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Course: Foundations of Databases & SQL Programming

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

Assignment 06 – Views

Introduction

Databases can contain hundreds even tables with specific parameters and rules in place. This means that there could be thousands of lines of SQL scripts executed to give the results the user desires. Instead of running the script or executing the thousand lines of SQL syntax over and over, we can utilize Views to act as 'pseudo' or 'pretend' tables. In other words, we can look Views as a saved query we are executing to get an overview of a table.

When to use a view

Suppose you have to join data from dozens of different tables to get all the data needed for a specific type of report. You can abstract that detail away by creating a view that pulls all that data together and just query it as if all that data was stored nicely joined together already. With respect to security, views can be useful when you don't want to give more access than what is needed. By creating a view and only giving access to the view, the user will only be able to query what you have specifically selected for in the view. Bottom line, it's easier to use a view than pasting in a complex query every time you need that specific data. This can mean less code, which means less chance of syntax errors.

Differences/similarities between View, Stored Procedure, and Function

A view is essentially a virtual or pretend table. You can join multiple tables in a view and use the view to present the data as if the data were coming from a single table. Similarly, stored procedure also represents a virtual table but also uses parameters to do a function, whether it is updating and inserting data, or returning single values or data sets. In short, Views are primarily used for SELECT statements where you would return a virtual table and hide the complexities. A Stored Procedures are best used when you are working with INSERT, UPDATE, and DELETE statements. Functions behave similarly as Views. The major difference between the two is that Functions can accept parameters, while Views cannot.

Summary

View, Stored Procedure, and Functions all serve an importance purpose when working in an RDBMS. If a user is looking to provide a glimpse/overview of a table, a View would suffice. This is mainly because it

works mostly with SELECT statements and limits parameters; i.e., you cannot alter the data. On the contrary, a Stored Procedure can perform numerous operations such as inserting, deleting, and updating data with conditional parameters. Functions operate in a similar manner as View with respect to its simplicity in providing an overview of a table; however, functions accepts parameters whereas a View does not.