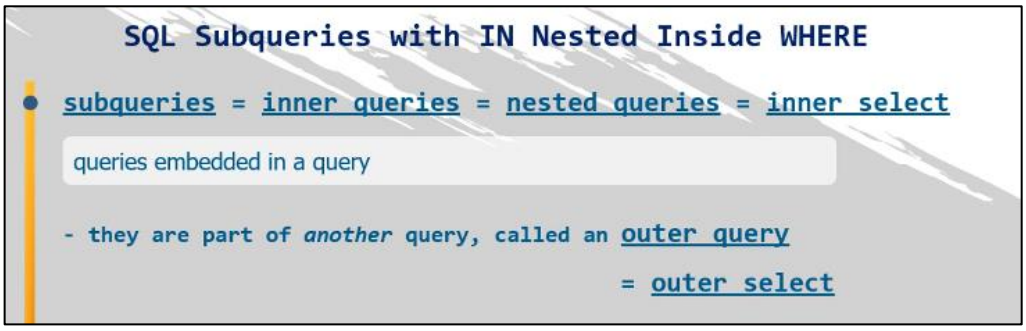
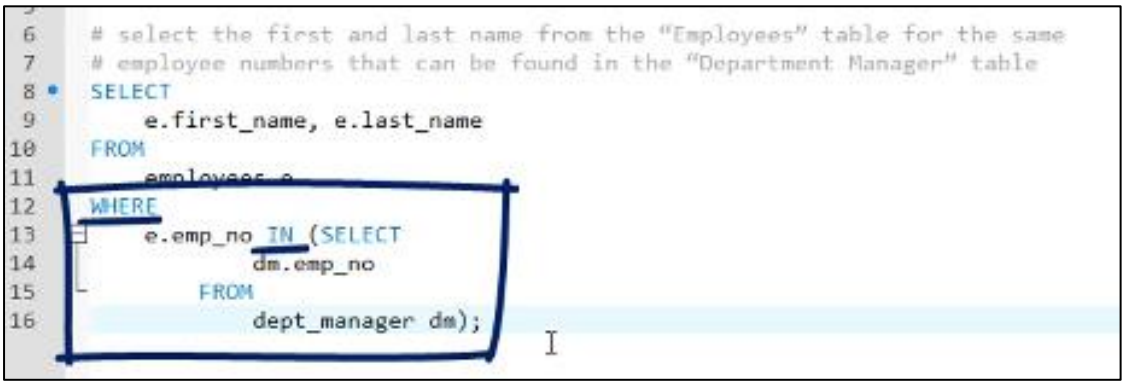
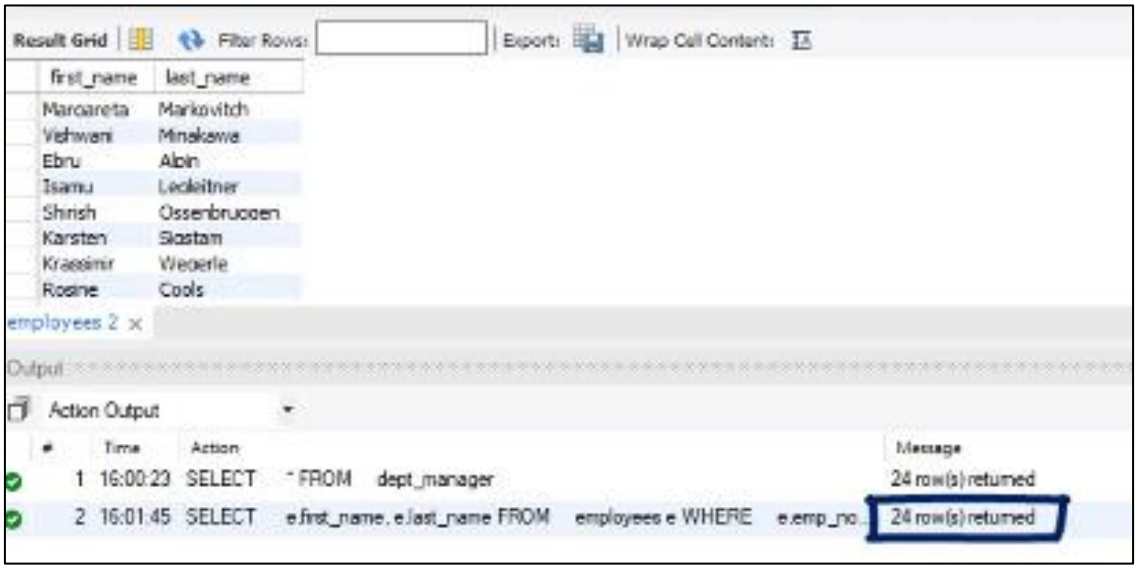
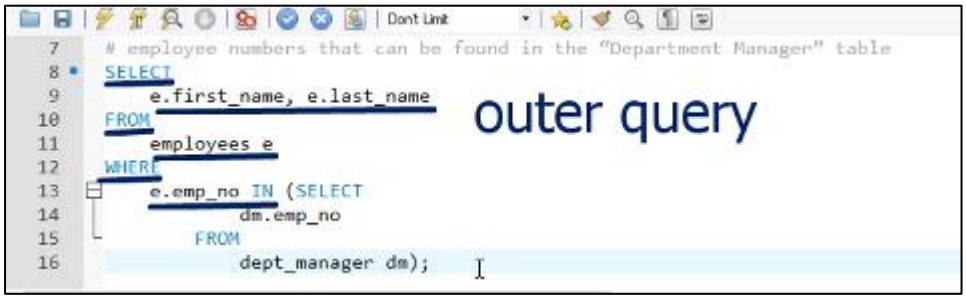


