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IT FDN 130 A Wi 23: Foundations Of Databases & SQL Programming

Assignment6

[chhelbli/DBFoundations (github.com)](https://github.com/chhelbli/DBFoundations)

# Assignment6\_Writeup

## Introduction

This document explains the SQL View as well as similarities and differences to SQL Functions and Stored Procedures.

### SQL View

SQL Views are used to show an abstraction of tables using the SELECT statement. The values shown in views are queried from tables of the underlying database. Although the creation of a View involves the Select statement, the output of the The ‘CREATE AS’ statement used to build the View, is just a success or failure message. To view data from the View a simple SELECT statement referencing the View is enough.

It is best practice to create a View for every table in a database, called a ‘Basic View’, and restrict user access to the underlying tables. That allows users to work with all the data in the tables, using the Basic Views, without risk of altering the source tables of the database by mistake. Views used to query data for reporting purposes are called ‘Reporting Views’.

### Differences and Similarities: SQL View, Function and Stored Procedures

**Functions:** There are functions that return a table of values, table functions, and functions that return a single value, scalar functions. Unlike Views, Functions can use parameters to change the output of a query that calls a function. The WHERE clause can be used to meet the same use case in the case of Views.

**Stored Procedures:** While SQL Views and Functions are ‘named’ SELECT statements, Stored Procedures are not limited to just SELECT statements and can be used to perform changes to tables. However, Stored Procedures cannot be used in SELECT, WHERE or HAVING statements. Just like Functions, Stored Procedures use input parameters, but they also have the ability to accept output parameters, which Functions can’t. While Functions only allow for SELECT statements, Stored Procedures also accept INSERT/UPDATE/DELETE statements.

## Summary

While Views, Functions and Stored Procedures can be used to generate the same query output in certain circumstances, they do all meet different use cases and have distinct limitations.