SP	08737-363	Brazil	(14) 555-8122	NULL
10	QUEDE	Que Delícia	Bernardo Batista	Accounting Manager	Rua da Panificadora, 12	Rio de Janeiro	RJ	02389-673	Brazil	(21) 555-4252	(21) 555-4545
11	QUEEN	Queen Cozinha	Lúcia Carvalho	Marketing Assistant	Alameda dos Canários, 891	Sao Paulo	SP	05487-020	Brazil	(11) 555-1189	NULL
12	RICAR	Ricardo Adocicados	Janete Limeira	Assistant Sales Agent	Av. Copacabana, 267	Rio de Janeiro	RJ	02389-890	Brazil	(21) 555-3412	NULL
13	FAMIA	Família Arquibaldo	Aria Cruz	Marketing Assistant	Rua Orós, 92	Sao Paulo	SP	05442-030	Brazil	(11) 555-9857	NULL
14	GOURL	Gourmet Lanchonetes	André Fonseca	Sales Associate	Av. Brasil, 442	Campinas	SP	04876-786	Brazil	(11) 555-9482	NULL
15	HANAR	Hanari Carnes	Mario Pontes	Accounting Manager	Rua do Paço, 67	Rio de Janeiro	RJ	05454-876	Brazil	(21) 555-0091	(21) 555-8765
16	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	Av. dos Lusíadas, 23	Sao Paulo	SP	05432-043	Brazil	(11) 555-7647	NULL
17	BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawassen Blvd.	Tsawassen	BC	T2F 8M4	Canada	(604) 555-4729	(604) 555-3745

دستور PRIMARY KEY به طور منحصر به فرد هر رکورد را در یک جدول شناسایی می کند

The screenshot displays the Microsoft SQL Server Enterprise Manager interface. On the left, the Object Explorer shows the database structure for 'LAPTOP-CO1FG224\SQL2019 (SQL Server 15.0.2095)'. The 'Databases' folder is expanded, showing 'System Databases', 'Database Snapshots', 'AdventureWorks2019', 'NORTHWND', and 'testDB'. The 'testDB' database is selected, and its 'Tables' folder is expanded, showing 'System Tables', 'FileTables', 'External Tables', 'Graph Tables', 'dbo.Persons', and 'dbo.Persons22'. The 'dbo.Persons' table is selected.

The main window shows the SQL Query Editor with the following SQL code:

```
CREATE TABLE Persons(  
    ID int NOT NULL,  
    LastName varchar(255) NOT NULL,  
    FirstName varchar(255),  
    Age int,  
    PRIMARY KEY (ID)  
);
```

The bottom status bar indicates 'Query executed successfully.' and 'Completion time: 2023-01-03T17:28:04.4372294+03:30'.

دستور SELECT DISTINCT فقط برای برگرداندن مقادیر متمایز (متفاوت) استفاده می شود.

SELECT Country FROM Customers;

100 %

Results Messages

	Country
1	Germany
2	Mexico
3	Mexico
4	UK
5	Sweden
6	Germany
7	France
8	Spain
9	France
10	Canada
11	UK
12	Argentina
13	Mexico
14	Switzerland
15	Brazil
16	UK
17	Germany
18	France
19	UK
20	Austria
21	Brazil
22	Spain
23	France
24	Sweden

Query executed successfully.

LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | NORTHWND | 00:00:00 | 91 rows



## دستور SELECT برای انتخاب داده ها از پایگاه داده استفاده می شود.

```
SELECT * FROM Customers;
```

100 %											
Results Messages											
	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	NULL	12209	Germany	030-0074321	030-0076545
2	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222	México D.F.	NULL	05021	Mexico	(5) 555-4729	(5) 555-3745
3	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	NULL	05023	Mexico	(5) 555-3932	NULL
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	NULL	WA1 1DP	UK	(171) 555-7788	(171) 555-6750
5	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvsvägen 8	Luleå	NULL	S-958 22	Sweden	0921-12 34 65	0921-12 34 67
6	BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Forsterstr. 57	Mannheim	NULL	68306	Germany	0621-08460	0621-08924
7	BLONP	Blondesddsl père et fils	Frédérique Citeaux	Marketing Manager	24, place Kléber	Strasbourg	NULL	67000	France	88.60.15.31	88.60.15.32
8	BOLID	Bólido Comidas preparadas	Martin Sommer	Owner	C/ Araquil, 67	Madrid	NULL	28023	Spain	(91) 555 22 82	(91) 555 91 99
9	BONAP	Bon app'	Laurence Lebihan	Owner	12, rue des Bouchers	Marseille	NULL	13008	France	91.24.45.40	91.24.45.41
10	BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawassen Blvd.	Tsawassen	BC	T2F 8M4	Canada	(604) 555-4729	(604) 555-3745
11	BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntleroy Circus	London	NULL	EC2 5NT	UK	(171) 555-1212	NULL
12	CACTU	Cactus Comidas para llevar	Patricio Simpson	Sales Agent	Cerrito 333	Buenos Aires	NULL	1010	Argentina	(1) 135-5555	(1) 135-4892
13	CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierras de Granada 9993	México D.F.	NULL	05022	Mexico	(5) 555-3392	(5) 555-7293
14	CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 29	Bern	NULL	3012	Switzerland	0452-076545	NULL
15	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	Av. dos Lusíadas, 23	Sao Paulo	SP	05432-043	Brazil	(11) 555-7647	NULL
16	CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkeley Gardens 12 Brewery	London	NULL	WX1 6LT	UK	(171) 555-2282	(171) 555-9199
17	DRACD	Drachenblut Delikatessen	Sven Ottlieb	Order Administrator	Walserweg 21	Aachen	NULL	52066	Germany	0241-039123	0241-059428
18	DUMON	Du monde entier	Janine Labrune	Owner	67, rue des Cinquante Otages	Nantes	NULL	44000	France	40.67.88.88	40.67.89.89
19	EASTC	Eastern Connection	Ann Devon	Sales Agent	35 King George	London	NULL	WX3 6FW	UK	(171) 555-0297	(171) 555-3373
20	ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchgasse 6	Graz	NULL	8010	Austria	7675-3425	7675-3426
21	FAMIA	Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua Orós, 92	Sao Paulo	SP	05442-030	Brazil	(11) 555-9857	NULL
22	FISSA	FISSA Fabrica Inter. Salchichas S.A.	Diego Roel	Accounting Manager	C/ Moralzarzal, 86	Madrid	NULL	28034	Spain	(91) 555 94 44	(91) 555 55 93
23	FOLIG	Folies gourmandes	Martine Rancé	Assistant Sales Agent	184, chaussée de Tournai	Lille	NULL	59000	France	20.16.10.16	20.16.10.17
24	FOLKO	Folk och få HB	Maria Larsson	Owner	Åkeraatan 24	Bräcke	NULL	S-844 67	Sweden	0695-34 67 21	NULL
Query executed successfully.											
LAPTOP-CO1FG224/SQL2019 (15... LAPTOP-CO1FG224/IT CIT... NORTHWND 00:00:00 91 rows											

