Hi class,

The SQL GROUP BY Clause is used to output a row across specified column values.  It is typically used in conjunction with aggregate functions such as SUM or Count to summarize values.  In SQL groups are unique combinations of fields.  Rather than returning every row in a table, when values are grouped, only the unique combinations are returned.

This is useful for when you want to grab specific data from the table, and it does not show repeated values. This is great for finding or figuring out how many distinct values there are.

SELECT SalesOrderID

FROM Sales.SalesOrderDetail

WHERE OrderQty <= 100

GROUP BY SalesOrderID. 🡨 This must match the select statement to work.

There are a few things to notice in this statement. The columns are separated by commas when using the GROUP BY clause. Also, the same list that you are looking for must be in the select statement or the statement will fail. That is how you can avoid having a failed statement.

When using the aggregate function, you can either compute the result on all values or distinct values

SELECT COUNT(SalesOrderID)  
FROM Sales.SalesOrderDetail

Useful aggregate functions:

* AVG() - Returns the average value
* COUNT() - Returns the number of rows
* FIRST() - Returns the first value
* LAST() - Returns the last value
* MAX() - Returns the largest value
* MIN() - Returns the smallest value
* SUM() - Returns the sum

When it comes to using both functions together it can be tricky and confusing. It is easier to start it off and begin slow and think about what you want your statement to pull. Starting off form a simple select statement is the best way to do this. Then you can begin adding the aggregate function and once you have that figured out you can tie that into the GROUP BY function.

SELECT SalesOrderID,  
 ProductID,  
 OrderQty\* UnitPrice As ExtendedPrice  
FROM   Sales.SalesOrderDetail

Then add your GROUP BY function

SELECT   SalesOrderID,

SUM(OrderQty \* UnitPrice) AS TotalPrice

FROM     Sales.SalesOrderDetail

GROUP BY SalesOrderID

Resources:

(2019, April 16). Summarize Your SQL Results with the GROUP BY clause. Retrieved from <https://www.essentialsql.com/get-ready-to-learn-sql-server-6-group-and-summarize-your-results/>

(n.d.). Retrieved from <http://www-db.deis.unibo.it/courses/TW/DOCS/w3schools/sql/sql_functions.asp.html>