

Video-9

Topics to cover:

- OPERATORS IN SQL
 - Arithmetic Operators
 - Comparison Operators
 - Logical Operators

1. Arithmetic Operators

Used for basic math operations:

- + : Addition
- - : Subtraction
- * : Multiplication
- / : Division
- % : Modulo (remainder)

Creating employee table to understand different Commands

```
CREATE TABLE employees (  
  id INT,  
  name VARCHAR(50),  
  age INT,  
  salary DECIMAL(10,2),  
  department VARCHAR(50),  
  bonus INT  
);
```

```
INSERT INTO employees VALUES  
(1, 'Amit', 28, 30000.00, 'HR', 3000),  
(2, 'Neha', 20, 17000.00, 'IT', 1700),  
(3, 'Raj', 24, 20000.00, 'Finance', 2000),  
(4, 'Simran', 29, 25000.00, 'IT', 2500);
```

Arithmetic Operators Example:

Calculate total compensation by adding salary to bonus.

```
SELECT name, salary + bonus AS total_compensation  
FROM employees;
```

Deduct 1000 from each employee salary.

```
SELECT name, salary - 1000 AS new_salary  
FROM employees;
```

Multiplication

```
SELECT 10 * 2;
```

Division

```
SELECT 10 / 2;
```

Modulo (remainder)

```
SELECT 10 % 3;
```

2. Comparison Operators

Used to compare values:

- > : Greater than
- < : Less than
- >= : Greater than or equal to
- <= : Less than or equal to
- = : Equal to
- != or <> : Not equal to
- BETWEEN : Within a range

Comparison Operators Example

list all employees who are getting salary more than 20000.

```
SELECT * FROM employees  
WHERE salary > 20000;
```

list all employees who are getting salary more than or equal to 20000.

```
SELECT * FROM employees  
WHERE salary >= 20000;
```

list all employees who are getting less than 20000.

```
SELECT * FROM employees  
WHERE salary < 20000;
```

list all employees who are getting salary less than or equal to 20000.

```
SELECT * FROM employees  
WHERE salary <= 20000;
```

list all employees where age of employees is equal to 20.

```
SELECT * FROM employees  
WHERE age = 20;
```

Comparison Operators Example

list all employees where age of employees is not equal to 20.

```
SELECT * FROM employees  
WHERE age != 20;
```

```
SELECT * FROM employees  
WHERE age <> 20;
```

list all employees who are getting salary in the range of 15000 to 28000.

```
SELECT * FROM employees  
WHERE salary BETWEEN 15000 AND 28000;
```


3. Logical Operators

Used to combine multiple conditions:

- AND : All conditions must be true
- OR : At least one condition must be true
- NOT : Negates a condition

Logical Operators Example

Both conditions must be true.

```
SELECT * FROM employees  
WHERE age > 25 AND department = 'IT';
```

Either condition can be true.

```
SELECT * FROM employees  
WHERE department = 'HR' OR department = 'Finance';
```

Example of NOT (Excludes IT department).

```
SELECT * FROM employees  
WHERE NOT department = 'IT';
```