Group By:

The Group By clause groups rows that have the same values into summary rows, like“ find the number of customers in each country”.

The Group By clause is often used with aggregate functions like SUM(), COUNT(), MIN(), MAX(), AVG() to group the result-set by one or more columns.

Why Group By is used?

If I run this query…

```
select orderid, SUM(unitprice), SUM(quantity)
from orderdetails
where orderid  in (122,433,888,190);

-- the sum will return the sum of entire column of unitprice.
-- same goes for the quantity column  (This will we receive an error)
```

This is where the Group By clause comes

```
select orderid,  SUM(unitprice), SUM(quantity)
from orderdetails
where orderid  in (122,433,888,190)
group by orderid;
```

CAST Statement:

Converts column and statement to specified data type.

Two formats:

Cast (<value> as <type>)

Or

<value>::<type>

Example:

```
select supplierid, round( avg(unitprice)::numeric ,2) as “Total”
from products
where supplierid in (23,24,29,30)
group by supplierid;
```

Having statement:

Defines a condition that selects a subset of rows from the answer set based on the group functions.

When you use a Group By function, Having is like using a where clause against the interim answer set.

The syntax rules for the Having statement is same as the Where.

Example:

```
select country, count(customerid) as “Total”
from orderdetails
group by county
having count(customerid) > 5
order by 2 desc;
```