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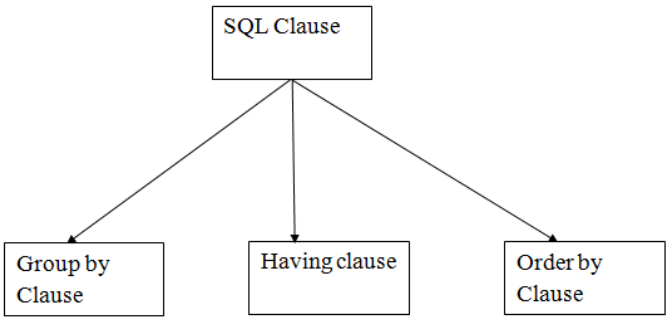
INTRODUCTION OF CLAUSES

SQL Clauses

The following are the various SQL clauses:



GROUP BY Clause

SQL GROUP BY statement is used to arrange identical data into groups. The GROUP BY statement is used with the SQL SELECT statement.

The GROUP BY statement follows the WHERE clause in a SELECT statement and precedes the ORDER BY clause.

The GROUP BY statement is used with aggregation function.

EX

```
SELECT column
FROM table_name
WHERE conditions
GROUP BY column
ORDER BY column
```

TABLE PRODUCT_Shravan

PRODUCT	COMPANY	QTY	RATE	COST
Item1	Com1	2	10	20
Item2	Com2	3	25	75
Item3	Com1	2	30	60
Item4	Com3	5	10	50
Item5	Com2	2	20	40
Item6	Cpm1	3	25	75
Item7	Com1	5	30	150
Item8	Com1	3	10	30
Item9	Com2	2	25	50
Item10	Com3	4	30	120

EX

```
SELECT COMPANY, COUNT(*)
FROM PRODUCT_Shravan
GROUP BY COMPANY;
```

Output:

Com1 5

Com2 3

Com3 2

HAVING

HAVING clause is used to specify a search condition for a group or an aggregate.

Having is used in a GROUP BY clause. If you are not using GROUP BY clause then you can use HAVING function like a WHERE clause.

EX

```
SELECT COMPANY, COUNT(*)
FROM PRODUCT_MAST
GROUP BY COMPANY
HAVING COUNT(*)>2;
```

Output:

Com1 5

Com2 3

ORDER BY

The ORDER BY clause sorts the result-set in ascending or descending order.

It sorts the records in ascending order by default. DESC keyword is used to sort the records in descending order.

CUSTOMER_ID	NAME	ADDRESS
12	Shravan	India
23	Ramya	Bangladesh
34	Ranjit	Koeria
45	Raju	Uganda

EX

```
SELECT *
FROM CUSTOMER
ORDER BY NAME;
```

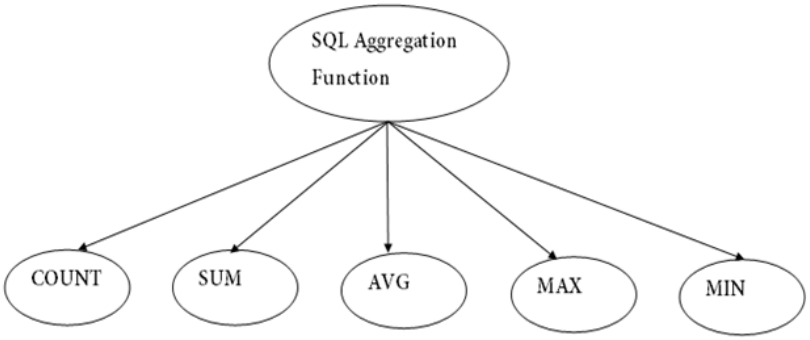
OUTPUT:

CUSTOMER_ID	NAME	ADDRESS
45	Raju	uganda
23	Ramya	bangladesh
34	Ranjit	Koeria
12	Shravan	india

Aggregate Functions

SQL aggregation function is used to perform the calculations on multiple rows of a single column of a table. It returns a single value.

It is also used to summarize the data.



COUNT FUNCTION

COUNT function is used to Count the number of rows in a database table. It can work on both numeric and non-numeric data types.

COUNT function uses the COUNT(*) that returns the count of all the rows in a specified table. COUNT(*) considers duplicate and Null.

EX

```
SELECT COUNT(*)
FROM PRODUCT_Shravan;
```

Output:

Ex COUNT with WHERE

```
SELECT COUNT(*)
FROM PRODUCT_Shravan;
WHERE RATE>=20;
```

Output:

7

Ex COUNT() with DISTINCT

```
SELECT COUNT(DISTINCT COMPANY)
FROM PRODUCT_Shravan;
```

Output:

3

Ex COUNT() with GROUP BY

```
SELECT COMPANY, COUNT(*)
FROM PRODUCT_MAST
GROUP BY COMPANY;
```

Output:

Com1 5

Com2 3

Com3 2

Ex COUNT() with HAVING

```
SELECT COMPANY, COUNT(*)
FROM PRODUCT_Shravan
GROUP BY COMPANY
HAVING COUNT(*)>2;
```

Output:

Com1 5

Com2 3

SUM Function

Sum function is used to calculate the sum of all selected columns. It works on numeric fields only.

```
SELECT SUM(COST)
FROM PRODUCT_MAST;
```

Output:

670

Ex SUM() with WHERE

```
SELECT SUM(COST)
FROM PRODUCT_Shravan
WHERE QTY>3;
```

Output:

320

Ex SUM() with GROUP BY

```
SELECT SUM(COST)
FROM PRODUCT_Shravan
WHERE QTY>3
GROUP BY COMPANY;
```

Output:

Com1 150

Com2 170

Example: SUM() with HAVING

```
SELECT COMPANY, SUM(COST)
FROM PRODUCT_Shravan
GROUP BY COMPANY
HAVING SUM(COST)>=170;
```

Output:

Com1 335

Com3 170

AVG function

The AVG function is used to calculate the average value of the numeric type. AVG function returns the average of all non-Null values.

Ex

```
SELECT AVG(COST)
FROM PRODUCT_Shravan;
```

Output:

67.00

MAX Function

MAX function is used to find the maximum value of a certain column. This function determines the largest value of all selected values of a column.

EX

```
SELECT MAX(RATE)
FROM PRODUCT_MAST;
```

Output:

30

MIN Function

MIN function is used to find the minimum value of a certain column. This function determines the smallest value of all selected values of a column.

EX

```
SELECT MIN(RATE)
FROM PRODUCT_MAST;
```

Output:

10