**Logical Operators in SQL: Explanation of logical operators (AND, OR, NOT) used to combine conditions in SQL queries.**

**The AND & OR Operators**

¬ The AND & OR operators are used to filter records based on more than one condition.

¬ The AND operator displays a record if both the first condition and the second condition is true.

¬ The OR operator displays a record if either the first condition or the second condition is true.

**AND Operator Example**

The "Persons" table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| P\_Id | LastName | FirstName | Address | City |
| 1 | Hansen | Ola | Timoteivn 10 | Sandnes |
| 2 | Svendson | Tove | Borgvn 23 | Sandnes |
| 3 | Pettersen | Kari | Storgt 20 | Stavanger |

Now we want to select only the persons with the first name equal to "Tove" AND the last name equal to "Svendson": We use the following SELECT statement: SELECT \* FROM Persons WHERE FirstName='Tove' AND LastName='Svendson'

The result-set will look like this:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| P\_Id | LastName | FirstName | Address | City |
| 2 | Svendson | Tove | Borgvn 23 | Sandnes |

**OR Operator Example**

Now we want to select only the persons with the first name equal to "Tove" OR the first name equal to "Ola":

We use the following SELECT statement:

SELECT \* FROM Persons WHERE FirstName='Tove' OR FirstName='Ola

The result-set will look like this:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| P\_Id | LastName | FirstName | Address | City |
| 1 | Hansen | Ola | Timoteivn 10 | Sandnes |
| 2 | Svendson | Tove | Borgvn 23 | Sandnes |

**Combining AND & OR**

You can also combine AND and OR (use parenthesis to form complex expressions).

Now we want to select only the persons with the last name equal to "Svendson" AND the first name equal to "Tove" OR to "Ola":

We use the following SELECT statement:

SELECT \* FROM Persons WHERE LastName='Svendson' AND (FirstName='Tove' OR FirstName='Ola')

The result-set will look like this:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| P\_Id | LastName | FirstName | Address | City |
| 2 | Svendson | Tove | Borgvn 23 | Sandnes |

## **The NOT Operator**

The NOT operator is used in combination with other operators to give the opposite result, also called the negative result.

In the select statement below we want to return all customers that are NOT from Spain:

SELECT \* FROM Customers  
WHERE NOT Country = 'Spain';

In the example above, the NOT operator is used in combination with the = operator, but it can be used in combination with other comparison and/or logical operators.