



SQL Join vs Subquery



harikamoluguram27

[Read](#)[Discuss](#)[Courses](#)[Practice](#)

What are [Joins](#)?

A join is a query that combines records from two or more tables. A join will be performed whenever multiple tables appear in the FROM clause of the query. The select list of the query can select any columns from any of these tables. If join condition is omitted or invalid then a Cartesian product is formed. If any two of these tables have a column name in common, then must qualify these columns throughout the query with table or table alias names to avoid ambiguity. Most join queries contain at least one join condition, either in the FROM clause or in the WHERE clause.

what is [Subquery](#)?

AD

A Subquery or Inner query or Nested query is a query within SQL query and embedded within the WHERE clause. A Subquery is a SELECT statement that is embedded in a clause of another SQL statement. They can be very useful to select rows from a table with a condition that depends on the data in the same or another table. A Subquery is used to return data that will be used in the main query as a condition to further restrict the data to be retrieved. The subquery can be placed in the following SQL clauses they are WHERE clause, HAVING clause, FROM clause.

Advantages Of Joins:

- The advantage of a join includes that it executes faster.
- The retrieval time of the query using joins almost always will be faster than that of a [subquery](#).

- By using joins, you can minimize the calculation burden on the database i.e., instead of multiple queries using one join query. This means you can make better use of the database's abilities to search through, filter, sort, etc.

Disadvantages Of Joins:

- Disadvantage of using joins includes that they are not as easy to read as subqueries.
- More joins in a query means the database server has to do more work, which means that it is more time consuming process to retrieve data
- As there are different types of joins, it can be confusing as to which join is the appropriate type of join to use to yield the correct desired result set.
- Joins cannot be avoided when retrieving data from a normalized database, but it is important that joins are performed correctly, as incorrect joins can result in serious performance degradation and inaccurate query results.

Advantages Of Subquery:

- Subqueries divide the complex query into isolated parts so that a complex query can be broken down into a series of logical steps.
- It is easy to understand and code maintenance is also at ease.
- Subqueries allow you to use the results of another query in the outer query.
- In some cases, subqueries can replace complex joins and unions.

Disadvantages of Subquery:

- The optimizer is more mature for MYSQL for joins than for subqueries, so in many cases a statement that uses a subquery can be executed more efficiently if you rewrite it as join.
- We cannot modify a table and select from the same table within a subquery in the same SQL statement.

Conclusion : A subquery is easier to write, but a joint might be better optimized by the server. For example a Left Outer join typically works faster because servers optimize it.

Last Updated : 07 Nov, 2022

17

Similar Reads

1. Difference between Nested Subquery, Correlated Subquery and Join Operation
2. SQL | Join (Cartesian Join & Self Join)