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February 10, 2024

IT FDN 130 Winter 24

GitHUB URL

Assignment 06: Views

**Introduction**

In this write-up, I will discuss the function of views in SQL.

**Views**

A view in SQL is a way of displaying a table based on a specific query. There are many advantages of using views, especially when you need to maintain consistency or limit access. Views can create simplified access to information in a database by allowing people to get the information they want without needing to write their own database queries and can streamline calculations for complex processes. A great feature of using views is that they can capture business logic in the processes that go into different operations and make it easier to track and maintain that logic going forward. One example of when you might want to use views is when someone wants to pull employee demographic information for a report, but you need to make sure that they don’t have access to sensitive or personally identifiable information.

**View, Function, and Stored Procedure**

Views are read-only features which means that they don’t allow for data manipulation. This is useful when someone without SQL knowledge and understanding wants to be able to look at data but can’t necessarily write a query to retrieve the information. This is great for security purposes as well because it limits the rows and columns that are available to just the necessary information.

Functions can capture logic and create reusable units of computation. They are like views in that they are often read-only features, but can include SELECT, INSERT, UPDATE, and DELETE operations. Unlike views that can show a series of data to the end user, functions produce a single value or table.

Stored Procedures combine a series of SQL statements and logic into one operation to organize and document information. Like both views and functions, they can be used to enhance security as they organize and restrict access to sensitive information in a database. However, stored procedures can include dynamic statements, meaning that the query can be changed based on the varying conditions entered by the user or that exist within the database when it’s run.

If, for example, you are in the market to buy a new car, views are used when you go onto a dealership website and look for different vehicles. You might have an idea of what features you want in your new car or narrow down your search based on different criteria such as make or model. If you ask to view all current vehicles at the dealership made after 2019 with less than 80,000 miles, you are asking the website to run a stored procedure to give you a list of vehicles that meet your search. If you decide to purchase a brand-new vehicle and select your base model plus a handful of add-ons that cost extra per add-on, the price that you see at the end of your customization process would be a result of a function.

**Summary**

In this write-up, I explained the similarities and differences between views, functions, and stored procedures and provided a real-world example of when you would see or use them.