



SQL

Class 2

Agenda

Where clause in SQL

Order By Statement in SQL

Logical Operators in SQL

Where Statement

Used Restrict OR Filter Data

Syntax

```
SELECT Column Name  
FROM Table  
WHERE Column Name Comparison Operator Condition(s);
```

Comparison Operators

We have to use comparison operators with Where Statement in order to limit the rows returned in the results.

- < less than
- > greater than
- <= less than or equal to
- >= greater than or equal to
- <> Not equal to
- != Not equal to
- = equal to

Comparison Operators

Comparison Operators used to Compare Objects

Conditions could be Numeric Based OR Character Based

Numeric Based like Numbers (1234) datatype

- We do not use single Quotes (‘’)

Character Based like varChar2 or Char data type

- We must use Single Quotes (‘’)
- Anything in Single Quotes is Case Sensitive.

Task

- How can we find the salary of employee id 120?
- How can you display unique job ids in the company from employees table.
- How to display first name, job id, salary for all employees who earn less than or equal to 10000 monthly?
- How to display all the information for Stock Clerks.

How to test for NULL values

IS NULL operator

Syntax:

```
Select column Name  
From Table Name  
Where column name is Null / IS NOT  
NULL;
```

How to test for NULL values

NOT possible to test NULL values with comparison operator =,<> etc.

We use IS NULL Operator:

IS NULL

Selects only the rows where the specific column value is NULL

IS NOT NULL

Selects only the rows where the specific column has a value and IS NOT NULL

ORDER BY statement / Clause

Syntax:

```
SELECT Column Name  
FROM Table Name  
Order By Column Name (Asc OR Desc);
```

OR

```
SELECT Column Name  
FROM Table Name  
WHERE Condition(s)  
Order By Column Name (Asc OR Desc);
```

ORDER BY statement / Clause

Used to sort the results by a specific column

Last clause (section) in Select Statement

Two ways to sort:

Ascending and Descending

ASC (Default for column), DESC

Task

- How to display information about employees who report to the manager 114?
- How to figure out first name, last name, department id of employees that do not get commission and display last names in alphabetical order.
- How to display all the information for IT Programmers showing highest paying employee on top?
- How to display all employees who was hired on June 17th 1987

Logical Operators

Allow to filter by more than 1 condition
Result (True/False)

AND / OR / NOT/ BETWEEN/ IN Operator

AND

True AND True = True
False AND True = False
True AND FALSE = False
False AND False = False

OR

True OR True = True
True OR False = True
False OR True = True
False OR False = FALSE

Logical Operators

AND Operator

Syntax:

```
SELECT Column Name  
FROM Table Name  
WHERE Condition AND Condition;
```

Logical Operators

OR Operator

Syntax:

```
SELECT Column Name  
FROM Table Name  
WHERE Condition OR Condition;
```

Logical Operators

NOT Operator – reverse condition

Syntax:

```
SELECT Column Name  
FROM Table Name  
WHERE NOT Condition AND NOT Condition;
```

Logical Operators

LIKE Operator (WildCard)

Used in Where Clause to search for a specified pattern in the column

Syntax:

```
Select column Name  
From Table Name  
Where column name Like 'condition with % / _' ;
```


LIKE Operator

Used in Where Clause to search for a specified pattern in the column

Compares characters by using LIKE with % or _

Performs a wildcard search

% sign means any character or number zero or more times

_ character looks for a presence of any one single character

Task

- How to display first name, Salary, and job id of employees who earn more than or equal to 4000 or working as IT programmers.
- How can we see first name, Salary, and job id of employees who earn More than 3000 and they work as stock clerks. Also need to see returned data sorted by name.
- How can we find all employees who do not work in Department 50 and are not stock clerks.
- How can we see all people whose job id belongs to Sales?
- How can we display all employees who work for Departments 50, 60, 80.
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Logical Operators

IN Operator

Picks a range of multiple options from the same column

Allows you to specify multiple values in a Where Clause

It is a shorthand for OR operator

Syntax:

```
Select column Name
      From Table Name
Where column name IN (condition(s));
```

Logical Operators

BETWEEN Operator

Tests whether a value falls with a range of given boundary values
BETWEEN ... AND ...

Syntax:

```
Select column Name
      From Table Name
Where column name between condition AND
                                condition;
```

Task

- Verify everyone who was hired on June of 1996. Please display in ascending order by name.
- Display all employees whose last name ends with 'a'.
- Verify all employees who got hired from 1 July 1997 to 1 June 2000.
- Verify all the employees who are programmers, clerks and hr.
- Display all countries except Germany, Italy and Kuwait.
- Display all department names that start with 'C' and don't forget to sort results by department id in descending order.
- Display all employees' first names in which the third letter of the name is "u".
- 1:05 TIME