/\*

The GROUP BY clause will collect all of the rows together that are specified in the select statement (columns)

and will then allow aggregate functions to be performed on the one or more columns

\*/

--EXAMPLES OF GROUP BY CLAUSE

SELECT [SalesOrderID]

, [CarrierTrackingNumber]

, [OrderQty]

, [ProductID]

, [UnitPrice]

, [UnitPriceDiscount]

, [LineTotal]

FROM [AdventureWorks2012]. [Sales]. [SalesOrderDetail]--<<why did this query execute even though it states Joins DB? because I used the 'FQN'

--121317 rows

--Notice, we have many different SalesOrderID values

--Filter the query with a specific SalesOrderID

SELECT [SalesOrderID]

, [CarrierTrackingNumber]

, [OrderQty]

, [ProductID]

, [UnitPrice]

, [UnitPriceDiscount]

, [LineTotal]

FROM [AdventureWorks2012]. [Sales]. [SalesOrderDetail]

Where SalesOrderID = '43659'

--12 rows

--26 OrderQty

--What was the total quantity ordered for this sales order? Use the group by command to group the salesorderid and its Qty totals

SELECT [SalesOrderID], SUM ([OrderQty]) AS 'Total Qty'

FROM [AdventureWorks2012]. [Sales]. [SalesOrderDetail]

Where SalesOrderID = '43659'

GROUP BY [SalesOrderID]

ORDER BY [SalesOrderID]

--How many SalesOrders were there for this Order? -- Use the Count function!

SELECT [SalesOrderID], SUM ([OrderQty]) AS 'Total Qty', COUNT (SalesOrderID) as TotalOrders

FROM [AdventureWorks2012]. [Sales]. [SalesOrderDetail]

WHERE [SalesOrderID] IN (43659)

GROUP BY [SalesOrderID]

ORDER BY [SalesOrderID]

--How many SalesOrders were there for every Order? -- Use the Count function!

SELECT [SalesOrderID], SUM ([OrderQty]) AS 'Total Qty', COUNT (\*) as TotalOrders

FROM [AdventureWorks2012]. [Sales]. [SalesOrderDetail]

--WHERE [SalesOrderID] IN (43659, 43660, 43661, 43662)

GROUP BY [SalesOrderID]

ORDER BY [SalesOrderID]

--Once the query has grouped by Total Qty and Total Orders, we want to ask the question; of the grouped totals, can we filter the group by statement.

--Answer: Use the Having clause

--Further filtering the GROUP BY clause by using the HAVING clause.

--Example of Having

SELECT [SalesOrderID], SUM ([OrderQty]) AS 'Total Qty', COUNT (\*) as TotalOrders

FROM [AdventureWorks2012]. [Sales]. [SalesOrderDetail]

--WHERE [SalesOrderID] IN (43659, 43660, 43661, 43662)

GROUP BY [SalesOrderID]

HAVING COUNT (\*) > 25 --<< Having clause when executed, will filter the GROUP BY results based on this condition

ORDER BY [SalesOrderID]