



Operators, Expressions and Conditions



SQL Operators

- The symbols which are used to perform logical and mathematical operations in SQL are called SQL operators.
- There are three types of Operators used in SQL.
- Arithmetic operators.
- Relational operators.
- Logical operators.

Arithmetic Operators

- Arithmetic operators in SQL are used to perform mathematical calculations like addition, subtraction, multiplication, division and modulus in SQL statements.

Arithmetic Operators/Operation	Example
+ (Addition)	A+B
– (Subtraction)	A-B
* (multiplication)	A*B
/ (Division)	A/B
% (Modulus)	A%B

Relational Operators

- Relational operators in SQL are used to find the relation between two columns. i.e. to compare the values of two columns in SQL statements.

Operators	Example/Description
>	x > y (x is greater than y)
<	x < y (x is less than y)
>=	x >= y (x is greater than or equal to y)
<=	x <= y (x is less than or equal to y)
=	x = y (x is equal to y)
!= or <>	x != y or x <> y (x is not equal to y)
!<	x !< y (x is not less than y)
!>	x !> y (x is not greater than y)



Logical Operators

- Logical operators in SQL are used to perform logical operations on the given expressions in SQL statements.

- AND
- OR
- NOT
- BETWEEN...AND
- IS NULL, IS NOT NULL
- LIKE
- UNIQUE
- In, NOT IN etc.



Expressions

- An expression is a combination of one or more values, operators and SQL functions that evaluate to a value.
- These SQL EXPRESSIONs are like formulae and they are written in query language.
- You can also use them to query the database for a specific set of data.
- `SELECT column1, column2, columnN FROM table_name WHERE [EXPRESSION | CONDITION];`



Types of Expressions

- **SQL Boolean expressions** fetch data based on one-to-one matching. In other words, we can think of it as a query that fetches one result at a time.
- Find out employees whose age is equal to 26.
Query: `SELECT * FROM dataflair_employee WHERE age = 26 ;`
- **SQL Numerical expressions** are used to perform mathematical operations on the stored data.
- Find employees whose age, if doubled, will be more than 50.
Query: `SELECT * FROM dataflair_employee WHERE age*2 > 50 ;`
- **SQL Date expressions** are used to compare and get data according to various date-related queries and conditions.
- Find the employees who were born after 1995 January.
Query: `SELECT * FROM dataflair_employee WHERE DoB > DATE('1995/01/01') ;`



Conditions

- A condition specifies a combination of one or more expressions and logical (Boolean) operators and returns a value of TRUE, FALSE, or unknown.
- `SELECT *`

`FROM suppliers`

`WHERE (state = 'California' AND supplier_id <> 900)`

`OR (supplier_id = 100);`