

SQL SELECT DISTINCT Statement

In **MS SQL Server**, **DISTINCT** is used to return unique values from a column or a combination of columns in a query. It removes duplicate records from the result set.

Syntax:

```
sql
SELECT DISTINCT column1, column2, ...
FROM table_name;
```

Example 1: DISTINCT on a Single Column

If you have a table `Employees` with duplicate `Department` values:

```
sql
SELECT DISTINCT Department FROM Employees;
```

Example 2: DISTINCT on Multiple Columns

If you want unique combinations of `Department` and `JobTitle`:

```
sql
SELECT DISTINCT Department, JobTitle FROM Employees;
```

This ensures no two rows have the same combination of `Department` and `JobTitle`.

Things to Remember

- **DISTINCT** applies to all selected columns, meaning the entire row must be unique.
- It may impact performance on large datasets since SQL Server has to scan and remove duplicates.

Interview questions

Basic Questions

1. *What is the purpose of the `DISTINCT` keyword in SQL?*

Answer:

The **DISTINCT** keyword is used to retrieve unique values from a column or a combination of columns, eliminating duplicate records in the result set.

✓ Example:

sql

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```
SELECT DISTINCT Department FROM Employees;
```

This query returns unique department names from the `Employees` table.

2. How does `DISTINCT` differ from `GROUP BY` ?

Answer:

- `DISTINCT` removes duplicate rows and returns only unique values.
- `GROUP BY` is used for aggregating data and is often used with aggregate functions like `COUNT()`, `SUM()`, etc.

✓ Example using `DISTINCT` :

sql

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```
SELECT DISTINCT Department FROM Employees;
```

✓ Example using `GROUP BY` :

sql

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```
SELECT Department FROM Employees GROUP BY Department;
```

Both queries return unique departments, but `GROUP BY` is more powerful when used with aggregates.

3. Can `DISTINCT` be used with multiple columns? If yes, how does it work?

Answer:

Yes, `DISTINCT` can be used with multiple columns. It ensures that the combination of values across all selected columns is unique.

✓ Example:

sql

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```
SELECT DISTINCT Department, JobTitle FROM Employees;
```

This query returns unique department and job title combinations.