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**Assignment Module 6**

<https://github.com/alemartuw/DBFoundationsAMartin>

## Assignment 6

1. Explain when you would use a SQL View.
2. Explain the differences and similarities between a View, Function, and Stored Procedure.

### 1. Introduction

In this module, we will learn how to use the views and understand the difference between views, function and procedures.

### 2. Using a SQL View

A view is used to save a query and store it in a data base for future use. It also can be used to grant access to the view data when database access is restricted.

Another common usage is to create a “report view” where the data is extracted for reporting purpose.

A view is a virtual table that presents data in a specific way determined by the query, often by joining multiple tables, combining fields, etc.

Things to remember about the view:

- a. ORDER BY command cannot be added to the view unless you add SELECT TOP <number> command. The number needs to be high enough to include all the data in the database, but it's not considered best practice.
- b. If SCHEMABIND is used in a view, tables need to have the “dbo.” Prefix before the table name. Otherwise, the error “two- part number...” will be returned.

SCHEMABIND: “It prevents modifications (like dropping or altering columns) to the underlying objects (tables or views) that would affect the view. You cannot drop or alter columns that the view depends on unless the view is first modified or dropped. ” – ChatGPT

### 3. Differences between view, function and stored procedure

A **view** is a saved query that can be treated like a table. A complex query can be stored as a view to be used repeatedly. A view doesn't allow changes to the table or to the data.

A **function** is a query that returns a single value (scalar function). Functions are typically used to return results based on input parameters. Like the view function cannot modify the table.

A **stored procedure** is a set of SQL statements that can be executed together. Stored procedures can perform a wide range of operations (eg., if, then). It can also modify the database through INSERT, DELETE, UPDATE commands.

Things to know:

- a. ORDER BY is not allowed on a view or function unless the SELECT TOP <number> command is used.
- b. ORDER BY doesn't work on a view or function if SELECT TOP 100 PERCENT is used; however, it will work if the number is less than 100, but you could lose rows.

## 2. Summary

I learned how to create views that combined data from multiple tables, and merge fields (e.g. combining first name and last name in a single column). I also learned that "SCHEMABIND" helps to protect the view from stop working by preventing modifications to tables.

References:

1. Class Notes
2. UW \_ Foundations of data analysis Module 06 videos.
3. ChatGPT