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IT FDN 130

[Github Link](#)

Assignment 7

Introduction

User-Defined Functions (UDFs) in SQL enhance modularity and reusability, allowing developers to encapsulate logic for streamlined queries.

1. **When to Use a SQL UDF**

UDFs are ideal for encapsulating reusable logic, such as calculations, data formatting, or parameterized query sections. They simplify code maintenance, promote consistency, and can be invoked directly in SELECT, WHERE, or JOIN clauses. UDFs are particularly useful when returning scalar values or tabular results.

2. **Scalar, Inline, and Multi-Statement Functions**

- Scalar Functions return a single value (such as a string or number) and are used for computations like formatting dates or calculating totals.
- Inline Table-Valued Functions (ITVFs) return a table via a single SELECT statement, behaving like parameterized views.
- Multi-Statement Table-Valued Functions (MSTVFs) construct a result set using multiple statements (e.g., temp tables, loops), offering flexibility for complex logic but often at the cost of performance.

Conclusion

UDFs improve code organization and reuse, but selecting the appropriate type—scalar, inline, or multi-statement—depends on balancing simplicity, performance, and complexity.