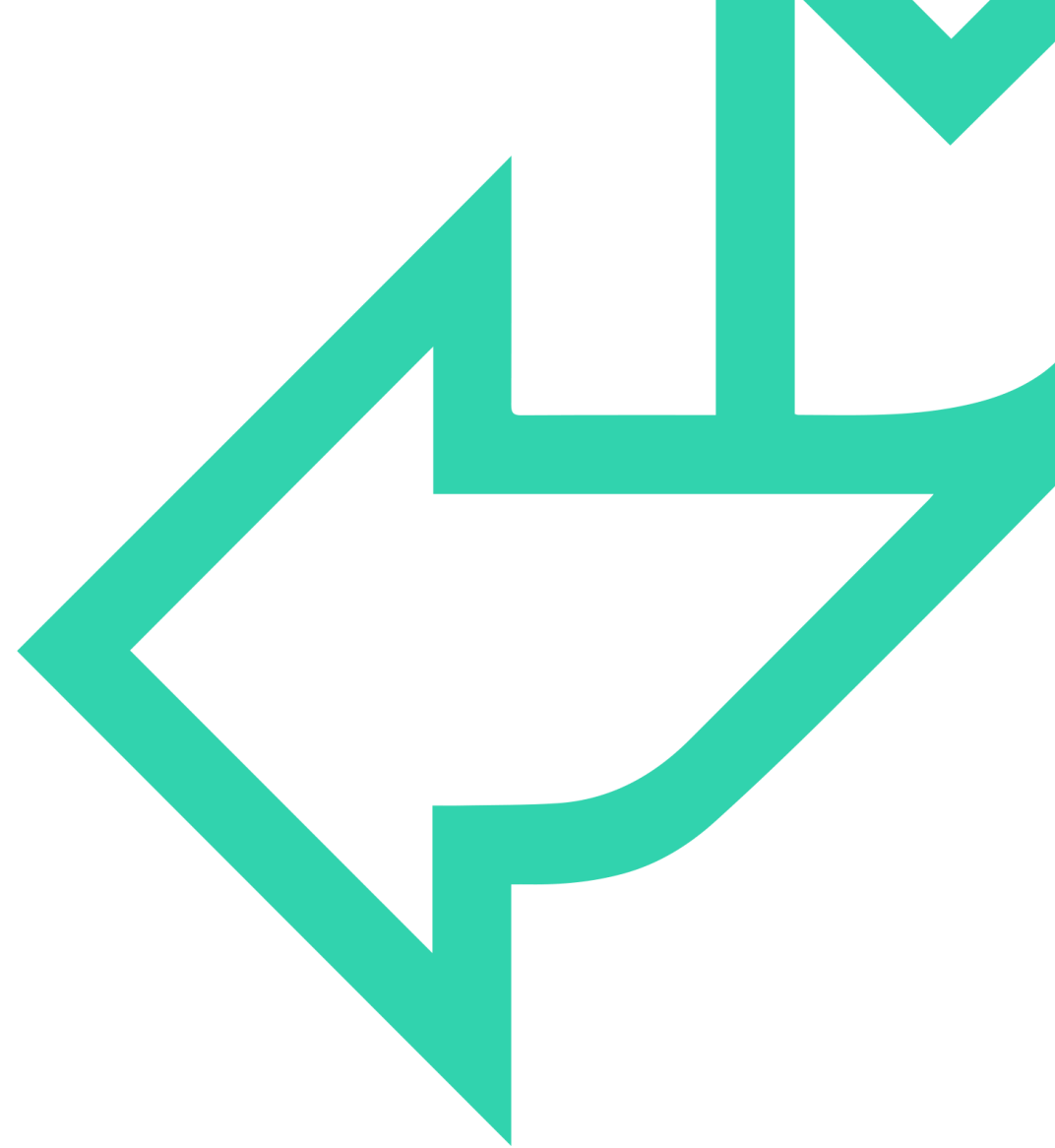




# Sorting Rows



# Overview



- ORDER BY clause
- Sort order
- Sort on multiple columns
- Sort on expressions
- Eliminate duplicates - DISTINCT
- Limit results - TOP
- Hands-on lab



# OBJECTIVES

**At the end of this module you will be able to:**

- write a query that sorts on a single column
- write a query that sorts on multiple columns
- write a query that sorts on a calculated column
- write a query that selects unique values
- write a query that returns only a specified number of rows