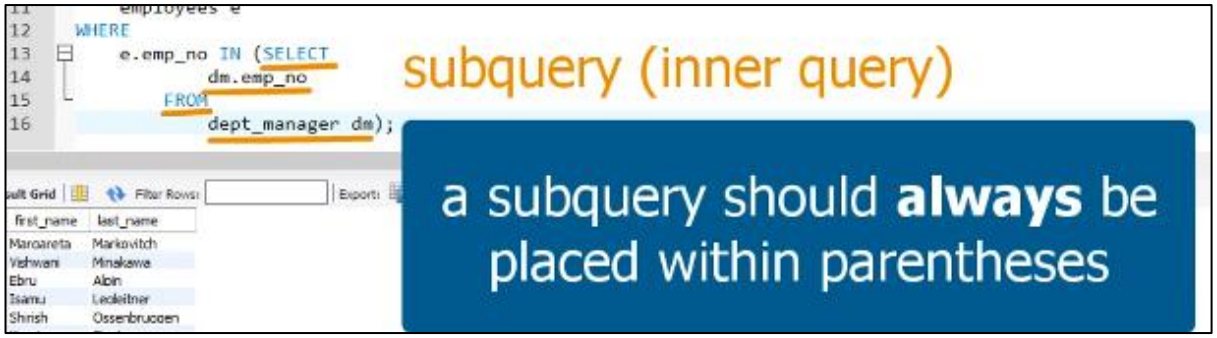
As their name suggests, subqueries are queries embedded in a query. They are also called inner queries, or nested queries, and they are part of another query called an outer query. Alternative names for these SQL features are inner select and outer select, respectively. Subqueries can be applied in many ways. Nevertheless, the main idea is the same. Most often, a subquery is employed in the where clause of a select statement.

