

Jacob Ahn

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IT FDN 130A

Assignment 06

<https://github.com/jya0526/DBFoundations>

Re-Views: An Overview of SQL Views

Introduction

The purpose of this week's writeup is to demonstrate my understand of this week's material. This week's material concerns the use of the 'VIEW' statement, which are a type of virtual table. Concepts covered include the following:

- Views
- Functions
- Stored Procedures

Sources from multiple websites will be referenced in the write-up. Please consult the 'Works Cited' page for more information.

View From Above: The Uses of an SQL View

The SQL 'View' statement has multiple uses that differentiate it from the 'Select' statement. These are as follows:

- Storing 'Select' statements into databases
- Restrict data access to users
- Summarize data from various tables

Differing Views: Views, Functions, and Stored Procedures

In SQL, users may be called upon to utilize 'Views,' 'Functions,' and/or 'Stored Procedures.' The following will illustrate key differences between the three.

Views

Views are essentially statements that can be stored in databases under a name (TutorialsPoint, "Using Views"). As a virtual table, a view can contain either all rows from a table, or a select

few. Similarly, views can be created from either a single table, or multiple depending on the query.

Functions

On a basic level, functions are used to process strings or numeric data. Compared to 'Stored Procedures,' functions are only capable of (but not limited to) the following (Tutorials Teacher, "Difference between Functions and Stored Procedures"):

- Returning single values (e.g., scalars, tables)
- Can only utilize 'Select' statements
- Allows only inputs
- Can utilize 'Join' clauses

Stored Procedure

On a basic level, 'Stored Procedures' are pre-made SQL code that can be saved for later use (W3Schools, "SQL Stored Procedures"). Unlike the "Views" however, Stored Procedures are capable of more advanced processes such as the ability to perform common 'Insert,' 'Delete,' and 'Update' statements after a parameter has been passed in by an external application (Soderberg, "Comparing SQL Views and Stored Procedures"). Compared to functions, stored procedures are only capable of (but not limited to) the following (Tutorials Teacher, "Difference between Functions and Stored Procedures"):

- Returning zero, single, and/or multiple values
- Can utilize both 'Select' and DML statements
- Allows for both input and outputs
- Can contain transactions
- Cannot use 'Join' clauses

Sources

<https://www.tutorialspoint.com/sql/sql-using-views.htm>

<https://www.tutorialsteacher.com/articles/functions-vs-stored-procedures-in-sqlserver>

<https://dev.to/rachelsoderberg/comparing-sql-views-and-stored-procedures-4pfb>

https://www.w3schools.com/sql/sql_stored_procedures.asp