Florabel Ituralde HW 3A - SQL 03 - TSQL Chapter 3

**1. GROUPING and AGGREGATING Data.**

- Grouping uses the GROUP BY Clause to return the number of rows from what was specified in the query. While Aggregating uses aggregate functions such as SUM, AVG, COUNT, etc. to perform calculations on a group of rows that can be defined using the GROUP BY clause. When using these two queries together, it is a convenient way to return specific amount of data that a group represents from a table.

Reference:

<https://codingsight.com/the-art-of-aggregating-data-in-sql-from-simple-to-sliding-aggregations/>

**2. SUBQUERIES.**

**- The query nested inside a larger query is called the Subquery. It is often used with the SELECT, INSERT, UPDATE and DELETE statements to return single or multiple records when used with other comparison operators. Subquery is a way to perform an inner query if you need to extract a result to be used in the outer or parent query after it was executed. It is used to better filter out your results from the database.**

**Reference:**

<https://www.w3resource.com/sql/subqueries/understanding-sql-subqueries.php>

**3.  SETS and SET THEORY.**

- Sets is a collection of correlated data, while Set Theory is a study of the relations within each Sets that defines its mathematical concept. It is imperative to know the importance of Set Theory when working on databases in SQL to better understand its concept and to learn how are the data correlated to each other before writing a query.

Reference:

<https://medium.com/basecs/set-theory-the-method-to-database-madness-5ec4b4f05d79>

**4.  CROSS APPLY and CROSS JOIN.**

- Cross Apply is used to return only those records from a table where the matching rows are not null, or it has a matching value on table valued function. While Cross Join uses two tables and creates one row matches to all the rows from the other table which creates a Cartesian Product. Cross Apply and Cross join are often used to compare data results from one table and another to better analyze and asses the data.

Reference:

<https://www.sqlshack.com/the-difference-between-cross-apply-and-outer-apply-in-sql-server/#:~:text=Now%2C%20let's%20use%20the%20CROSS,semantically%20similar%20to%20INNER%20JOIN.&text=CROSS%20APPLY%20returns%20only%20those,of%20the%20table%20valued%20function.>