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Date: 5/20/2024
Course: IT FDN 130 A Sp 24
Assignment 6
GitHub: https://github.com/ceharold/IT-FDN-130A

Assignment 6

1. ***Explain when you would use a SQL View.***
2. ***Explain are the differences and similarities between a View, Function, and Stored Procedure.***

Introduction

It takes considerable time and effort to create useful and effective SQL Select Statements. Many people save the statements they write so they can easily access them for repeated use. Select statements can be saved within the database as Views, Functions and Stored Procedures.

Topic

1. A SQL view is used to save simple or complex SELECT statements inside the database for the purpose of extracting data later. A view eliminates the need to save commonly used SELECT statements elsewhere and saves the user from rewriting those statements again and again. Views can also be used to protect the tables in the database by creating a base view where access to the table can be restricted while still allowing access to the view. This is done by setting permissions on the tables and the views.
2. Views, Functions and Stored Procedures are all ways to store SELECT statements as code in a database. Stored Procedures are not restricted to SELECT statements. Stored Procedures can additionally perform multiple operations such as inserting, deleting and updating data. Functions in SQL are called User Defined Functions because they are designed to allow the user to define their own custom functions. Because functions can use parameters, they can change the results of the query as it is executed. Functions and Views are very similar except that 1. functions can accept parameters while views cannot and 2. the output of user defined functions can be directly used in the Select clause of a function but not the view. Functions can return a table of values and they can return a single value. Functions are used to calculate something from a given input. The chart below shows some key differences and similarities among Stored Procedures, Functions and Views.

	Stored Procedure	Function	View
Accepts parameters	✔	✔	✖
Can contain several statements	✔	✔	Only one SELECT statement
Can return multiple values/tables	✔	Return single value/table	Return a single table
Can call functions	✔	✖	✔
Can call views	✔	✔	✖
Allows insert, update, delete, select	✔	Only allows select	
Can be used in a select query	✖	✔	✔

Summary

SQL Server has several ways to store queries for later executions: Views, Functions, and Procedures. There are similarities but important differences in functionality and application.