

**Name:** Joseph Rideout

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**Course:** File demonstrates how to use  
functions

**Mod07-Assignment 07**

## Python Class

### Introduction

This document introduces the seventh assignment, focusing on the SQL UDF and explaining the differences and similarities between Scalar, Inline, and Multi-Statement Functions. Additionally, I found Mr. Randel Root live sessions to be helpful for understanding SQL programming.

### SQL UDF

SQL User-Defined Functions (UDFs) are handy tools used to encapsulate a set of SQL statements for reuse. When to Use SQL UDFs.

- **Reusable Logic:** When writing the same SQL logic repeatedly.
- **Abstraction of Complex Logic:** For complex calculations, transformations, or validations that can be abstracted into a function.
- **Performance Enhancement:** UDFs can sometimes improve performance by allowing the database optimizer to better understand the logic.

### Scalar, Inline, and Multi-Statement Functions

Scalar functions return a single value, while both inline and multi-statement functions return table variables. Scalar functions are simple and perform straightforward calculations or transformations. Inline functions handle basic table operations without involving complex logic, whereas multi-statement functions allow for more intricate processing involving multiple SQL statements, variables, and loops.

Inline functions are generally more optimized because their logic can be directly integrated into queries by the query optimizer. Multi-statement functions might have performance overhead due to their complex nature and inability to be fully optimized by the query processor.

## Summary

This document explains the differences between Scalar, Inline, and Multi-Statement Functions.  
The knowledge gained from this week's assignment was an essential part of understanding SQL programming

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