**Name:** Anu Jain

**Date:** 11/30/2021

**Course:** IT Foundation of Database Management

**Assignment No.:** 7

**GitHub URL:** https://github.com/anujain0991/

**SQL UDF**

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

A user-defined function (UDF) in SQL Server is a programming construct that accepts parameters, does work that typically makes use of the accepted parameters, and returns a type of result. The result either is a scalar value or result set.

UDFs support modular programming. Once you create a UDF and store it in a database then you can call it any number of times. You can modify the UDF independent of the source code.

UDF can be used in a select, where, or case statement. They can also be used to create Joins.

User-defined functions allow programmers to create their own routines and procedures that the computer can follow; it is the basic building block of any program and also very important for modularity and code reuse since a programmer could create a user-defined function which does a specific process and simply call it every time it is needed.

There are 2 types of UDFs:

1. Scalar functions
2. Table Valued Functions

- Inline Table valued function

- Multi Statement Table valued function

1. Explain are the differences between scalar, Inline and Multi Statement function.

* **Scalar Valued function**

It accepts zero or more parameters and return a single value. The return type of a scalar function is any data type except text, ntext, image, cursor and timestamp. Scalar functions can be use in a WHERE clause of the SQL Query.

(*Source:* [*https://www.c-sharpcorner.com/UploadFile/3194c4/user-defined-functions-in-sql-server/*](https://www.c-sharpcorner.com/UploadFile/3194c4/user-defined-functions-in-sql-server/))

**Create Scalar function:**

CREATE Function   
RETURNS

As

Begin

Return  
Select   
FROM table\_name  
WHERE condition;

End

* **Inline table Values function**

Itcontains a single statement that must be a SELECT statement. The result of the query becomes the return value of the function. There is no need for a BEGIN-END block in an Inline function. It return a table variable.

(*Source:* [*https://www.c-sharpcorner.com/UploadFile/3194c4/user-defined-functions-in-sql-server/*](https://www.c-sharpcorner.com/UploadFile/3194c4/user-defined-functions-in-sql-server/))

CREATE Function   
RETURNS Table

As

Return  
Select   
FROM table\_name  
WHERE condition;

* **Multi Statement Table Valued Function**

A Multi-Statement contains multiple SQL statements enclosed in BEGIN-END blocks. In the function body you can read data from databases and do some operations. In a Multi-Statement Table valued function the return value is declared as a table variable and includes the full structure of the table to be returned. The RETURN statement is without a value and the declared table variable is returned.

(*Source:* [*https://www.c-sharpcorner.com/UploadFile/3194c4/user-defined-functions-in-sql-server/*](https://www.c-sharpcorner.com/UploadFile/3194c4/user-defined-functions-in-sql-server/))

Summary:

In this document, we’ve discussed about SQL UDF and its types.