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Course: IT FDN 130 A

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Assignment 07 – Functions

Introduction

In Module 07 we learned about Functions and their usage to retrieve information from databases. We went through various Functions such as: Aggregate, Common, Partitioned and Windowed Functions. We then reviewed how to use Functions for reporting and covered User Defined Functions. There were no Labs this week, but we did have to post our code onto Github for peer review.

Explain when you would use a SQL UDF

UDF is short for User Defined Functions. There are two basic types of functions, and they are to return a table of values and to return a single value (Scalar). UDFs can be used to check constraints by through custom validation logic within the function and then using function within a CHECK constraint. It is also used to enhance code readability, reducing redundancy, and enforcing data validation rules and business logic within the database.

Explain are the differences between Scalar, Inline, and Multi-Statement Functions

Scalar functions return a single value, inline functions return a result set, and multi-statement functions allow for more complex logic.

Scalar Functions:

- Scalar functions return a single value.
- These functions are typically used to perform calculations, string manipulations, date operations, or any other operation that yields a single value.

Inline Functions:

- Inline functions are a specific type of scalar function that returns a result set.
- They are defined using the RETURNS TABLE clause.

Multi-Statement Functions:

- Multi-statement functions are scalar functions that contain multiple SQL statements.
- They can include variables, control-of-flow statements (like IF...ELSE), and other procedural logic.

Summary

In Module 07, we explored various types of SQL functions, including Aggregate, Common, Partitioned, and Windowed Functions, as well as User Defined Functions (UDFs). UDFs come in two basic types: those that return a table of values and those that return a single value (Scalar). UDFs can be utilized to check constraints through custom validation logic embedded within the function and invoked within a CHECK constraint. Scalar functions return a single value, inline functions return a result set, and multi-statement functions allow for more complex logic.