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Course: Foundations Of Databases & SQL Programming

GitHub URL: https://github.com/sliang2022/DBFoundations-Module07/

Assignment 07: Functions

Explain when to use a SQL UDF
A SQL UDF is a function that is written by the user and executed by the database software. It is helpful when you want to reuse the same calculation in a different query. UDFs can make your code easier to read and maintain by keeping repeating logic in one place. They also ensure that everyone using the database gets the same results when running similar queries.

Explain differences between scalar, inline, and multi-statement functions
Scalar functions are built-in functions that operate on a single value and return a single value. They are ideal for small tasks like calculating a percentage or formatting a date. While simple to use, scalar functions can be slower when applied to large datasets because they process rows one at a time.

Inline table-valued functions are user-defined functions that return a table data type and can accept parameters. They are written using a single SELECT query. These functions are efficient and work well for straightforward tasks like filtering or combining data from multiple tables.

Multi-statement functions allow you to use multiple SQL statements to create a table of results. These functions are useful for more complex operations that require several steps, such as performing calculations or applying conditional logic.

Summary
Scalar functions are great for quick calculations, inline functions are perfect for simple table results, and multi-statement functions work best for complex logic.