SQL – Logical Operators

SQL logical operators are used to test for the truth of the condition. A logical operator like the Comparison operator returns a boolean value of TRUE, FALSE, or UNKNOWN. In this article, we will discuss different types of Logical Operators.

Logical operators are used to combine or manipulate the conditions given in a query to retrieve or manipulate data .there are some logical operators in SQL like OR, AND etc.

SQL लॉजिकल ऑपरेटर का उपयोग शर्त की सत्यता का परीक्षण करने के लिए किया जाता है। तुलना ऑपरेटर जैसा लॉजिकल ऑपरेटर TRUE, FALSE या UNKNOWN का बूलियन मान लौटाता है। इस लेख में, हम विभिन्न प्रकार के लॉजिकल ऑपरेटरों पर चर्चा करेंगे।

लॉजिकल ऑपरेटरों का उपयोग क्वेरी में दी गई शर्तों को संयोजित करने या हेरफेर करने के लिए किया जाता है ताकि डेटा को पुनः प्राप्त या हेरफेर किया जा सके। SQL में OR, AND आदि जैसे कुछ लॉजिकल ऑपरेटर हैं।

Types of Logical Operators in SQL

Operator	Meaning
AND	TRUE if both Boolean expressions are TRUE.
IN	TRUE if the operand is equal to one of a list of expressions.
NOT	Reverses the value of any other Boolean operator.
OR	TRUE if either Boolean expression is TRUE.
LIKE	TRUE if the operand matches a pattern.
BETWEEN	TRUE if the operand is within a range.
ALL	TRUE if all of a set of comparisons are TRUE.
ANY	TRUE if any one of a set of comparisons is TRUE.
EXISTS	TRUE if a subquery contains any rows.
SOME	TRUE if some of a set of comparisons are TRUE.

Step 1: Create a Table

```
CREATE TABLE Employees (
    EmployeeID INT PRIMARY KEY,
    FirstName VARCHAR(50),
    LastName VARCHAR(50),
    Salary DECIMAL(10, 2),
    DepartmentID INT,
    HireDate DATE
);
```

Step 2: Insert Sample Data

```
INSERT INTO Employees (EmployeeID, FirstName, LastName, Salary, DepartmentID, HireDate)
VALUES
(1, 'John', 'Doe', 50000, 1, '2020-01-15'),
(2, 'Jane', 'Smith', 60000, 2, '2019-04-22'),
(3, 'Alice', 'Johnson', 55000, 1, '2021-08-10'),
(4, 'Bob', 'Williams', 70000, 3, '2018-06-25'),
(5, 'Eve', 'Davis', 45000, 2, '2023-02-17'),
(6, 'Mark', 'Brown', 65000, 2, '2020-03-30');
```

Step 3: Use SQL Logical Operators

1. **AND:**

   ```
   SELECT * FROM Employees WHERE DepartmentID = 1 AND Salary > 50000;
   ```

   OR:

   ```
   SELECT * FROM Employees WHERE Salary > 60000 OR DepartmentID = 2;
   ```

   NOT:

   ```
   SELECT * FROM Employees WHERE NOT DepartmentID = 2;
   ```

   Combining AND, OR, and NOT:

   ```
   SELECT * FROM Employees
   WHERE (DepartmentID = 1 OR Salary > 60000)
   AND NOT HireDate > '2021-01-01';
   ```