Lesson Plan 09, ISTA-420

Chapter 5, T-SQL Fundamentals

August 21, 2017

1 Class Discussion

Pages 161 – 183, chapter 5.

- 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.

2 Graded Labs

This uses the TSQLV4 database ib Sql Server.

- 1. Write a query usig a CTE that returns every order placed on the last day of the year. The table is Sales. Orders.
- 2. Write a query that returns the date of the last order taken by all employees. Use that query to write a query that returns the order ID and the customer ID for each order. The table is *Sales.Orders*.
- 3. Write a query that calculates a row number for each order based on orderdate, orderid, ordering by these items, fron *Sales. Orders*. Use a CTE to return orders 11 through 21.
- 4. Using table *HR.Employees* and a recursive CTE, write a query that returns the chain of command for employee ID 9.
- 5. Create a view that returns the total quantity for each employee and year, using Sales. Orders and Sales. Order Details.

6. Create an inline TVF that accepts as inputs a supplier ID (@supid AS INT) and a requested number of products (@n AS INT). The function should return @n products with the highest unit prices that are supplied by the specified supplier ID, table is *Production.Products*. Using the CROSS APPLY operator and the function you created in Exercise 6-1, return the two most expensive products for each supplier, using *Productioh.Suppliers*.

3 Homework

3.1 Readings

Read chapter 6, pages 193 - 204 in the T-SQL Fundamentals book.

3.2 Discussion

- 1. What does a set operator do?
- 2. What are the general requirements of a set operator
- 3. What is a Venn Diagram? This is not in the book.
- 4. Draw a Venn Diagram of the UNION operator. What does it do?
- 5. Draw a Venn Diagram of the UNION ALL operator. What does it do?
- 6. Draw a Venn Diagram of the INTERSECT operator. What does it do?
- 7. If SQL Server supported the INTERSECT ALL operator, what would it do?
- 8. Draw a Venn Diagram of the EXCEPT operator. What does it do?
- 9. If SQL Server supported the EXCEPT ALL operator, what would it do?
- 10. What is the precedence of the set operators?