از دستور SELECT TOP برای تعیین تعداد رکوردهایی که باید برگردانده شوند استفاده می شود

```
SELECT TOP 3 * FROM Customers;
```

100 %

Results Messages

	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	NULL	12209	Germany	030-0074321	030-0076545
2	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222	México D.F.	NULL	05021	Mexico	(5) 555-4729	(5) 555-3745
3	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	NULL	05023	Mexico	(5) 555-3932	NULL

از عملگر UNION برای ترکیب مجموعه نتیجه دو یا چند ستون از چند جدول استفاده می شود.

SQLQuery3.sql - LA...FG224\IT CITY (72))\* SQL UNIQUE.sql - L...FG224\IT CITY (54))

```
SELECT City FROM Customers
UNION
SELECT City FROM Suppliers
ORDER BY City;
```

100 %

Results Messages

	City
1	Aachen
2	Albuquerque
3	Anchorage
4	Ann Arbor
5	Annecy
6	Århus
7	Barcelona
8	Barquisimeto
9	Bend
10	Bergamo
11	Berlin
12	Bern
13	Boise
14	Boston
15	Bräcke
16	Brandenburg
17	Bruxelles

Query executed successfully.

LAPTOP-CO1FG224\SQL2019 (15... LAPTOP-CO1FG224\IT CIT... NORTHWND 00:00:00 93 rows

محدودیت UNIQUE تضمین می کند که همه مقادیر در یک ستون متفاوت هستند.

The screenshot displays the Microsoft SQL Server Enterprise Manager interface. On the left, the Object Explorer shows the database structure for 'LAPTOP-CO1FG224\SQL2019 (SQL Server 15.0.2095.1)'. The 'testDB' database is expanded, showing 'Tables' and 'dbo.Persons23'. The main pane shows the SQL query editor with the following code:

```
CREATE TABLE Persons23 (  
    ID int NOT NULL UNIQUE,  
    LastName varchar(255) NOT NULL,  
    FirstName varchar(255),  
    Age int  
);
```

Below the query editor, the Messages pane shows the execution results:

```
Commands completed successfully.  
  
Completion time: 2023-01-03T17:37:25.3958879+03:30
```

The status bar at the bottom indicates 'Query executed successfully.' and provides details about the current database context: 'LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | testDB | 00:00:00 | 0 rows'.

از دستور WHERE برای فیلتر کردن رکوردها استفاده می شود.

SQLQuery1.sql - LA...FG224\IT CITY (72))\*

```
SELECT * FROM Customers  
WHERE Country='Mexico';
```

100 %

Results Messages

	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222	México D.F.	NULL	05021	Mexico	(5) 555-4729	(5) 555-3745
2	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	NULL	05023	Mexico	(5) 555-3932	NULL
3	CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierras de Granada 9993	México D.F.	NULL	05022	Mexico	(5) 555-3392	(5) 555-7293
4	PERIC	Pericles Comidas clásicas	Guillermo Fernández	Sales Representative	Calle Dr. Jorge Cash 321	México D.F.	NULL	05033	Mexico	(5) 552-3745	(5) 545-3745
5	TORTU	Tortuga Restaurante	Miguel Angel Paolino	Owner	Avda. Azteca 123	México D.F.	NULL	05033	Mexico	(5) 555-2933	NULL

Query executed successfully.

LAPTOP-CO1FG224\SQL2019 (15... | LAPTOP-CO1FG224\IT CIT... | NORTHWND | 00:00:00 | 5 rows

Wildcards یک کاراکتر عام هست که برای جایگزینی یک یا چند کاراکتر در یک رشته استفاده می شود.

```
SELECT * FROM Customers  
WHERE City LIKE 'ber%';
```

100 %

Results Messages

	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	NULL	12209	Germany	030-0074321	030-0076545
2	CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 29	Bern	NULL	3012	Switzerland	0452-076545	NULL
3	MAGAA	Magazzini Alimentari Riuniti	Giovanni Rovelli	Marketing Manager	Via Ludovico il Moro 22	Bergamo	NULL	24100	Italy	035-640230	035-640231