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Assignment 06

SQL Views

# Introduction

SQL views are essentially a saved SQL query that can be used just like a raw data table.

# When to Use a View

There may be several reasons to use a SQL view, including creating an abstraction layer, saving complex SQL queries, and security.

An abstraction layer just means that the end users aren’t connecting to the raw data tables. The views that the end users connect to may be identical to the raw data tables. However, abstraction layers are often used to hide the normalization of the database, making the views more human readable. An abstraction layer will also prevent downstream dependencies from breaking when raw data tables change as the view can be updated to handle the changes in the incoming data while outputting the same data as it always has.

Users may like to create views for complex queries they need to run regularly. Views can also be easily shared with anyone that has permissions on the database.

Views can be used to restrict access to sensitive information. For example, if the raw data table contains protected personal information (PPI), such as social security numbers, then a view can be created without any columns containing PPI that allows public access while the original table has its permissions limited to only appropriate users.

# Views, Functions, Stored Procedures

Functions and stored procedures can be very similar to views. All three tools can be a saved SQL query. Unlike views, functions and stored procedures can contain multiple statements and they can use parameters for input at runtime. Functions can also return a single scalar value.

# Summary

SQL views are a great tool to add functionality to a database. As a best practice, end users should connect to views and not the raw data tables for security, integrity, and clarity reasons. Also, in general, the simplest tool that will meet the needs of the project is the best one. A view with a WHERE clause can sometimes have the same results as a function with a parameter.