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IT FDB 130: Foundations of Databases & SQL Programming
Assignment 07
https://github.com/MZegota/DBFoundations-Module07

Introduction

In this paper I will review the concept of an SQL User-defined functions, and the difference between scalar, inline, and multi-statement UDFs. I hope this review will help students and my peers to understand when and how to use SQL View and when a Function or a Stored Procedure is a better option.

When to use SQL UDF

User-defined functions (UDF) in SQL language are created by the user objects that can perform a requested operation based on accepted parameters.
UDFs are useful to optimize coding work. Once created function can be repurposed/called multiple times. UDF, once created, is stored in the database and can be changed without impacting the program source code. User-defined function allows for fasted database querying, as function parameters don't need to be built manually every single time.

Differences between Scalar, Inline, and Multi-Statement Functions

Scalar functions return a single data value of the type defined in the RETURNS clause. Scalar UDF accepts 0-to-many input parameter and returns one of the scalar data types: int, char, varchar, etc. Text, ntext, image, cursor, and timestamp are not supported.

Inline function returns a table-based result set. Result table values are results of the single SELECT statement. Because of that BEGIN/END block are not required to CREATE this function. User doesn't specify the structure of the called table.

Multi-statement function returns a table-type result set. Result table value meet the requirements of the query included in the function. As user is creating a virtual table they have to declare all the variables for it. Multi-statement UDF use BEGIN/END syntax. This function can include one or a series of Transact-SQL statements that return the single value. The return type can be any data type except text, ntext, image, cursor, and timestamp.

Summary

Based on the video and reading materials provided for the sixth session of our course, I reviewed answers to questions on use of SQL UDFs. I presented differences between Scalar, Inline, and Multi-statement functions.