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Date: 3/11/24
Course: IT FIN 130 A

Assignment07 - Functions

Introduction:

The materials leading up to A07 discussed the concepts of different types of user defined functions such as Scalar, Inline, and Multi-Statement Functions.

User-Defined Functions (UDF):

UDFs unlike SQLs built in functions are custom. Functions allow us to simplify code and pass through arguments that prevent us from having to repeat blocks of code. UDFs are classified into scalar (returns one results), Inline (returns a table), and Multi-statement (which can return both).

Scalar:

Scalar functions “return a single value as an expression”. A scalar function usually returns a specific value which can be seen after the return statement (ex. Returns Int).

Inline:

Inline functions return a table. This resembles the UDF displayed in the assignment. In contrast to the Scalar version above you can see in the code below that the function is returning a table. When you pass through a KPI value into the function you will be able to see the rows in the table that correspond to the certain KPI value.

```
351
352 Create function fProductInventoriesWithPreviousMonthCountsWithKPIs (@KPI int)
353 returns table
354 as
355     return select
356         ProductName,
357         InventoryDate,
358         InventoryCount,
359         PreviousMonthCount,
360         previousmonthanalysis
361         from vProductInventoriesWithPreviousMonthCountsWithKPIs
362         where previousmonthanalysis = @KPI;
363
364 go
365
366
367 Select * From fProductInventoriesWithPreviousMonthCountsWithKPIs(1);
368 Select * From fProductInventoriesWithPreviousMonthCountsWithKPIs(0);
369 Select * From fProductInventoriesWithPreviousMonthCountsWithKPIs(-1);
370
371 go
```

Figure 1: Inline-function from A07

Multi-Statement functions:

In contrast to the formats above, multi-statement functions can return both tables or individual values. From what I gathered in the provided materials Multi-statement functions allow a user to define a table that they would like returned within the parameter of the function. It is almost a more specific return command than the in-line format.

Summary:

In summary there are various formats for functions that serve the similar purpose of decluttering code. Multi-statement functions were the most difficult to understand as they were not part of the assignment. However with some more practice and more specific output situations I should be able to identify the use of them more.