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Date: February 21, 2023
Course: IT FDN 130 – Foundations of Databases and SQL Programming
Assignment: Knowledge Document for Assignment 6
Github URL: <https://github.com/caroltru/DBFoundations.git>

Introduction: The writeup topics for Assignment 6 request explanations for (a) when one would use a SQL view; (b) the differences and similarities between a View, Function and Stored Procedure.

Topic (a): Views are virtual tables containing queries. A concrete table means that you create a physical copy of your data on the hard drive. A virtual table means that data is stored as an object in memory. Views can be used to avoid repeating certain queries or calculations. Views do not change the physical structure of the database because they do not store any data of their own. They provide an alternative way to retrieve data. Database administrators create views to make queries easier and faster.

Views are useful when presenting subsets of data. Views act as aggregate table when calculating values such as sums or averages. They also filter and join data to form new tables all while taking up very little storage space. When looking for simplification of queries or performance improvement, the SQL view is extremely helpful.

Topic (b): As discussed above views are virtual tables that do not physically exist, are created by query joining one or more tables and return a table. Store procedure is a group of SQL transaction statements that are compiled into a single execution plan and are pre-executed. Store procedures will accept parameters, reduce network traffic and provide faster performance. The key benefits of stored procedures are pre-compiled execution, efficient reuse of code, reduced client/server traffic and enhanced security controls. Store function is called a SQL block which is similar to a stored procedure. Stored function is a subroutine used to encapsulate frequently performed logic and can slow down performance. The main difference between stored procedure and stored function is that the function always returns a value while the procedure may or may not return a value.

Summary:

Assignment 6 questions relate to when a SQL view would be utilized as well as the primary differences and similarities of the view, stored procedure and stored function.