**Homework questions**

1. In your own words, what is a subquery?

A subquery is the inner query whose results are returned to an outer query. It is the outer query whose result is returned to the caller. Subqueries avoid the need for separate steps that store intermediate query results in variables.

1. In your own words, what is a self-contained subquery?

A self-contained subquery is independent of the tables in the outer query. They are easy to debug because they can run on their own without any input from the outer query. They are evaluated only once before the outer query is evaluated, and then the outer query uses the result of the subquery.

1. In your own words, what is a correlated subquery?

Give an example of a subquery that returns a single value. When would you use this kind of subquery?

Give an example of a subquery that returns multiple values. When would you use this kind of subquery?

Give an example of a subquery that returns table values. When would you use this kind of subquery?

What does the exists predicate do? Give an example.

What happens if we use the not operator before a predicate? Give an example.

When you use exists or not exists with respect to a row in a database, does it return two or three values? Explain your answer.

How would you a subquery to calculate aggregates? For example, you want to calculate yearly sales of a product, and you also want to keep a running sum of total sales. Explain how you would use a subquery to do this.