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Assignment 6 - SQL Views

Introduction

A view is one of several methods used in SQL to transform Select Statements into individual objects that can be saved and referenced. Creating views out of SQL code, along with the similarly useful Functions and Stored Procedures, allows the user to create abbreviations for large chunks of code. They work by creating virtual tables that are stored in the database allowing them to be referenced later.

When to use Views

Views have a variety of uses. Primarily, they are used to limit visibility into the data stored within databases. If you have multiple different users accessing data with different levels of permission, views can be created that partition the data according to the user's access level. Views can also be used to prevent users from altering the root data contained within a table. Using a view creates a layer of abstraction that allows others to access data stored in your tables while giving you control over the data inside the table.

Views, Functions, and Stored Procedures

While Views, Functions, and Stored Procedures all save Select statements, they are all used in different ways. Views as I mentioned are primarily used for creating layers of abstraction and restricting access to data. A function on the other hand can be used to return either a table of values or a single value, and can then be called by other SQL code (much like functions are called by computer code) to pass those values to another Select statement. This is due to the main difference between Views and Functions, in that Functions can use parameters to change the results of a query. A Stored Procedure works similarly to both a View and a Function, but they must be executed in order to run the code stored within their saved Select statement. Stored Procedures also have the advantage of allowing Insert, Delete, and Update statements within their saved code, which makes them useful for altering the structure of tables.

Summary

While all very similar, Views, Functions and Stored Procedures have different uses within SQL code. Each is more complex than the last and allows the user to do more complex actions with the data stored in the database that contains the View, Function, or Stored Procedure.