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Course: IT FDT 130A – Foundations of Databases

**Assignment 6 – SQL Views**

**Introduction**

In SQL Server, database objects such as Views, Functions, and Stored Procedures play a vital role in organizing, simplifying, and securing access to data. Each serves a distinct purpose, yet they often work together to support scalable and maintainable database solutions. Understanding when and how to use these objects is essential for efficient database design and reporting.

**When to Use a SQL View**

A SQL View is best used when you want to save a complex query and present it as a virtual table. Views are especially useful for reporting, security, and abstraction. For example, a reporting view might join multiple tables, filter rows, and rename columns to create a clean, user-friendly dataset for analysts. Views can simplify access to data by hiding the complexity of joins and filters, and they can also enforce security by exposing only specific columns or rows to users. Because views are stored in the database, they can be reused across multiple queries and applications, improving consistency and reducing duplication (Root, Creating Views Functions And Stored Procedures Part 1, 2020).

**Differences and Similarities Between Views, Functions, and Stored Procedures**

Views, Functions, and Stored Procedures all allow you to encapsulate logic and reuse code, but they differ in scope and flexibility. A View is essentially a saved SELECT statement that behaves like a virtual table. A Function, on the other hand, can return either a single scalar value or a table, and it can be used inside other queries like a built-in function (Root, Creating Views Functions And Stored Procedures Part 1, 2020; Root, Creating Views Functions And Stored Procedures Part 3, 2020). Functions are more dynamic than Views because they can accept parameters. Stored Procedures are the most versatile as they can include multiple SQL statements (including SELECT, INSERT, UPDATE, and DELETE). Unlike Views and Functions, Stored Procedures cannot be used directly in a SELECT statement. However, all three objects help modularize code, improve readability, and promote reuse.

**Conclusion**

SQL Views are powerful tools for simplifying complex queries and securing data access. While Views, Functions, and Stored Procedures share similarities in encapsulating logic, each has unique strengths that make them suitable for different tasks. Choosing the right object depends on the specific needs of your application, whether it's presenting data, performing calculations, or executing business logic.

# Works Cited

Root, R. (2020, August 10). *Creating Views Functions And Stored Procedures Part 1*. Retrieved from YouTube: https://www.youtube.com/watch?v=N\_rPXAj-74o&list=PLfycUyp06LG8cefs0gA38wO7nFrRjD5Ad&index=1

Root, R. (2020, August 10). *Creating Views Functions And Stored Procedures Part 3*. Retrieved from YouTube: https://www.youtube.com/watch?v=wdMk2YG2sBo&list=PLfycUyp06LG8cefs0gA38wO7nFrRjD5Ad&index=4