

1. In SQL Server, assuming you can find the result by using both joins and subqueries, which one would you prefer to use and why?

I prefer to use subqueries, because subquery showed me a clear logic. I can clearly figure out the commands (like delete, select, and update) on which sub-table.

However, in some conditions, join can be faster than an equivalent subquery because the server might be able to optimize it better. So this is a competition between the computing speed and the readability. Depending on the server condition and team requirement, I will vary my choice.

2. What is CTE and when to use it?

A CTE is a common table expression. That will create a recursive query which replaces a redundant long code. In order to simplify various classes of SQL Queries for which a derived table was just unsuitable, CTE is widely used.

3. What are Table Variables? What is their scope and where are they created in SQL Server?

The table variable is a special type of the local variable that helps to store data temporarily, similar to the temp table in SQL Server. In fact, the table variable provides all the properties of the local variable, but the local variables have some limitations, unlike temp or regular tables.

If we want to declare a table variable, we have to start the DECLARE statement which is similar to local variables. The name of the local variable must start with at(@) sign. The TABLE keyword specifies that this variable is a table variable. After the TABLE keyword, we have to define column names and datatypes of the table variable in SQL Server.

4. What is the difference between DELETE and TRUNCATE? Which one will have better performance and why?

Delete command is useful to delete all or specific rows from a table specified using a Where clause. The truncate command removes all rows of a table. We cannot use a Where clause in this.

DELETE is a DML(Data Manipulation Language) command and is used when we specify the row(tuple) that we want to remove or delete from the table or relation. The DELETE command can contain a WHERE clause. If WHERE clause is used with DELETE command then it remove or delete only those rows(tuple) that satisfy the condition otherwise by default it removes all the tuples(rows) from the table.

TRUNCATE is a DDL(Data Definition Language) command and is used to delete all the rows or tuples from a table. Unlike the DELETE command, TRUNCATE command does not contain a WHERE clause. In the TRUNCATE command, the transaction log for each deleted data page is recorded. Unlike the DELETE command, the TRUNCATE command is fast. Like DELETE, we can rollback the data even after using the TRUNCATE command.

5. What is Identity column? How does DELETE and TRUNCATE affect it?

The IDENTITY column property is specified as part of the CREATE TABLE command or at any time in the life cycle of a table using the ALTER TABLE command. In the latter case, you need to create a new column. The property tells SQL Server to generate values for a column automatically. A new number is automatically generated for each additional row of that column starting at the seed and incrementing at intervals determined by the increment.

Delete: It retains the identity and does not reset it to the seed value.

Truncate: Truncate command reset the identity to its seed value.

6. What is the difference between “delete from table\_name” and “truncate table table\_name”?

Delete command is useful to delete all or specific rows from a table specified using a Where clause. The truncate command removes all rows of a table. We cannot use a Where clause in this.