

Module 3 SQL Operators

Tuesday, 1 July 2025 12:42 PM

Module by Dhaanesh S

Objectives

- Explain SQL Arithmetic Operators
- Use arithmetic operators to perform operations in SQL

SQL Arithmetic Operators

Operators : Words or characters used to perform activities in a database. They are like action verbs.

Eg : At some point of time we need to query the result and perform activities in order to meet specific objective or problem case like "How many leave days as the employee taken ?"

Arithmetic Operators : Commonly used to perform mathematical calculations in a database. They are

- + for addition
- - for subtraction
- * for multiplication
- / for division
- % for modulo operation

We can use SELECT statement for carrying out arithmetic operators.

```
SELECT
    Bonus + salary AS Total_Revenue
FROM
    Employee
```

```
SELECT
    empId % 2
FROM
    Employee
```

SQL Comparator Operators

These operators help us to compare two values or expression and return true or false as a result. They are used to filter our results when using where clause to condition along with select statement.

- > greater than
- < less than
- = equal to
- >= greater than or equal to
- <= less than or equal to
- <> not equal to

SORTING AND FILTERING DATA USING SQL

1. ORDER BY CLAUSE

Objectives

- Demonstrate the purpose of ORDER BY clause for sorting data
- Define by how order by clause can be used differently to sort data
- Explain how ASC and DSC keywords behave when used on sort columns

Syntax

```
SELECT column1, column2, column3
FROM table_name
ORDER BY column_name ASC/DESC
```

Order data from multiple columns

```
SELECT column1, column2
FROM table_name
ORDER BY column1 ASC, column2 DESC;
```

2. WHERE CLAUSE

Filter data and retrieve records that meet specific condition.

Syntax

```
SELECT column1, column2
FROM table_name
WHERE column = value;
```

WHERE clause works with operators like

- BETWEEN (range between numeric, data or time frames)

SELECT * FROM EMPLOYEE WHERE dob BETWEEN '2000-09-01' AND '1998-08-01';

- LIKE (To equal a certain pattern)

SELECT * FROM EMPLOYEE WHERE name LIKE 'A%';

- IN (Specifies multiple values for column)

SELECT * FROM EMPLOYEE WHERE country IN ('USA', 'UK');

Other logical operators

- EXISTS
- NOT
- OR
- IS NULL
- UNIQUE

3. SELECT DISTINCT CLAUSE

Returns distinct values without any duplicates.

Select distinct dept
From employee;