

SQL SELECT DISTINCT :-

It is used to return only unique values from a specified column in a table.

Syntax :-

```
SELECT DISTINCT Column_name  
FROM table_name;
```

Example :-

FirstName	Last Name	Password
Jai	Kumar	123
Jaya	Singh	123
Amit	Sharma	xyz

Command :-

```
SELECT Distinct Password  
FROM USER;
```

Output :-

Password
123
xyz

SQL WHERE CLAUSE :-

It is used to filter rows in a table based on a specified condition.

Syntax :-

```
SELECT Column_name
FROM table_name
WHERE Condition;
```

Example :-

FirstName	LastName	Age
Jai	Kumar	19
Jaya	Singh	20
Amit	Sharma	21

Table :- USER

Command :-

```
SELECT FirstName, LastName
FROM USER
WHERE Age > 20;
```

Output :-

FirstName	LastName
Amit	Sharma

SQL AND :-

The AND Operator returns true if both condition are true, and false otherwise.

Syntax:-

WHERE Condition1 AND Condition2;

SQL OR :-

ATUL KUMAR (LinkedIn/Twitter)
NOTES GALLERY / CODING BUGS (Telegram)

It returns true if either condition is true, and false if both conditions are false.

Syntax:-

WHERE Condition1 OR Condition2;

SQL NOT :-

It returns the opposite of a condition.

Syntax:-

WHERE NOT Condition;

AND, OR, NOT Operator are used to combine Conditions in a where clause to Create More complex Filtering Conditions.

SQL ORDER BY :-

It is used to sort the result of a query in ascending or descending order.

Syntax :-

```
SELECT Column1, column2, ...
FROM table-name
ORDER By Column1 [ASC][DESC], Column2
[ASC][DESC], ...
```

ASC :- It is used to sort the result in ascending order.

DESC :- It is used to sort the result in descending order.

Example :-

FirstName	LastName	Age
Jai	Kumar	49
Jaya	Singh	20
Amit	Sharma	21

Table :- User.

Command :-

```
SELECT * FROM user
ORDER BY Age;
```

Output :-

First Name	Last Name	Age
Jaya	Singh	20
Amit	Sharma	21
Jay	Kumar	49

INSERT INFO :-

It is used to insert data into a table.

Syntax :-

Insert into tablename (column1, column2,...)
values (value1, value2, ...);

Note :- These must be the same number of values as the same number of columns specified.

Example :-

FirstName	LastName	Age.
Jai	Kumar	10
Jaya	Singh	15
Amit	Sharma	20

Table :- user

Command :-

Insert into user (FirstName, LastName, Age)
values (abc, xyz, 25);

Output:-

First Name	Last Name	Age.
Jai	Kumar	10
Jaya	Singh	15
Amit	Sharma	20
abc	xyz	25

SQL NULL Values:-

It is used represent missing or unknown data.

Note:- Null is different from zero or empty string.

ATUL KUMAR (LinkedIn / Twitter)
NOTES GALLERY / CODING BUGS (Telegram)

Insert NULL value:-

INSERT INTO tablename (Column 1, Column 2, ...)
VALUES (value1, NULL, ...);

To check for Null values:-

IS NULL :-

SELECT Column 1, Column 2, ...
From table-name
WHERE Column 2 IS NULL;

IS NOT NULL :-

```
SELECT Column1, Column2, ...
FROM table-name
WHERE column1 IS NOT NULL;
```

SQL UPDATE :-

It is used to modify existing data in table.

Syntax :-

```
UPDATE table-name
SET Column1 = Value1, Column2 = Value2, ...
WHERE SomeColumn = SomeValue;
```

Syntax :- SET :-

It is used to specify the column and values to update.

Example :-

FirstName	LastName	Age
Jai	Kumar	10
Jaya	Singh	15
Amit	Sharma	20

Table :- Users

Command :-

UPDATE USERS

SET age = age + 1 ;

Output :-

FirstName	LastName	Age
Jai	Kumar	11
Jaya	Singh	16
Amit	Sharma	21

SQL DELETE :-

ATUL KUMAR (LinkedIn/Twitter)
 NOTES GALLERY/CODING BUGS (Telegram)

It is used to remove existing record from a table in a SQL Database.

Syntax :-

DELETE FROM tablename WHERE condition;

Note :-

This Operation is not reversible, so be careful when using DELETE statements !

SQL Wildcards :-

Wildcards are special characters used in SQL 'LIKE' operator to search for a specific pattern in a column of a table.

- The percent sign (%) represents zero, one or multiple characters.
- The underscore sign (_) represents one, single character.

SQL LIKE :-

It is used to search for a specific pattern in a column of a table.

Syntax :-

SELECT Column 1, Column 2, ...

FROM table_name

WHERE Column-name LIKE Pattern;

SQL IN :-

It is used to specify multiple values in a WHERE clause for filtering data.

Syntax :-

SELECT Column1, Column2...

FROM table-name

WHERE Column_name IN (value1, value2);

SQL Between :-

It is used to filter data based on a range of values in a WHERE clause.

Syntax :-

SELECT Column1, Column2,...

FROM table-name

WHERE Column_name Between

value1 AND value2;

SQL Alias :-

It is used to give a temporary name to a table or a column in a query.

Syntax :-

SELECT Column-name as alias-name
from table-name;

SQL UNION Operator :-

It is used to combine the result sets of two or more SELECT statements into a single result sets.

Note:-

It returns only distinct rows.

Syntax:-

```
SELECT Column_name
FROM table_name_1
UNION
SELECT Column_name
FROM table_name_2;
```

Example:-

SELECT A

1
2
3

Union

SELECT B

3
4
5

1
2
3
4
5

SQL GROUP BY :-

It is used to group rows that have the same values into summary rows, like "Find the number of customers in each city."

SQL HAVING :-

It is used to filter the results of a 'GROUP BY' query based on the values of an aggregate function.

ATUL KUMAR (LinkedIn / Twitter)

NOTES GALLERY / CODING BUGS (Telegram)

SQL EXISTS :-

It is used to check if a subquery returns any rows.

It returns a boolean value.

SQL ALL :-

It is used to compare a value with the result of a subquery.

It returns true if the value is true for all elements.

SQL ANY :-

It is also a Comparison Operator.
It returns true if the value is true for at least one element.

TYPES OF Error In SQL

- Syntax Errors :- These occur when SQL statements do not follow the correct syntax and structure of the language.
- Semantic Error :- These occur when the SQL statement is grammatically correct, But does not produce the desired result due to incorrect Logic.
- Constraint Violations :- These occur when the SQL violates one or more constraints on the database.
- Datatype Errors :- These occurs when data is inserted in a way that does not match the expected data type.
For Example :- Insert a String into a numeric field.