

CTES VS. SUBQUERIES

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WHAT IS A CTE?

```
WITH EmployeesWithHighSales AS (  
    SELECT EmployeeID  
    FROM Sales  
    WHERE Amount > 1000  
    GROUP BY EmployeeID  
)  
  
SELECT E.EmployeeID, E.FirstName, E.LastName  
FROM Employees E  
JOIN EmployeesWithHighSales HS ON E.EmployeeID = HS.EmployeeID;
```

A Common Table Expression (CTE) is a named temporary result set that you can reference within a SELECT, INSERT, UPDATE, or DELETE statement.

It helps improve the readability and organization of complex SQL queries. CTEs are defined using the WITH clause.

WHAT IS A SUBQUERY?

```
SELECT EmployeeID, FirstName, LastName
FROM Employees
WHERE EmployeeID IN (SELECT DISTINCT EmployeeID FROM Sales);
```

A subquery, or inner query, is a query nested within another query.

Subqueries are enclosed in parentheses and can appear in various parts of a SQL statement, such as the SELECT, FROM, WHERE, or HAVING clauses.

PROS & CONS - CTE

Pros:

- Readability
- Clarity for optimization
- Referenced multiple times in the same query
- Clear separation

Cons:

- Limited to one query
- May not always improve performance
- Can get too complex with larger queries

PROS & CONS - SUBQUERIES

Pros:

- Suitable for simple or common queries
- Great for specific logic or condition
- Straightforward with aggregations and comparisons

Cons:

- Usually designed for single-use scenarios
- Issues with NULL values
- Performance impact
- Can get messy with multiple nestings, creating less readability

**WHICH DO
YOU PREFER?**

**CTES OR
SUBQUERIES?**

**COMMENT
BELOW!**

