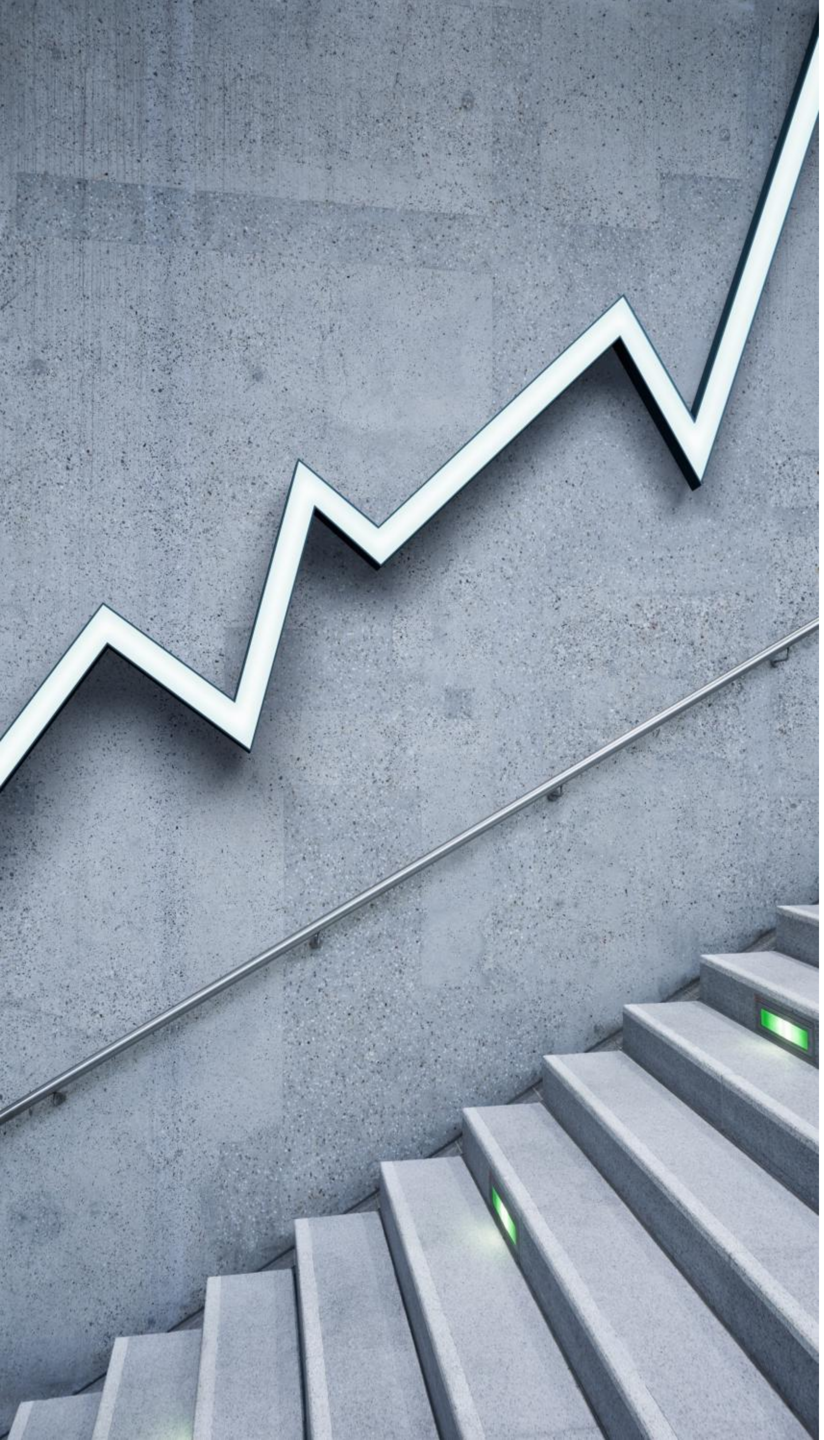

CIS 11051- Practical for Database Design

OPERATORS

CHECKING INSERTED DATA

- You can view the information using the SELECT statement.

```
SELECT * FROM table_name;
```

- The asterisk (*) means that it selects all fields (columns) from the table.
- To view specific information, we use the WHERE clause

```
SELECT * FROM table_name WHERE condition;
```

- Example:

```
SELECT *
FROM employees
WHERE department = 'IT';
```

CHECKING INSERTED DATA…

- You can view specific columns using the SELECT statement instead of retrieving all columns.
- Syntax:

```
SELECT column1, column2, column3
FROM table_name
WHERE condition;
```

Example:

```
SELECT EmployeeID, FirstName, LastName, Salary
FROM Employees
WHERE Salary > 50000;
```

COMPARISION OPERATORS …

Comparison operators are used in SQL to compare values. They are commonly used in WHERE clauses to filter records.

