

Engineering Mathematics

Discrete Mathematics

Digital Logic and Design Computer Organization and Architecture

SQL AND and OR operators

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In SQL, the AND & OR operators are used for filtering the data and getting precise results based on conditions. The SQL AND & OR operators are also used to combine multiple conditions. These two operators can be combined to test for multiple conditions in a SELECT, INSERT, UPDATE, or DELETE statement.

When combining these conditions, it is important to use parentheses so that the database knows what order to evaluate each condition.

- The AND and OR operators are used with the WHERE clause.
- These two operators are called conjunctive operators.

AND Operator:

This operator displays only those records where both the conditions condition and condition 2 evaluates to True.

Syntax:

ΑD

SELECT * FROM table_name WHERE condition1 AND condition2 and ...conditionN;

table_name: name of the table

condition1,2,..N: first condition, second condition and so on

OR Operator:

This operator displays the records where either one of the conditions condition1 and condition2 evaluates to True. That is, either condition 1 is True or condition 2 is True.

Syntax:

SELECT * FROM table_name WHERE condition1 OR condition2 OR... conditionN;

table_name: name of the table

condition1,2,..N : first condition, second condition and so on

Now, we consider a table database to demonstrate AND & OR operators with multiple cases:

ROLL_NO	NAME	ADDRESS	PHONE	Age
1	Ram	Delhi	XXXXXXXXX	18
2	RAMESH	GURGAON	XXXXXXXXX	18
3	SUJIT	ROHTAK	xxxxxxxxx	20
4	SURESH	Delhi	xxxxxxxxx	18
3	SUJIT	ROHTAK	xxxxxxxxx	20
2	RAMESH	GURGAON	xxxxxxxxx	18

If suppose we want to fetch all the records from the Student table where Age is 18 and ADDRESS is Delhi. then the query will be:

Query:

SELECT * FROM Student WHERE Age = 18 AND ADDRESS = 'Delhi';

Output:

ROLL_NO	NAME	ADDRESS	PHONE	Age
1	Ram	Delhi	xxxxxxxx	18
4	SURESH	Delhi	xxxxxxxxx	18

Take another example, to fetch all the records from the Student table where NAME is Ram and Age is 18.

Query:

SELECT * FROM Student WHERE Age = 18 AND NAME = 'Ram';

Output:

ROLL_NO	NAME	ADDRESS	PHONE	Age
1	Ram	Delhi	xxxxxxxx	18

To fetch all the records from the Student table where NAME is Ram or NAME is SUJIT.

Query:

SELECT * FROM Student WHERE NAME = 'Ram' OR NAME = 'SUJIT';

Output:

ROLL_NO	NAME	ADDRESS	PHONE	Age
1	Ram	Delhi	xxxxxxxx	18
3	SUJIT	ROHTAK	xxxxxxxx	20
3	SUJIT	ROHTAK	xxxxxxxxx	20

To fetch all the records from the Student table where NAME is Ram or Age is 20.

Query:

SELECT * FROM Student WHERE NAME = 'Ram' OR Age = 20;

Output:

ROLL_NO	NAME	ADDRESS	PHONE	Age
1	Ram	Delhi	xxxxxxxx	18

ROLL_NO	NAME	ADDRESS	PHONE	Age
3	SUJIT	ROHTAK	xxxxxxxx	20
3	SUJIT	ROHTAK	xxxxxxxxx	20

Combining AND and OR:

We can combine AND and OR operators in the below manner to write complex queries.

Syntax:

SELECT * FROM table_name WHERE condition1 AND (condition2 OR condition3);

Take an example to fetch all the records from the Student table where Age is 18 NAME is Ram or RAMESH.

Query:

SELECT * FROM Student WHERE Age = 18 AND (NAME = 'Ram' OR NAME = 'RAMESH');

Output:

ROLL_NO	NAME	ADDRESS	PHONE	Age
1	Ram	Delhi	xxxxxxxx	18
2	RAMESH	GURGAON	xxxxxxxxx	18

Last Updated : 04 Oct, 2021

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