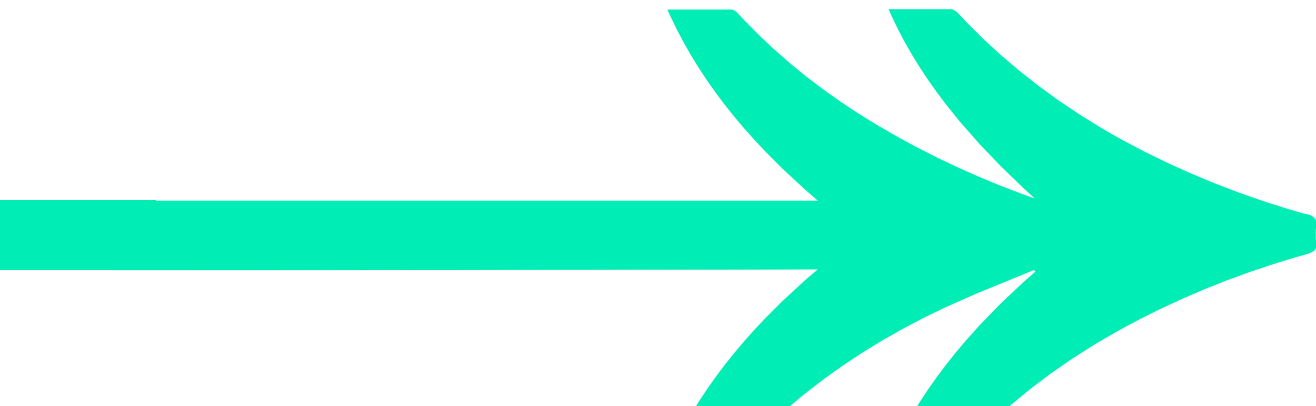
**ORDER BY clause**





# ORDER BY clause

```
SELECT <<field(s)>>  
FROM <<table(s)>>  
WHERE <<condition(s)>>  
GROUP BY <<field(s)>>  
HAVING <<condition(s)>>  
ORDER BY <<field(s)>>
```



# Sort order





# Sort order

- **ASC – ascending**
  - Default
- **DESC – descending**

```
SELECT
    ProductName,
    UnitPrice
FROM
    dbo.Products
ORDER BY
    UnitPrice DESC
```

Results		Messages
	ProductName	UnitPrice
1	Côte de Blaye	263.50
2	Thüringer Rostbratwurst	123.79
3	Mishi Kobe Niku	97.00
4	Sir Rodney's Marmalade	81.00
5	Camaron de Tigers	62.50
6	Raclette Courdavault	55.00
7	Manjimup Dried Apples	53.00
8	Tarte au sucre	49.30

L:\Student (52) | Northwind | 00:00:00 | 77 rows

# Sort on multiple columns







# Sort on multiple columns

- Up to 16 columns in ORDER BY clause
- Sort columns do not have to be included in select list

```
SELECT
    ProductID, ProductName,
    CategoryID, UnitPrice
FROM
    dbo.Products
ORDER BY
    CategoryID,
    UnitPrice DESC
```

	ProductID	ProductName	CategoryID	UnitPrice
10	34	Sasquatch Ale	1	14.00
11	75	Rhönbräu Klosterbier	1	7.75
12	24	Guaraná Fantástica	1	4.50
13	63	Vegie-spread	2	43.90
14	8	Northwoods Cranberry Sa...	2	40.00
15	61	Siróp d'érable	2	28.50
16	6	Grandma's Boysenberry S...	2	25.00
17	4	Chef Anton's Cajun Seaso...	2	22.00

SQL2012 (11.0 CTP) | QATSQL\Student (53) | Northwind | 00:00:00 | 77 rows



# Sort on expressions





# Sort on expressions

- **ORDER BY**

- <<expression>>
- <<expression-alias>>
- <<expression-ordinal>>

```
SELECT
    ProductName, UnitsInStock,
    UnitsOnOrder,
    UnitsInStock + UnitsOnOrder
    AS FutureStock
FROM
    dbo.Products
ORDER BY
    FutureStock DESC
```

	ProductName	UnitsInStock	UnitsOnOrder	FutureStock
1	Rhönbräu Klosterbier	125	0	125
2	Boston Crab Meat	123	0	123
3	Grandma's Boysenberry Spread	120	0	120
4	Pâté chinois	115	0	115
5	Sirop d'érable	113	0	113
6	Geitost	112	0	112
7	Inlagd Sill	112	0	112
8	Sasquatch Ale	111	0	111

QATSQL\SQL2012 (11.0 CTP) | QATSQL\Student (52) | Northwind | 00:00:00 | 77 rows



**Eliminate  
duplicates –  
DISTINCT**





# Eliminate duplicates – SELECT DISTINCT

```
SELECT  
    City, Country  
FROM  
    dbo.Customers
```

	City	Country
1	Berlin	Germany
2	México D.F.	Mexico
3	México D.F.	Mexico
4	London	UK
5	Luleå	Sweden
6	Mannheim	Germany
7	Strasbourg	France
8	Madrid	Spain

(54) | Northwind | 00:00:00 | 91 rows

```
SELECT DISTINCT  
    City, Country  
FROM  
    dbo.Customers
```

	City	Country
1	Aachen	Germany
2	Albuquerque	USA
3	Anchorage	USA
4	Århus	Denmark
5	Barcelona	Spain
6	Barquisimeto	Venezuela
7	Bergamo	Italy
8	Berlin	Germany

(54) | Northwind | 00:00:00 | 69 rows

# Limit results – TOP





# Limit results – SELECT TOP

- **SELECT TOP  $n$**
- **SELECT TOP  $n$  PERCENT**
- **SELECT TOP  $n$  ... WITH TIES**

```
SELECT TOP 11 WITH TIES
    ProductName,
    UnitPrice
FROM
    dbo.Products
ORDER BY
    UnitPrice DESC
```

	ProductName	UnitPrice
5	Camarvon Tigers	62.50
6	Raclette Courdavault	55.00
7	Manjimup Dried Apples	53.00
8	Tarte au sucre	49.30
9	Ipoh Coffee	46.00
10	Rössle Sauerkraut	45.60
11	Schoggi Schokolade	43.90
12	Vegie-spread	43.90

L:\Student (52) | Northwind | 00:00:00 | 12 rows



## Hands-on lab

- Basic sorting
- Sorting on expressions
- Unique rows
- Limiting results





# Review

- **ORDER BY clause**
- **Sorting on columns**
- **Sort orders**
- **Selecting unique rows**
- **Limiting results**