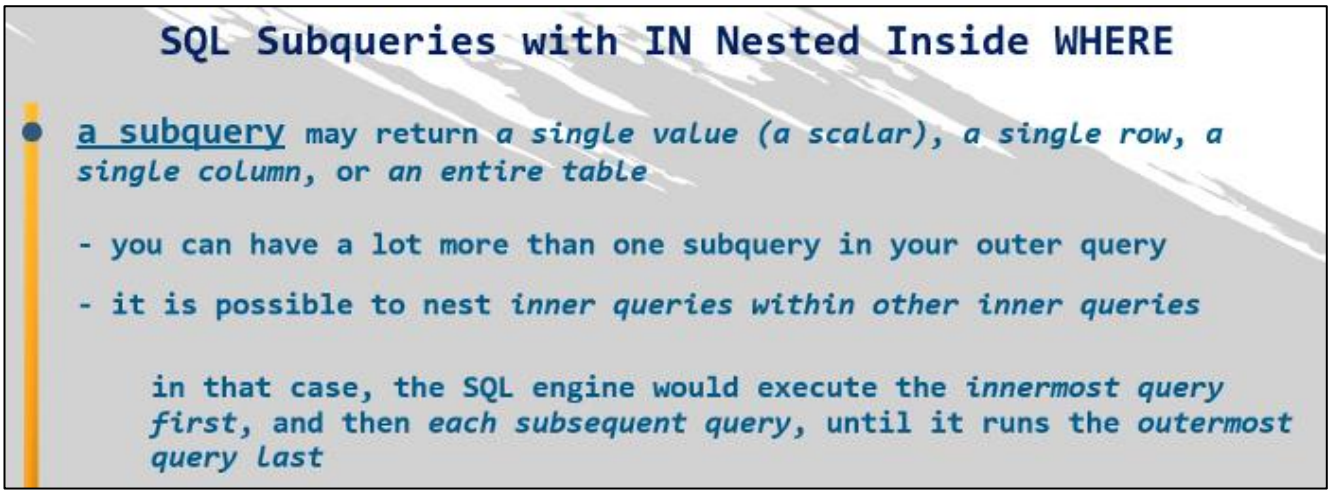
A really simple and interesting take on sub-queries:



