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IT FDN 130 A Sp 22: Foundations of Databases & SQL Programming

Assignment 06 –SQL Views, Functions, and Stored Procedures

# Introduction

In relational databases, Views, Functions, and Stored Procedures can be used to store and save SQL code within a database. These three functions are important tools for saving code customized to a database, provide user-friendly ways for users to interact with the data in a database, and can simplify processes when working with relational databases.

## SQL Views

In SQL, Views are stored Select statements and can be simple or complex. Once a view is created it can be used to display information from a database. A view is a way of storing code within a database for future use. When saved as a view the code doesn’t have to be rewritten over and over, which saves time and energy. This is particularly useful for complex code. Permissions can be applied to a View so that different user categories can be allowed or prevented from seeing certain information in a database. A view is a way for users who don’t code to access information. Views provide a layer of protection so that users do not delete, alter, or add data intentionally or purposefully. When a table is linked to a view, protections can be added so that a table can’t be altered that will “break” the view. Views are a way to simplify complex procedures and create more user-friendly ways to present information to a user. These are all important reasons one may want to create views for a database and inform when views should be created.

## Comparison on Views, Functions, and Stored Procedures

There are three basic ways of storing combinations of SQL code or combinations of statements so that it can be used efficiently without having to write code over and over; these three methods are Views, Functions, and Stored Procedures. These are also known as abstraction layers. While there are similarities between these three methods, each has a slightly different application and use.

The similarities between Views, Functions, and Stored Procedures are:

* They don’t store information;
* All can be used for select statements or queries;
* The information is produced at the time of request, rather than stored information.

The primary difference between Views, Functions, and Stored Procedures is that Views can only be used to store select statements. While Functions and Stored Procedures can be used for other types of code. Functions can be used to return a table of values or a single value. The value is based on parameter defined within the function. Stored Procedures are the most flexible and can be used to store code that can add, update, or delete information from the database.

Schema binding can be applied to Views so that the data can’t be altered to a point that would break a view, thus protecting the data to an extent. If

## Summary

The three ways of storing SQL code customized to a specific database or creating basic abstraction layers are:

* Views, which is a method to store common queries using select statements,
* Functions, which can also store select statement queries as well as …, and
* Stored Procedures, which is a method to store customized processes beyond queries to add and update data in a database.

Any of these three joins can be used in a self-join when data is referenced against the information from only one table. Using joins in select statements is useful for displaying information in a user-friendly way.