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Course: Foundations of Databases & SQL Programming

GitHubURL: https://github.com/aharada12/DBFoundations

Assignment 06: Views

# Introduction

This will summarize when to use a SQL View and explain the differences and similarities between a View, Function, and Stored Procedure.

## When would you use a SQL View?

A SQL View creates a virtual table out of the results of a query. Views are used to simplify a database environment so that further queries can be performed off of the initial query that created the view. They can also be useful for novice users to ensure there are no changes made to the underlying database and for security as they can limit the viewable data to a subset of the overall database. SQL Views can also be used to store Select statements as a single view to help simplify further queries.

## Explain the differences and similarities between a View, Function, and Stored Procedure

Views and Functions both work by giving a name to a Select statement. Functions and Views can both return a table of values. As functions can also return a single (scalar) value and use parameters to define the data that is returned, “Returns table” must be used to specify that a table is desired. The return of scalar values, on the other hand, allows users to manipulate and transform the data returned. Stored Procedures are also named SQL statements, but they have more flexibility in that you can include more than just Select statements (including Insert, Delete, etc.), allowing the creation of more complex queries. Also, unlike Views and Functions, you can’t Select from a Stored Procedure after it’s created, but instead you Execute from it.

# Summary

In summary, SQL Views are used to save the result of a Select statement to create a virtual table, adding a layer of anonymization between your database and further queries. Views, Functions, and Stored Procedures all store a query of your data, with Views and Functions utilizing Select statements and Functions allowing the return of single values that can be manipulated by specified parameters. Unlike Views and Functions, Stored Procedures can store other types of statements in addition to Select statements.