ORDER BY AND GROUP BY STATEMENT (SQL)

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ORDER BY STATEMENT: -

Order by statement in SQL is used to fetch the data in sorted form either in ascending or descending order.

NOTE:- by default order is ascending.

Syntax:-

Select * from table_name order by col_name asc|desc;

table_name- name of table from which data will be fetched.

col_name- name of column according to which data will be sorted.

asc- for ascending order

desc- for descending order

we used either asc or desc.

Lets understand the concept of these statement with example.

Consider a table STUDENT

ROLL_NO	NAME	BRANCH	CITY	MARKS
101	VIKAS	CS	LUCKNOW	60
102	DINESH	CS	KANPUR	70
103	GYAN	ME	LUCKNOW	80
104	HIMANSHU	EE	VARANASI	50
105	SANTOSH	EE	LUCKNOW	85

To select the details from table STUDENT in ascending order by marks.

Select * from STUDENT order by MARKS asc;

This will fetch the information as follow: -

ROLL_NO	NAME	BRANCH	CITY	MARKS
104	HIMANSHU	EE	VARANASI	50
101	VIKAS	CS	LUCKNOW	60
102	DINESH	CS	KANPUR	70
103	GYAN	ME	LUCKNOW	80
105	SANTOSH	EE	LUCKNOW	85

To select the details from table STUDENT in descending order by MARKS.

Select * from STUDENT order by MARKS desc;

ROLL_NO	NAME	BRANCH	CITY	MARKS
105	SANTOSH	EE	LUCKNOW	85
103	GYAN	ME	LUCKNOW	80
102	DINESH	CS	KANPUR	70
101	VIKAS	CS	LUCKNOW	60
104	HIMANSHU	EE	VARANASI	50

To sort on the basis of multiple columns:

Select * from table_name order by col1 asc|desc, col2 asc|desc;

Group by:-

It is used with select statement and follow where clause. It arranges similar data into groups.

Syntax:- select col_name1, co_name2,… from table_name [where condition] group by col_name;

Consider a table STUDENT

ROLL_NO	NAME	BRANCH	CITY	MARKS
101	VIKAS	CS	LUCKNOW	60
102	DINESH	CS	KANPUR	70

103	GYAN	ME	LUCKNOW	80
104	HIMANSHU	EE	VARANASI	50
105	SANTOSH	EE	LUCKNOW	85

To display number of student belongs to each city.

Select city, count(city) from student group by city;

CITY	Count(CITY)
LUCKNOW	3
KANPUR	1
VARANASI	1

Having Clause:

Note:- where clause could not be used with aggregate functions.

if we are going to used count() as an condition in select statement then having clause is used in place of where clause.

Consider a table STUDENT

ROLL_NO	NAME	BRANCH	CITY	MARKS
101	VIKAS	CS	LUCKNOW	60
102	DINESH	CS	KANPUR	70
103	GYAN	ME	LUCKNOW	80
104	HIMANSHU	EE	VARANASI	50
105	SANTOSH	EE	LUCKNOW	85
106	VINOD	EE	VARANASI	50
107	GOVIND	ME	LUCKNOW	80

Suppose we have to fetch the name of cities from which more than one student belongs in above table.

Select CITY from STUDENT group by CITY having count(CITY)>1;

The above statement will return city LUCKNOW, VARANASI.

CITY
LUCKNOW
VARANASI

References:

- Korth, Silbertz, Sudarshan," Database Concepts", McGraw Hill.
- Date C J, " An Introduction to Database Systems", Addision Wesley.
- Bipin C. Desai, " An Introduction to Database Systems", Gagotia Publications.
- P.K. Yadav,"Database Management System", kataria & sons.