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**Course**: Foundations of Databases & SQL Programming

**Assignment 06 – Views, Functions, and Stored Procedures**

**Explain when you would use a SQL View**

From the readings and videos for this assignment I learned that these are some of the reasons for using the SQL View function:

A view can give a user an easier to understand interpretation of data from multiple tables, enabling further refinement of the data.

Views can be used as a security measure, by restricting access to columns or applying filters.

Queries that are frequently run can be simplified with the use of a view.

Consistency, or data integrity can be maintained and agreed upon. It is important that business questions have consistent, reliable, verifiable answers and this is one way of providing that.

Views can also be used for enhancing performance, that is speeding up processing time.

**Explain what are the differences and similarities between a View, Function, and Stored Procedure**

Views, Functions and Stored Procedures in SQL are all database objects but achieve their objective of returning or manipulating data in different ways.

A view is a pseudo table and the result of a query. A view does not directly store any data whereas a Function and a Stored Procedure could both be written to store data.

Views can be queried like a "regular" table, but Functions and Stored Procedures cannot be queried.

Views can be designed to restrict the access to defined columns and/or rows, which is not something normally associated with a Function or Stored Procedure.

A Function can take user input and do calculations, neither of which can be easily done with a View.

Stored Procedures can provide various types of output, as opposed to a View which can only return a pseudo table. Stored Procedures can also accept user input, which a View cannot do. Stored Procedures work well for implementing a series of statements and/or calculations.

All three of these, Views, Functions and Stored Procedures can be used to view data, but Functions and Stored Procedures are best suited for updating or changing data.

**Summary**

SQL Views, Functions, and Stored Procedures are all powerful tools with different applications and uses. Some of their uses are data retreival, data maintenance, data security and performance enhancement. They can also be used to simplfy access for various levels of users of the data.

I couldn't get this code to work (run) as one block.

I received the following error message:

"

Msg 111, Level 15, State 1, Line 178

'CREATE VIEW' must be the first statement in a query batch.

"

The code does however run successfully in individual segments.