Common Table Expression (CTE)

A common table expression (CTE) can be thought of as a temporary result set that is defined within the execution scope of a single SELECT, INSERT, UPDATE, DELETE, or CREATE VIEW statement. A CTE is similar to a derived table in that it is not stored as an object and lasts only for the duration of the query. Unlike a derived table, a CTE can be self-referencing and can be referenced multiple times in the same query.

Structure of a CTE

A CTE is made up of an expression name representing the CTE, an optional column list, and a query defining the CTE. After a CTE is defined, it can be referenced like a table or view can in a SELECT, INSERT, UPDATE, or DELETE statement. A CTE can also be used in a CREATE VIEW statement as part of its defining SELECT statement. The basic syntax structure for a CTE is:

WITH expression_name [(column_name [,...n])] AS

 (CTE_query_definition)

SELECT <column_list>

FROM expression_name;

Example

```
WITH TEMP (rating, avgage) AS
    (
        SELECT S.rating, AVG(S.age) AS avgage
           FROM Sailors S
           GROUP BY S.rating
    )

SELECT TEMP.rating, TEMP.avgage
FROM TEMP
WHERE TEMP.avgage =
  (SELECT MIN(TEMP.avgage)
   FROM TEMP
  )
```