




## 2: Sorting and filtering query results

© Copyright Microsoft Corporation. All rights reserved.



<https://learn.microsoft.com/en-us/training/modules/sort-filter-queries/>

## Agenda



- Sorting query results
- Filtering query results

© Copyright Microsoft Corporation. All rights reserved.

# 1: Sorting query results

© Copyright Microsoft Corporation. All rights reserved.



## Sorting results

### Use ORDER BY to sort results by one or more columns

- Aliases created in SELECT clause are visible to ORDER BY
- You can order by columns in the source that are not included in the SELECT clause
- You can specify ASC or DESC (ASC is the default)

```
SELECT ProductCategoryID AS Category, ProductName  
FROM Production.Product  
ORDER BY Category ASC, Price DESC;
```

© Copyright Microsoft Corporation. All rights reserved.

<https://learn.microsoft.com/en-us/training/modules/sort-filter-queries/2-sort-your-data-as-its-returned>

## Limiting sorted results

Use TOP to limit the number or percentage of rows returned by a query

- Works with ORDER BY clause to limit rows by sort order
- Added to SELECT clause:

```
SELECT TOP N [Percent] [WITH TIES]
```

```
SELECT TOP 10 Name, ListPrice  
FROM Production.Product  
ORDER BY ListPrice DESC;
```

© Copyright Microsoft Corporation. All rights reserved.

<https://learn.microsoft.com/en-us/training/modules/sort-filter-queries/3-use-top-clause-to-limit-rows>

## Paging through results

**OFFSET-FETCH** is an extension to the **ORDER BY** clause:

- Allows returning a requested range of rows
- Provides a mechanism for paging through results
- Specify number of rows to skip, number of rows to retrieve

```
SELECT ProductID, ProductName, ListPrice
FROM Production.Product
ORDER BY ListPrice DESC
      OFFSET 0 ROWS -- Skip zero rows
      FETCH NEXT 10 ROWS ONLY; -- Get the next 10
```

© Copyright Microsoft Corporation. All rights reserved.

<https://learn.microsoft.com/en-us/training/modules/sort-filter-queries/4-page-results>

## 2: Filtering query results

© Copyright Microsoft Corporation. All rights reserved.



## Removing duplicates

### SELECT ALL

Default behavior includes duplicates

```
SELECT City, CountryRegion
FROM Production.Supplier
ORDER BY CountryRegion, City;
```

| City     | CountryRegion |
|----------|---------------|
| Aurora   | Canada        |
| Barrie   | Canada        |
| Brampton | Canada        |
| Brossard | Canada        |
| Brossard | Canada        |
| Burnaby  | Canada        |
| Burnaby  | Canada        |
| Burnaby  | Canada        |
| Calgary  | Canada        |
| Calgary  | Canada        |

### SELECT DISTINCT

Removes duplicates

```
SELECT DISTINCT City, CountryRegion
FROM Production.Supplier
ORDER BY CountryRegion, City;
```

| City     | CountryRegion |
|----------|---------------|
| Aurora   | Canada        |
| Barrie   | Canada        |
| Brampton | Canada        |
| Brossard | Canada        |
| Burnaby  | Canada        |
| Calgary  | Canada        |

© Copyright Microsoft Corporation. All rights reserved.

<https://learn.microsoft.com/en-us/training/modules/sort-filter-queries/5-remove-duplicates>



## Filtering and using predicates

```
SELECT ProductCategoryID AS Category, ProductName
FROM Production.Product
WHERE ProductCategoryID = 2
      AND ListPrice < 10.00
ORDER BY Category, Price DESC;
```

| Predicates and Operators | Description   |
|--------------------------|---|
| = < >                    | Compares values for equality/non-equality   |
| IN                       | Determines whether a specified value matches any value in a subquery or a list                          |
| BETWEEN                  | Specifies an inclusive range to test  |
| LIKE                     | Determines whether a specific character string matches a specified pattern, which can include wildcards |
| AND                      | Combines two Boolean expressions and returns TRUE only when both are TRUE                               |
| OR                       | Combines two Boolean expressions and returns TRUE if either is TRUE                                     |
| NOT                      | Reverses the result of a search condition   |

© Copyright Microsoft Corporation. All rights reserved.

<https://learn.microsoft.com/en-us/training/modules/sort-filter-queries/6-filter-data>

## Lab: Sort and filter query results



### [Sort and Filter Query Results | dp-080-Transact-SQL](#)

- Sort results using the ORDER BY clause
- Restrict results using TOP
- Retrieve pages of results with OFFSET and FETCH
- Use the ALL and DISTINCT options
- Filter results with the WHERE clause

© Copyright Microsoft Corporation. All rights reserved.

<https://microsoftlearning.github.io/dp-080-Transact-SQL/Instructions/Labs/02-filter-sort.html>

## Review



- 1** You write a Transact-SQL query to list the available sizes for products. Each individual size should be listed only once. Which query should you use?
  - ☐ `SELECT Size FROM Production.Product;`
  - ☒ `SELECT DISTINCT Size FROM Production.Product;`
  - ☐ `SELECT ALL Size FROM Production.Product;`
- 2** You must return the InvoiceNo and TotalDue columns from the Sales.Invoice table in decreasing order of TotalDue value. Which query should you use?
  - ☐ `SELECT * FROM Sales.Invoice ORDER BY TotalDue, InvoiceNo;`
  - ☒ `SELECT InvoiceNo, TotalDue FROM Sales.Invoice ORDER BY TotalDue DESC;`
  - ☐ `SELECT TotalDue AS DESC, InvoiceNo FROM Sales.Invoice;`
- 3** Complete this query to return only products that have a Category value of 2 or 4:  
`SELECT Name, Price FROM Production.Product`
  - ☐ `ORDER BY Category;`
  - ☐ `WHERE Category BETWEEN 2 AND 4;`
  - ☒ `WHERE Category IN (2, 4);`

© Copyright Microsoft Corporation. All rights reserved.

Use the slide animation to reveal the correct answers.



© Copyright Microsoft Corporation. All rights reserved.