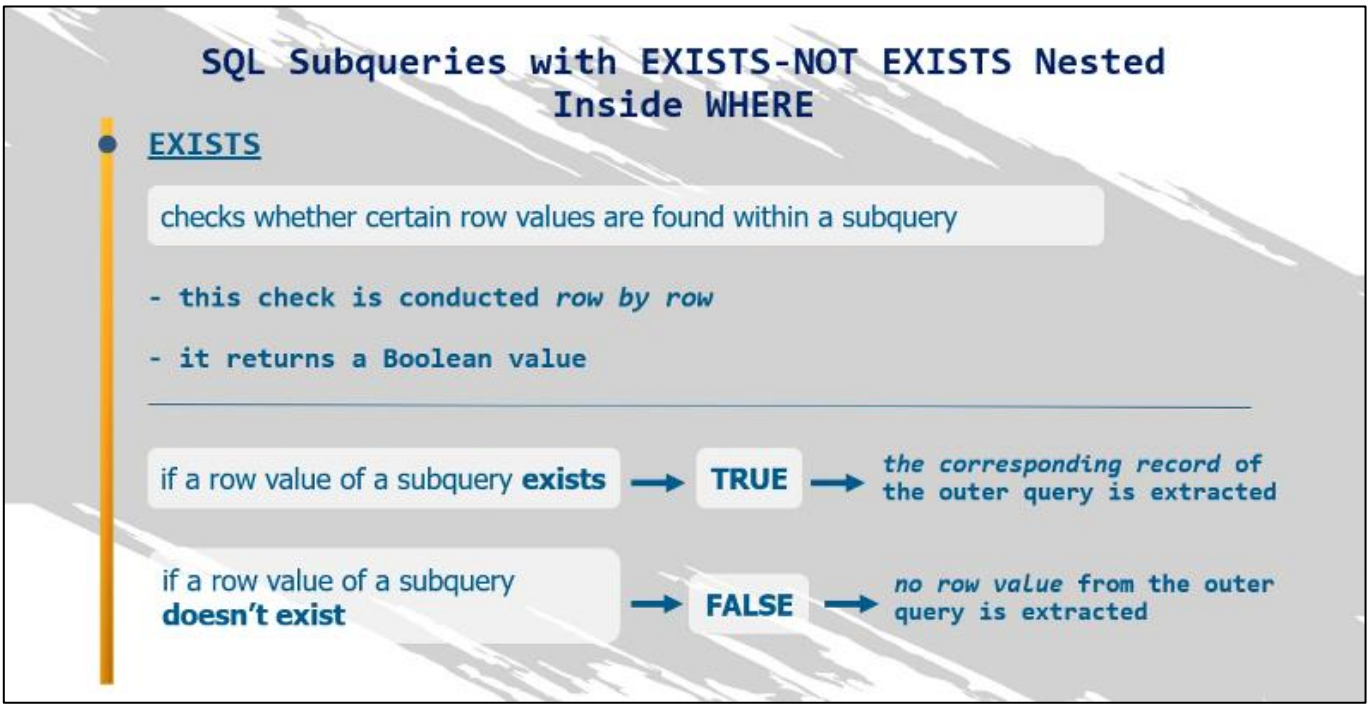




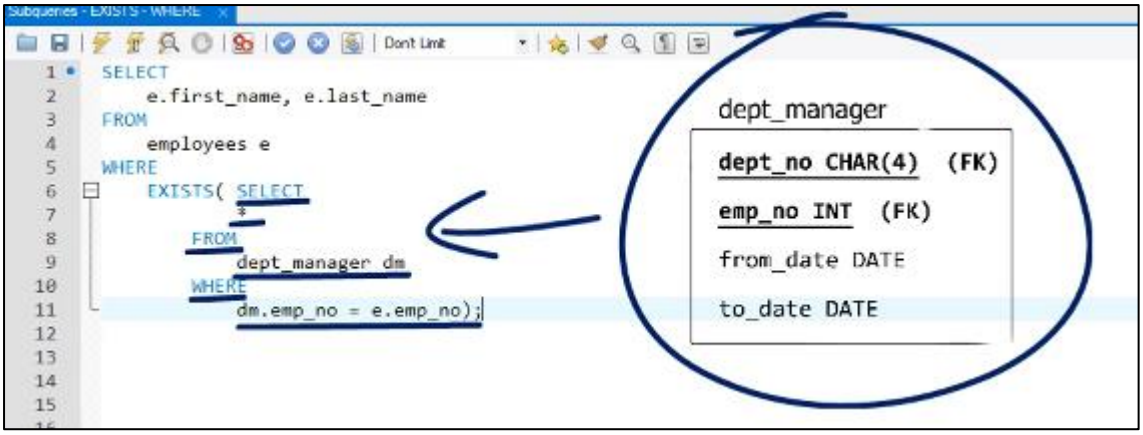


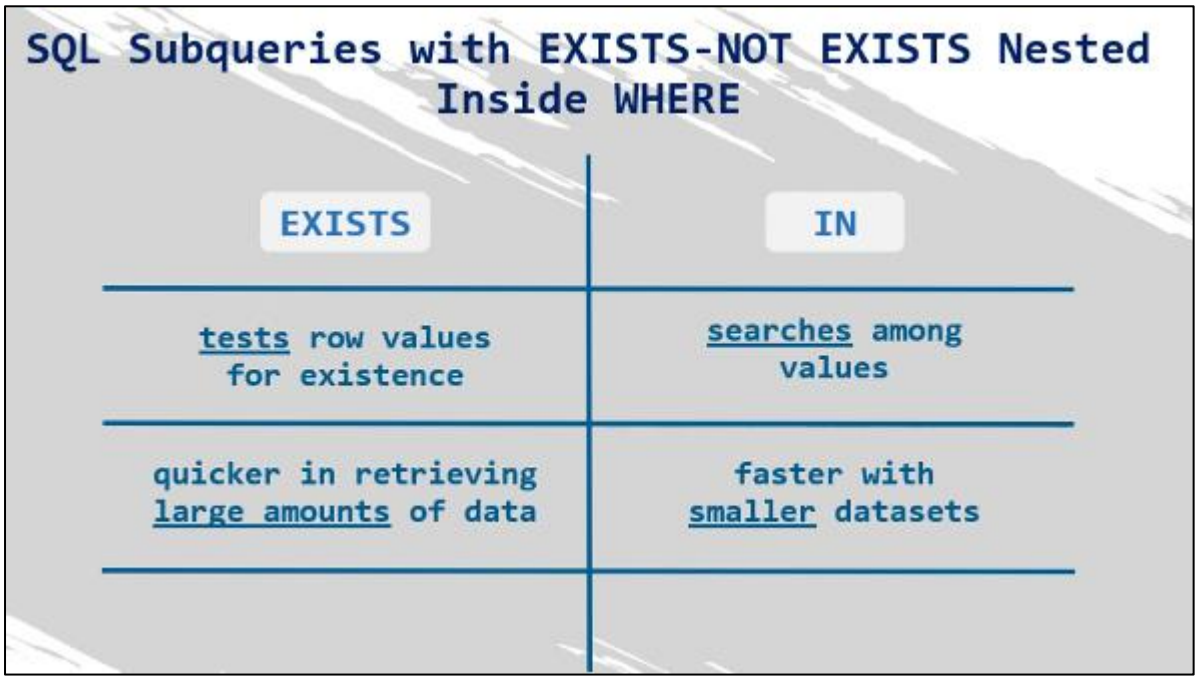


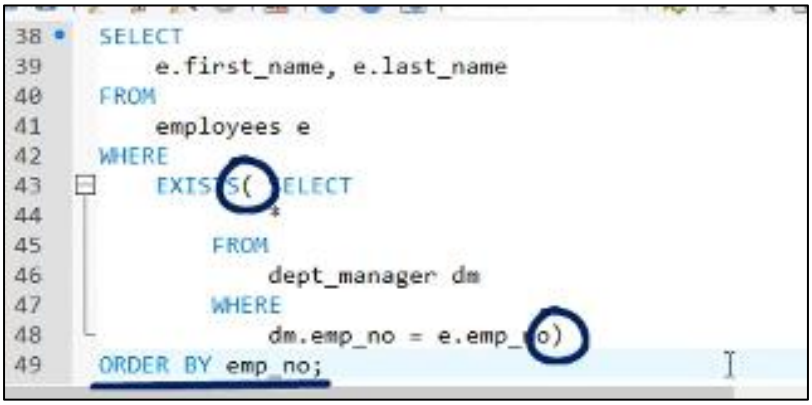
EXISTS() FUNCTION:



Here's an example: it will deliver all first and last names of the people in the employees table who are also found in the Department Manager table. As a matter of fact, we'll create a whole table, not just a column, as we did with the in operator.







It is more professional to apply order by in the outer query, so we need to get used to leaving this clause in the outer select. It is more logical to sort the final version of our dataset and not the versions preceding the final one.

JOINS VS Sub-Queries:

We need to be aware that some, though not all, nested queries can be rewritten using joins, which are more efficient and general. This is true particularly for inner queries using the where clause, although sometimes the same answers can be obtained with a join. Nested queries are considered an essential tool, and that's why we must learn them. On certain occasions, subqueries can be bad for performance concerns, but here's why people would still need to use them. First, they allow for better structuring of the outer query. Thus, each inner query can be thought of in isolation, and organising the extraction process can be improved, hence the name of SQL, Structured Query Language. Second, in some situations, the use of subqueries is much more intuitive compared to the use of complex joins and unions. Finally, many users prefer subqueries simply because they offer enhanced code readability.