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Foundations Of Databases & SQL Programming

Assignment 06

**SQL View**

**Introduction**

In SQL, a view is a virtual table based on the result-set of an SQL statement. A view contains rows and columns, just like a real table. The fields in a view are fields from one or more real tables in the database.

You can add SQL statements and functions to a view and present the data as if the data were coming from one single table. A view is created with the CREATE VIEW statement.

**When you would use a SQL View**

One of the simplest reasons to use an SQL view is when you have a long and complex query. To save time on retyping and running the query, you can store it in a view and simply run the SELECT statement on that view.

The access control to the data stored in the database is another reason why you should use SQL views. Usually, the rule of least privilege is followed (i.e., a user is given as limited privileges as possible that satisfy his/her requirements.) For example, if a user needs to read from table A, only the read privilege should be assigned to him/her and not the read/write privilege.

SQL views are also helpful when refactoring a database. To understand the role of SQL views during the database refactoring process, let’s look at the examples below.

**The differences and similarities between a *View, Function, and Stored Procedure***

Views and Functions are similar, but unlike views, functions can use parameters to change the results of the query. Parameters in a function may seem a significant advantage but remember that you can always apply a Where clause while using View. Like Views or Functions, Stored Procedures are a Named Set of SQL Statements. Creating Views, Functions, and Stored Procedures are all similar.

A SQL View is a virtual table, which is based on SQL SELECT query. A view references one or more existing database tables or other views. It is the snapshot of the database whereas a stored procedure is a group of Transact-SQL statements compiled into a single execution plan.

View is simple showcasing data stored in the database tables whereas a stored procedure is a group of statements that can be executed.

A view is faster as it displays data from the tables referenced whereas a stored procedure executes sql statements.

**Summary**

Any view that is used to extract data for reporting purposes is called a "Reporting View." They can save simple, or complex Select statements, but more complex ones are typical. Creating the view does not run the select code, so the Create statement results are its success, not data. However, we can run the saved code using only a simple Select statement, which makes complex SQL code much easier to use.

In addition to SQL Server's built-in functions, you can create custom functions. These are often called User Defined Functions or just UDFs. There are two basic types of functions; functions that return a table of values and functions that return a single value.