

Lesson Plan 07, ISTA-420

Chapter 4, T-SQL Fundamentals

August 16, 2017

1 Class Discussion

Chapter 4 discussion questions.

1. In your own words, what is a *subquery*?
2. In your own words, what is a *self contained subquery*?
3. In your own words, what is a *correlated subquery*?
4. Give an example of a subquery that returns a single value. When would you use this kind of subquery?
5. Give an example of a subquery that returns multiple values. When would you use this kind of subquery?
6. Give an example of a subquery that returns table values. When would you use this kind of subquery?
7. What does the *exists* predicate do? Give an example.
8. What happens if we use the *not* operator before a predicate? Give an example.
9. 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.
10. How would you use 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.

2 Graded Labs

In the SQL directory, there is a file named Chapter 4 exercises. Complete these lab exercises.

3 Homework

3.1 Readings

Read chapter 5, pages 161 – 183 in the *T-SQL Fundamentals* book.

3.2 Discussion Questions

1. What is a table expression? Can you give a technical definition of a table expression?
2. In what SQL clause are derived tables (table valued subqueries) located?
3. Why can you refer to column aliases in an outer query that you defined in an inner table valued subquery?
4. What SQL key word defines a common table expression?

5. When using common table expressions, can a subsequent derived table use a table alias declared in a preceding table expression?
6. Can a main query refer to a previously defined common table expression by multiple aliases?
7. In SQL, is a view a durable object?
8. In a view, what does WITH CHECK OPTION do? Why is this important?
9. In a view, what does SCHEMABINDING do? Why is this important?
10. What is a table valued function?
11. What does the APPLY operator do?
12. What are the two forms of the APPLY operator? Give an example of each.