

Lesson Plan 04, ISTA-420

Chapter 2, T-SQL Fundamentals

August 10, 2017

1 Class Discussion

Pages 49-73.

1. List the order of execution of a SQL query.
2. What does the *from* clause do?
3. What does the *where* clause do?
4. What does the *group by* clause do?
5. What does the *having* clause do?
6. What does the *select* clause do?
7. What does the *distinct* keyword do?
8. What does the *order by* clause do?
9. What does the *limit* clause do? This is not in the book.
10. What does the *top* clause do?
11. What do the *offset ... fetch ...* clauses do?

2 In Class Labs

Using SQLite and the Northwind database, write a SQL script that executes the following queries. Your deliverables should be your SQL script and the text output.

1. Group our suppliers by American, North American if they are located in Canada or Mexico, or Foreign if they are not located in the USA, Canada, or Mexico.
2. I need a list of our customers and the first name only of the customer representative.
3. You sell some kind of dried fruit that I liked very much. What is its name?
4. Give me a list of our customer contacts alphabetically by last name.
5. I want to see when customers placed orders in December. Give me a data file showing the day of all December orders.
6. How many days old are you today?

3 Homework

3.1 Readings

Read chapter 2, pages 73 – 93 in the *T-SQL Fundamentals* book.

3.2 Discussion questions

1. What is a data type? Why do we have data types?
2. What is a collation? Name four elements of a collation.
3. How would you strip whitespace from a string? For example, suppose you had “____Dave____” but wanted only “Dave”.
4. Suppose you wanted to make a list of every college and university that was called an Institute from the `college` table. Write the query.
5. How would you find out the index of the first space in a string? For example, the index of the first space in “Barack Hussein Obama” would be 7.
6. How would you select just the first name in a list of the presidents. First names can be an arbitrary length, from “Cal” to “Benjamin.”
7. Payments are due exactly 30 days from the date of the last function. Write a select query that calculates the date of the next payment. Pretend we want to update a column in a database that contains the date of the next payment. We will do this when we write `UPDATE` queries.
8. Suppose your son or daughter wants to run a query every day that tells them the number of days until their 16th birthday. Write a select query that does this.
9. What function returns the current date? This is very useful in a table that maintains a log of events, such as user logins.

4 Graded exercises

These graded exercises use SQL Server and SSMS with the TSQLV4 database that is downloadable from the book web site.

1. Write a query against the `Sales.Orders` table that returns orders placed in June 2015.
2. Write a query against the `Sales.Orders` table that returns orders placed on the last day of the month. There is an end-of-month function, use the documentation to find it.
3. Write a query against the `HR.Employees` table that returns employees with a last name containing the letter e twice or more.
4. Write a query against the `Sales.OrderDetails` table that returns orders with a total value (quantity * unitprice) greater than 10,000, sorted by total value.
5. To check the validity of the data, write a query against the `HR.Employees` table that returns employees with a last name that starts with a lowercase English letter in the range a through z. Remember that the collation of the sample database is case insensitive (Latin1_General_CI_AS).