Bita Massoudi

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Foundations of Databses and SQL Programming

Assignment06

https://github.com/bitamass/DBFoundation

<div align="center">**Views, Functions and Stored Procedures**</div>

Introduction:
SQL Server has several ways to store queries for later execution. In this assignment, we learned about views, functions and stored procedures.

View:
Views can be thought of as a type of virtual table and are used to structure data in a way to make it more intuitive. Additionally, views can restrict access to the data so the user cannot modify more than what is allowed. Views can also summarize data from various tables which can be used to generate reports.

Views, Functions and Stored Procedures:

A **view** is nothing more than a SQL statement that is stored in the database with an associated name. A view is actually a composition of a table in the form of a predefined SQL query. A view can contain all rows of a table or select rows from a table. A view can be created from one or many tables which depends on the written SQL query to create a view. Views are similar to inline table valued function – they allow one to centralize a query in an object that can be easily called from other queries. The results of the view can be used as part of that calling query, however parameters can't be passed into the view. Views also have some of the security benefits of a stored procedure; they can be granted access to a view with a limited subset of data from an underlying table that those same users don't have access to. Views can have some performance advantages since they can have indexes added to them, essentially materializing the result set in advance of the view being called (creating faster performance). If considering between an inlined table function and a view, if one doesn't need to parameterize the input, a view is usually the better option.

SQL functions are simply sub-programs, which are commonly used and re-used throughout SQL database applications for processing or manipulating data. All SQL database systems have DDL (data definition language) and DML (data manipulation language) tools to support the creation and maintenance of databases.

Stored Procedures are created to perform one or more DML operations on Database. It is nothing but the group of SQL statements that accepts some input in the form of parameters and performs some tasks and may or may not returns a value. Stored procedures encapsulate SQL query statements for easy execution. They return result sets, but those result sets can't be easily used within another query. This works great when you want to define single or multi-step processes in a single object for easier calling later. Stored procedures also have the added benefit of being able to have more flexible security rules

placed on them, allowing users to access data in specific ways where they don't necessarily have access to the underlying sources.

Conclusion:
In Assignment 6, I learned about view, function and stored procedures in SQL which are some of the ways to store queries for later execution.