Name: Nia J
Date: June 03, 2025
Course: IT FDN A Sp25: Foundations of Databases & SQL Programming
GITHUB: https://github.com/DBNJ14/DB-Foundation-07

Assignment 07 – DB Foundation

Introduction

This paper introduces SQL User-Defined Functions (UDFs) and explains when they are useful for simplifying and reusing logic in queries. It also outlines the differences between Scalar, Inline Table-Valued, and Multi-Statement Table-Valued Functions, each designed for different types of tasks in SQL.

Topic – Using *SQL UDF*

You would use a SQL User-Defined Function (UDF) when you need to reuse a specific piece of logic or calculation across multiple queries. UDFs help simplify complex expressions, improve code organization, and return consistent results without rewriting the same code repeatedly.

Topic – Differences & Similarities of *Scalar, Inline, and Multi-Statement Functions*

Scalar, Inline, and Multi-Statement Functions are types of SQL User-Defined Functions, and they differ in what they return and how they work:

- A **Scalar Function** returns a single value, such as a number or string.
- A **Inline Table-Valued Function** returns a table and contains only one simple SELECT statement.
- A **Multi-Statement Table-Valued Function** also returns a table but can include multiple SQL statements to build and return the result.

A similarity between Scalar, Inline, and Multi-Statement Functions is that they are all **User-Defined Functions (UDFs)** in SQL, created to encapsulate and reuse logic. They help make queries cleaner, more consistent, and easier to maintain by allowing you to define operations once and use them wherever needed.

Summary

All three types of SQL functions—Scalar, Inline, and Multi-Statement—are tools used to simplify and reuse logic in your queries. They each serve different purposes but work together to help you write cleaner, more efficient, and organized SQL code.