Michelle Roy  
August 15, 2020  
Foundations of Database Management  
Assignment 06  
<https://github.com/mplandon/DBFoundations>

Views, Functions, and Stored Procedures

# Introduction

This paper will explain a SQL View and when it would be used. The differences and similarities between a View, Function, and Stored Procedures will also be explained.

# SQL View

A SQL View is a virtual table based on a SQL statement. A View contains rows and columns from one or more tables in the database. SQL functions, Where Clause, and Join Statements can be used to create the SQL View. The results of the View are presented as if the data came from one table. The SQL View statement is named, stored in the database dictionary, and can be referred to when needed. A View does not hold data and the results of the data do not exist in the database only the SQL View statement. SQL View statements allow users to access data without granting them permissions to direct access to the rest of the base tables. This is a security mechanism in SQL Server since data is used in the abstract.

# View, Function, Stored Procedure

Views, Functions, and Stored Procedures are all abstract layer objects in SQL. They are all named queries to abstract data or results from the database, they are saved for later execution and they are stored in the database dictionary, but the results are not held in the database. There are several differences between Views, Functions and Stored Procedures. Views are select queries that return a table and can be indexed. Functions are routines that accept parameters, perform complex calculations, and return a single scalar value or a result set. Stored Procedures are a group of SQL statements that are executed and return a single value or set of values. Stored Procedures can also perform Insert, Delete, and Update operations. Views and Functions are saved select queries and can be used in other queries while stored procedures are executed and cannot be used in other queries. Stored procedures and Views have the added security of allowing user access to be granted for specified Stored Procedures or Views. Parameters cannot be used with a View as they are in Functions. The determination of whether to use a View, Function, or Stored Procedures will be determined by the desired data or result from the database and the complexity of the query.

# Summary

In summary, this paper defined SQL Views and when they are used. The similarities and differences between Views, Functions, and Stored Procedures were discussed. They are all abstract layers that obtain information or results from the database. They can be called upon again by querying or executing the named View, Function, or Stored Procedure.