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Assignment 07

Introduction

This week's assignment focuses on functions, specifically User Defined Functions (UDFs). Within UDFs, some more commonly used UDFs are Scalar, Inline, and Multi-Statement Functions. Sincel functions accept parameters and return one or more values, this makes functions a powerful tool in SQL. This essay will cover the UDFs stated above in more detail.

SQL UDF

A User Defined function or UDF is a tool that allows the user to create their own function. UDFs accept parameters in a tailored function to generate an output to meet the specific requirements. This allows UDFs to be powerful tools and extremely efficient. UDFs can perform complex calculations or data processing based on parameters which increases efficiency and flexibility.

Scalar, Inline, and Multi-Statement Functions

A Scalar function is a UDF that takes one or more parameters and returns one value. Scalar functions are efficient and useful since multiple parameters can be inputted for a result. For example, an algebraic equation such as x+y = z would be a good representation for a scalar function. The Scalar function would take parameters x and y and return z.

An Inline function is a function that returns a set of rows or a table vs a single value but can only be written by one select statement. For example, if an employees' name, address, occupation, and work location was required, an inline function would take the employees' ID as a parameter and return a table of the employees' address, occupation, and work location. Inline functions provide better performance than a multi-statement and it is preferred to use inline functions vs multi-statements if possible.

A Multi-Statement function is similar to an Inline function where sets of rows or tables are returned but multi-statement functions can accept multiple select statements and the structure of the returned table (int, varchar, date) are defined by the user. Multi-statement functions will have a Begin and End block for the table statement unlike inline functions.

Conclusion

User Defined Functions or UDFs are powerful tools accepting parameters for flexibility, returned value when executed, and reused through the Execute procedure to eliminate rewriting blocks

of code. In UDFs, commonly used functions described in this essay are scalar functions that return one value, inline functions that return a table, and multi-statement functions that return a table but can accept multiple table statements and change the structure of the returned table. All of these listed functions accept parameters. As stated before, scalar functions are best used for purposes that require one output such as a math equation. Inline and Multi-statement functions are best used for situations that require a table output such as an employees' name, address, occupation, and work location based on the input of an employee's ID.