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Foundations of Databases & SQL Programming

Assignment06

**Views, Functions & Stored Procedures**

# Introduction

The following paragraphs discuss some of the more advanced and useful features of SQL in databases. While all very similar there are a few differences to note and consider when deciding which would be more appropriate for the task at hand.

## Why Use a SQL View?

SQL Views are in a sense a copied table that be interacted with like a table but with a few exceptions like the ORDER BY clause (refer to figure 1 to see the error exception). This provides a few advantages, for example, like protecting the original table from potential corruption or damage due to user error. They also provide the benefit of modifying the original table without breaking all the subsequent dependencies in the database on that table—as you can instead direct those types of links to the View instead.

Msg 1033, Level 15, State 1, Procedure vProductsByCategories, Line 17  
The ORDER BY clause is invalid in views, inline functions, derived tables, subqueries, and common table expressions, unless TOP, OFFSET or FOR XML is also specified.

Figure 1) The Exception that gets thrown when trying to use the ORDER BY clause in a View. Using the clarifier “TOP *anyNum*” will bypass this exception and work as intended.

## Comparing and Contrasting Views, Functions and Stored Procedures

Views, Functions and Stored Procedures are all ways to save code or statements that will perform similar but slightly different roles. Functions and Stored Procedures are like Views in that they are named objects that represent a series of statements for the client to run. Both Views and Functions can represent tables in varying degrees of complexity with the Function offering a bit more complexity to the way the table can be generated. Stored Procedures vary from both in that they can store entire SQL Statements and be called on to executed anywhere else in the code.

# Summary

By using these named objects it’s possible to make long and complex code to be cleaner and easily readable. It also provides the advantage of keeping the code saved locally to the database in case the original creator of the code is no longer around and someone else needs to take over.