

Day 40 - 90 days of Analytics: CTEs

In today's video, we looked at CTEs (Common Table Expressions) in SQL queries

The following were mentioned

-A **CTE (Common Table Expression)** is a one-time result set that only exists for the duration of the query. It allows us to refer to data within a single SELECT statement's execution scope. It is temporary because its result cannot be stored anywhere and will be lost as soon as a query's execution is completed.

-The **WITH** clause is used to specify a Common Table Expression. It can have one or more comma-separated subclauses.

-A general syntax with the **WITH** clause is as follows

```
WITH name_for_summary_data
AS (SELECT Statement)
SELECT columns
FROM name_for_summary_data
WHERE conditions <=> (SELECT column FROM name_for_summary_data)
[ORDER BY columns];
```

In the syntax:

- We first specify the CTE name that will be referred to later in a query.
- The next step is to create a list of comma-separated columns. It ensures that the number of columns in the CTE definition arguments and the number of columns in the query must be the same. If we have not defined the CTE arguments' columns, it will use the query columns that define the CTE.
- After that, we use the AS keyword after the expression name and then define a SELECT statement whose result set populates the CTE.
- Finally, we use the CTE name in a query such as the SELECT statement.

-Examples with CTEs

```
WITH female_staff
AS (SELECT *
    FROM staff_db.staffdemographic
    WHERE Gender = 'Female'
)
SELECT Firstname, Age, Gender
FROM female_staff
WHERE Age >= (SELECT AVG(Age) FROM female_staff);
```

-It should be noted that we can have a CTE in another CTE.

Link to the YouTube Recording: https://www.youtube.com/watch?v=W-wWTV_8Tok

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