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CIS 435L

**Unit 2 Lab Assignment 2: Coding Subqueries**

**Terms:**

1. **Subquery**

According to SQLServerTutorial.Net, “A subquery is a query nested inside another statement such as SELECT, INSERT, UPDATE, or DELETE (SQLServerTutorial.Net, 2020).”

1. **Subquery search condition**

According to Vertica, “Subqueries are used as search conditions in order to filter results. They specify the conditions for the rows returned from the containing query's select-list, a query expression, or the subquery itself. The operation evaluates to TRUE, FALSE, or UNKNOWN (NULL) (Vertica, 2020).”

1. **Four ways to introduce a subquery in a SELECT statement**

The four ways to introduce a subquery in a SELECT statement are, “In a SELECT clause as a column expression, in a WHERE clause as a filter criteria, in the FROM clause as a table specification, or in a HAVING clause as a group selector (filter criteria) (EssentialSQL, 2020),” according to EssentialSQL.

1. **Correlated subquery**

According to W3Resource, “Correlated subqueries : Reference one or more columns in the outer SQL statement. The subquery is known as a correlated subquery because the subquery is related to the outer SQL statement (W3Resources, 2020).”

1. **INTO**

According to Microsoft, “SELECT...INTO creates a new table in the default filegroup and inserts the resulting rows from the query into it (Microsoft, 2020).”

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| **Exercise 1** | 1. Watch the following T-SQL video: [https://www.youtube.com/watch?v=Oe0Y4qazeSM (Links to an external site.)](https://www.youtube.com/watch?v=Oe0Y4qazeSM)  2. Complete the T-SQL Tutorial, Lesson1: Creating Database Objects.  Select SQL Server 2012 from the "Other Versions" dropdown menu (See Figure 1).   [https://msdn.microsoft.com/en-us/library/ms365325(v=sql.110).aspx (Links to an external site.)](https://msdn.microsoft.com/en-us/library/ms365325(v=sql.110).aspx)  ***Figure* 1**  3. After watching the T-SQL video and going through the tutorial, do the following(include screenshots for each):   1. Create a database      1. Create a table in the database      1. Insert data into the table     ADDED ALL FOUR TUTORIAL INSERTS   1. Update the data |
| **Exercise 2** | 1. Write a query that filters data and return the column “Name” from table Production.Product. The filtering of rows is achieved by a WHERE clause that compares a single value from a subquery.  2. The inner subquery shall return a specific ProductSubcategoryID that the outer query uses as a filter of products to include in the report. The inner query will use its own WHERE clause to deliver its value, the ProductSubcategoryID, by retrieving it where the column “Name” in table Production.ProductSubcategory have the value of ‘Saddles’.  The result set should look similar to the following:  Name ----------------------------- LL Mountain Seat/Saddle ML Mountain Seat/Saddle ………  (9 row(s) affected) |
| **Exercise 3** | In this exercise, you can change the previous query to deliver the following result set. The WHERE clause in the subquery will now use the wildcard string ‘Bo%’ for a comparison.  The result set should look like the following.  Name ---------------------------- Water Bottle - 30 oz. LL Bottom Bracket ML Bottom Bracket  (6 row(s) affected) |

# References

EssentialSQL. (2020, March 14). *Subqueries – Introduction to a Subquery in SQL*. Retrieved from EssentialSQL: https://www.essentialsql.com/introduction-to-subqueries/

Microsoft. (2020, March 14). *SELECT - INTO Clause (Transact-SQL)*. Retrieved from Microsoft: https://docs.microsoft.com/en-us/sql/t-sql/queries/select-into-clause-transact-sql?view=sql-server-ver15

SQLServerTutorial.Net. (2020, March 14). *SQL Server Subquery*. Retrieved from SQLServerTutorial.Net: https://www.sqlservertutorial.net/sql-server-basics/sql-server-subquery/

Vertica. (2020, March 14). *Subqueries Used in Search Conditions*. Retrieved from Vertica: https://www.vertica.com/docs/9.2.x/HTML/Content/Authoring/AnalyzingData/Queries/Subqueries/SubqueriesUsedInSearchConditions.htm

W3Resources. (2020, March 14). *SQL Subqueries*. Retrieved from W3Resources: https://www.w3resource.com/sql/subqueries/understanding-sql-subqueries.php