Name: Shruti Kakati
Date: 22nd November 2021
Course: Foundation of Database and SQL Programming
Assignment No: 07
GitHub URL: https://github.com/Shruti-Kakati/DBFoundations

User Defined Functions

Introduction

In this topic we will learn about what are user defined functions (UDF), when to use user defined functions and what is the difference between Scalar, Inline, Multi-Statement.

What is User Defined Functions?

UDF's consist of various different functions which helps to encapsulate complex business logic and allows to re-use them.

When to use user-defined functions?

1. In times when we need to encapsulate complex queries/business logic which needs to be re-used time to time.
2. In case when we need to pass parameters in the queries or make dynamic queries.
3. UDF can be used to filter data based on constraints
4. Simple to invoke compared to Stored Procedures
5. As UDF can be used with SELECT, WHERE, JOINS or CASE statements that makes it more easy to use.

Differences between Scalar, Inline, and Multi-Statement Function

Inline Function:
1. The RETURN table will be based on the function's SELECT statement
2. It does not use BEGIN/ END syntax
3. Faster than Multi-statement function

Multi-statement function
1. RETURN syntax specifically requires specifying structure
2. It uses BEGIN/END syntax
3. Slower than Multi-statement function

Scalar Functions
1. Returns single value
2. Runs multiple times in the statement it's been used in
3. Traditionally not considered good option for high performance.

Summary

This gives an idea about how user defined functions can be a good option to reduce query complexity and in terms of performance as well.