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November 19th, 2025
IT FDN 130A Au 25
Assignment 06
<https://github.com/NKopp999/DBDFoundations>

SQL Views

Intro

When you want to save your output scripts to a database, either as backup or to share with others, there are several options. This paper will explain the options, how they differ and overlap.

When Would You Use a SQL View?

A SQL view is a saved Select statement on a virtual table that acts as an abstraction layer between the source data tables and final output. With a SQL view, you have the ability to have complex queries with filtered or restricted data hidden from the end user. They can help make reporting standardized, easier to access and more secure.

Comparing a View, Function, and Stored Procedure.

a View, Function, and Stored Procedure all help to simplify complex operations and help queries to be reused multiple times. However, each differ in how they function.

- **SQL View** – Returns a query from a virtual table of a stored Select statement, or a reporting view. By design SQL views cannot dictate how data is sorted, but this can be avoided by using a TOP clause. They do not allow parameters and do not support procedural logic. They are best as read-only data access.
- **SQL Function** – Both SQL functions, also called User Defined Functions (UDFs), and SQL views take reusable logic and return data in a consistent way, however UDFs allow for inputs to change the results of the query. The returned data can be a single value as an expression or a table dataset. They are best used for calculations and reusable query logic.
- **SQL Stored Procedure** – Like Views and Functions, Stored Procedures are a named set of SQL Statements. Instead of Selecting from a table, you Execute a stored procedures to perform multiple actions or workflows. Stored procedures are best for processing and automation or complex logic with data manipulation.

Summary

Views, UDFs, and Stored Procedure all help organize and reuse logic. However, each has a different use case with Views providing easy access to data, UDFs allowing for parameters and reusable calculations and Store Procedures offering powerful executions of multi-step workflows. All three allow for a more maintainable and secure database.