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Foundations Of Databases & SQL Programming

Assignment 06

LINK

# SQL User Functionality

## Introduction

SQL Views and related concepts are great ways to store complex SELECT statements for later use, maintain functional code before and after changes, and ensure that there is abstraction between the user and the database. Alongside Functions and Stored Procedures, these are used to ensure that code is functional, legible, and replicable.

## SQL View

As mentioned above, using views can ensure working code after changes are made to the tables. Sometimes, however, the view must be changed to fit these changes, but that guarantees that the existing code working with the database that already calls the view in question works as well. In other words, SELECT statements already created to work with a database may not work anymore if columns are manipulated. But, if one edits the view that is used for the same purpose instead, then all the existing calls to that view will continue to function as intended!

## Functions, Stored Procedures, Views

When using code repeatedly in any programming language, it’s nice to be able to store it for easy reuse. Views can only use SELECT statements within them, making them great for viewing and reviewing existing tables, hence the name. Stored Procedures and Functions at first glance were hard to tell the difference, so here is what I found. Functions can be used to store code that performs specific tasks, but that code must execute within its limited scope. So, in other words, Functions can’t change data permanently through “DML statements” since “DML Statements are not supported in functions” (SQL Server Stored Procedure vs Function, <https://sqlserverguides.com/sql-server-stored-procedure-vs-function/> 2021). Functions only work with data and return something useful about that data. Lastly, stored procedures seem to be all powerful. They are just stored code that is batch-ready to work in the scenario specified by the user. So, it can do anything that SQL can do – to the best of my understanding.

## Summary

Views and functions are somewhat limited in their ability, but don’t mistake this with inferiority! It can be helpful to know that a function or view won’t drastically change something unintended to be altered. Stored procedures, however, can cause manipulation to existing data. Meaning they need to be handled with more care and precision. Hopefully, this has been a helpful overview of these different ways to abstract and modulate tasks in SQL!