Tom Ferko

8/24/2020

Intro to DB

Assignment 07

<https://github.com/yarvenclog/DBFoundations-Module07>

**Assignment 07 Functions**

**Introduction**

In SQL, functions are very powerful tools used to execute specific sub-programs that are either user defined, or pre-built into the database tool (External Link 1, Study.com). There are 3 different types of functions as well, Scalar, Inline and Multi-Statement (External Link 2, sqlshack.com).

**User Defined Functions**

A user defined function is exactly what it sounds like, a function that is not pre-built into a software program, but rather created by a person to fulfil a specific niche. A user defined function or UDF would be used in a situation where a built in function is not available, as well as its need being to solve a repetitive issue. There is no point in writing the same complex code over and over when a simple function could replace that entirely. And the benefit to using a function over something like a view, is that a function can be specified to return more than just a table, though it can return a table if needed.

**Function Types**

The three different types of functions are Scalar, Inline, and Multi-Statement. A Scalar function returns a single value (External Link 2, sqlshack.com). An inline function can return a table of values from a single select statement. That table will contain all of the columns and rows defined in the select statement (External Link 2, sqlshack.com). Finally a Multi Statement function is where a table variable is created, and will change depending on the parameters for the function. It can also utilize more than one select function to return (External Link 2, sqlshack.com).

**Conclusion**

Through using functions, either pre-built or user defined, sub-programs can be utilized in code to expand the use of data within a database. Creating user defined functions allows for specific or repetitive solutions as needed by the user. Able to return, a single value, a single table, or variable values within multiple tables depending on the needs.