- **List of Comparison Operators in MySQL**

Operator	Description	Example
=	Equal to	WHERE age = 25
!= or <>	Not equal to	WHERE city != 'New York'
>	Greater than	WHERE salary > 50000
<	Less than	WHERE age < 30
>=	Greater than or equal to	WHERE experience >= 5
<=	Less than or equal to	WHERE price <= 1000

COMPARISION OPERATORS

- Syntax:

```
SELECT column_name
FROM table_name
WHERE column_name operator value;
```

- Example:

```
SELECT * FROM Customers
WHERE city = 'New York';
```

LOGICAL OPERATORS

There are some logical operators which help to create efficient queries.

- **BETWEEN** – Between an inclusive range
- **IN** – Specifies multiple possible values for a column
- **LIKE** – Search for a pattern
- **AND & OR** – logically combine multiple conditions within a WHERE clause.

BETWEEN OPERATOR

- The BETWEEN operator is used to select values within a range, within the bounds.

```
SELECT column1, column2,…
FROM table_name
WHERE column_name BETWEEN value1 AND value2;
```

- Example: You want to retrieve all employees whose ages fall between 30 and 40.

```
SELECT name, age
FROM employees
WHERE age BETWEEN 30 AND 40;
```

IN OPERATOR

- The **IN** operator allows you specify multiple values in a WHERE clause.

```
SELECT Column1, column2,….
FROM table_name
WHERE column_name IN (value1, value2,…..);
```

- Example: Let’s say you have a table of employees, and you want to find all employees with certain IDs,

```
SELECT name, department
FROM employees
WHERE employee_id IN (101, 102, 105);
```

This query would return the names and departments of employees with IDs 101, 102, and 105.

LIKE OPERATOR …

- The LIKE operator is used in a WHERE clause to search for a specified pattern in a column.

```
SELECT column1,column2,….
FROM table_name
WHERE column_name LIKE pattern;
```

- Using wildcards, it is possible to filter through strings in WHERE clauses efficiently.

  % **: A substitute for zero or more characters. (It matches any sequence of characters, including no characters at all)**

  _ **: A substitute for a single character. (It matches exactly one character at that position.)**

1. **% Wildcard Example:**
   - WHERE column_name **LIKE 'A%'** would match any string starting with "A" (e.g., "Apple", "A123", "A").
   - WHERE column_name **LIKE '%A'** would match any string ending with "A" (e.g., "Maria", "Sarah").
   - WHERE column_name **LIKE '%A%'** would match any string containing "A" anywhere in the text
2. **_ Wildcard Example:**
   - WHERE column_name **LIKE '_a'** will match any string that has **exactly two characters** where the first character can be anything and the second character must be "a" (e.g., "Aa", "Ba", "Ca").
   - WHERE column_name **LIKE 'a_'** will match any string that starts **with "a" and has exactly one more character** (e.g., "ab", "ac", "ad").
   - WHERE column_name **LIKE 'a__'** will match strings with **exactly three characters**, where the first character is "a" and the other two characters can be anything (e.g., "abc", "abd", "a12").
3. **Combination of % and _ Wildcard Example:**
   - WHERE column_name **LIKE 'A_%'** would match any string that starts with "A" and has at least one more character (e.g., "Apple", "Air").
   - WHERE column_name **LIKE '_A%'** would match any string where the second character is "A" (e.g., "BA", "CA", "DA").

AND & OR OPERATOR …

- The **AND** and **OR** operators are used to logically combine multiple conditions in the WHERE clause.
- **The AND operator returns records only if all conditions are TRUE. If any condition is FALSE, the row is not included.**
- Syntax:

```
SELECT column1, column2
FROM table_name
WHERE condition1 AND condition2;
```

Example:

```
SELECT EmployeeID, FirstName, Department, Salary
FROM Employees
WHERE Department = 'IT' AND Salary > 60000;
```

AND & OR OPERATOR

- **The OR operator returns records if at least one condition is TRUE. If all conditions are FALSE, the row is not included.**

- Syntax:

```
SELECT column1, column2
FROM table_name
WHERE condition1 OR condition2;
```

Example:

```
SELECT EmployeeID, FirstName, Department, Salary
FROM Employees
WHERE Department = ‘HR’ OR Salary = 50000;
```

THANK YOU !!