

## Experiment No: 4

**Title :** Implementation of different types of operators in SQL.

- Arithmetic Operator
- Logical Operator
- Comparison Operator
- Special Operator
- Set Operator

**Objective:**

To learn different types of operator.

**Theory:**

### ARITHMETIC OPERATORS:

(+) : Addition - Adds values on either side of the operator .

(-):Subtraction - Subtracts right hand operand from left hand operand .

(\*):Multiplication - Multiplies values on either side of the operator .

(/):Division - Divides left hand operand by right hand operand .

(^):Power- raise to power of .

(%):Modulus - Divides left hand operand by right hand operand and returns remainder.

### LOGICAL OPERATORS:

**AND :** The AND operator allows the existence of multiple conditions in an SQL statement's WHERE clause.

**OR:** The OR operator is used to combine multiple conditions in an SQL statement's WHERE clause.

NOT: The NOT operator reverses the meaning of the logical operator with which it is used.  
Eg: NOT EXISTS, NOT BETWEEN, NOT IN, etc. **This is a negate operator.**

### **COMPARISION OPERATORS:**

(=):Checks if the values of two operands are equal or not, if yes then condition becomes true.

(!=):Checks if the values of two operands are equal or not, if values are not equal then condition becomes true.

(< >):Checks if the values of two operands are equal or not, if values are not equal then condition becomes true.

(>):Checks if the value of left operand is greater than the value of right operand, if yes then condition becomes true

(<):Checks if the value of left operand is less than the value of right operand, if yes then condition becomes true.

(>=):Checks if the value of left operand is greater than or equal to the value of right operand, if yes then condition becomes true.

(<=):Checks if the value of left operand is less than or equal to the value of right operand, if yes then condition becomes true.

### **SPECIAL OPERATOR:**

BETWEEN: The BETWEEN operator is used to search for values that are within a set of values, given the minimum value and the maximum value.

IS NULL: The NULL operator is used to compare a value with a NULL attribute value.

ALL: The ALL operator is used to compare a value to all values in another value set

ANY: The ANY operator is used to compare a value to any applicable value in the list according to the condition.

LIKE: The LIKE operator is used to compare a value to similar values using wildcard operators.It allows to use percent sign(%) and underscore ( \_ ) to match a given string pattern.

**IN:** The IN operator is used to compare a value to a list of literal values that have been specified.

**EXIST:** The EXISTS operator is used to search for the presence of a row in a specified table that meets certain criteria.

### **SET OPERATORS:**

The Set operator combines the result of 2 queries into a single result. The following are the operators:

- Union
- Union all
- Intersect
- Minus

**Union:** Returns all distinct rows selected by both the queries

**Union all:** Returns all rows selected by either query including the duplicates.

**Intersect:** Returns rows selected that are common to both queries.

**Minus:** Returns all distinct rows selected by the first query and are not by the second

### **LAB PRACTICE ASSIGNMENT:**

1. Display all the dept numbers available with the dept and emp tables avoiding duplicates.
2. Display all the dept numbers available with the dept and emp tables.
3. Display all the dept numbers available in emp and not in dept tables and vice versa.