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Course: IT FDN 130 A Au 22: Foundations Of Databases & SQL Programming

GitHubURL:

Assignment 07 Details: Functions

Introduction

This assignment I will explain about how to use Functions.

Topic

1. *Explain when you would use a SQL UDF.*

These are often called User Defined Functions or just UDFs. There are two basic types of functions; functions that return a table of values and functions that return a single value.

User-defined functions(UDFs) helps in extending the system to perform the operations that are not available through built-in or any system-defined function provided by any particular company product.

```
Create Function dbo.MultiplyValues(@Value1 Float, @Value2 Float)
Returns Float
As
Begin
    Return(Select @Value1 * @Value2);
End
go
-- Calling the function
Select Tempdb.dbo.MultiplyValues(4, 5);
go
```

If you want to apply the function to each row of a result set, you use the new function like this:

```
Create table dbo.SalesDetails
( SalesId int, SalesLineItemId int
, ProductId int
, SalesPrice money
, SalesQty int,
Primary key(SalesId, SalesLineItemId)
);
go
Insert Into dbo.SalesDetails
(SalesId,SalesLineItemId,ProductId,SalesPrice,SalesQty)
Values
(1,1,100,$9.99,10)
,(1,2,200,$1.00,5)
Go
```

Example of UDF

2. *Explain are the differences between Scalar, Inline, and Multi-Statement*

Functions.

Scalar Functions: A scalar function accepts any number of parameters and returns one value. The term scalar differentiates a single, "flat" value from more complex structured values, such as arrays or result sets. This pattern is much like that of traditional functions written in common programming language.

Inline Table-Valued Functions: This type of functions returns a result set, much like a view. However, unlike a view, functions can accept parameters. The inline function's syntax is quite simple. In the function definition, the return type is set to a table. A return statement is used with a select query in parenthesis.

Multi-Statement Table-Valued Functions: Multi-Statement functions can be used to do some very unique things outside the context of a standard SELECT statement. This type of function returns a table-type result set, but the table is explicitly constructed in script. This can be used to accomplish one of two things: either to process some very unique business logic by assembling a virtual table on the fly, or to duplicate the functionality of an inline function in a more verbose and compiled way. In sort, if you need to select records from an existing a result set, use an inline table-valued function.

Summary

Through this assignment, I began writing SQL code with Functions. There are many different and useful functions. I will need to practice with these codes. Thank you.