Lesson Plan 07, ISTA-420

Chapter 4, T-SQL Fundamentals

June 8, 2017

1 Class Discussion

Pages 133 – 149.

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 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 In Class Exercises

You will have ten queries to write. Use Sqlite with the NorthWind database. Submit your deliverable either by email to me at `cartec22@erau.edu` or by uploading to your Github site. Your responses are due exactly one hour after the start time.

3 Graded Labs

No graded labs today. We will review the graded exercises. You will self-grade your papers and *email* me your grade. This will help solidify your grasp of the concepts we have covered, especially while the questions are still fresh in your mind.

4 Course Project

4.1 Software Engineering

Testing, unit tests, integration tests, and regression tests.

4.2 Version Control

Using markdown, headers, itemized lists and numbered lists.

4.3 Project Assignment

Your project assignment for today is testing. Write a SQL script that tests the implementation you did yesterday. You should test against the requirements specification that you wrote Monday. Test to see whether or not your implementation satisfies the requirements. Your deliverable should be a script file. You should also comment your script file to reference the particular requirement that your query tests. Note that a single requirement may result in many tests. Note whether your implementation satisfies the requirement.

4.4 Deliverables

Please follow the following instructions do deliver your assignments. Create a local directory and name it "ISTA420-project." In your project directory, create four subdirectories. Name them "analysis," "design," "implementation," and "tests." Initiate a Git repository in your project directory. Add your output files to this repository, commit them, and push them to a Github repository by the same name. Email me the URL of your Github repository at `cartec22@erau.edu`.

If you are unsure how to do this, I will walk you through this on Monday.

5 Homework

5.1 Readings

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

5.2 Exercises

Do all exercises in chapter 4.