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**Course:** IT Foundation of Database Management

**Assignment No.:** 6

**SQL View, Function and Stored Procedure**

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

Views are used for security purposes because they provide encapsulation of the name of the table. Data is in the virtual table, not stored permanently. Views display only selected data. We can also use SQL Joins in the Select statement in deriving the data for the view.

*(Source:* [*https://www.codeproject.com/Tips/639239/Creating-and-Usage-of-View-in-SQL#:~:text=Views%20are%20used%20for%20security,Views%20display%20only%20selected%20data.&text=We%20can%20also%20use%20Sql,the%20data%20for%20the%20view*](https://www.codeproject.com/Tips/639239/Creating-and-Usage-of-View-in-SQL#:~:text=Views%20are%20used%20for%20security,Views%20display%20only%20selected%20data.&text=We%20can%20also%20use%20Sql,the%20data%20for%20the%20view)*)*

Advantages of views over tables (*Source:* [*https://en.wikipedia.org/wiki/View\_(SQL)*](https://en.wikipedia.org/wiki/View_(SQL))):

* Views can represent a subset of the data contained in a table. Consequently, a view can limit the degree of exposure of the underlying tables to the outer world: a given user may have permission to query the view, while denied access to the rest of the base table.
* Views can join and simplify multiple tables into a single virtual table.
* Views can act as aggregated tables, where the database engine aggregates data (sum, average, etc.) and presents the calculated results as part of the data.
* Views can hide the complexity of data. For example, a view could appear as Sales2000 or Sales2001, transparently partitioning the actual underlying table.
* Views take very little space to store; the database contains only the definition of a view, not a copy of all the data that it presents.
* Depending on the SQL engine used, views can provide extra security.

1. Explain are the differences and similarities between a View, Function, and Stored Procedure

* **SQL 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.

**Create view syntax:**

CREATE VIEW view\_name AS  
SELECT column1, column2, ...  
FROM table\_name  
WHERE condition;

* **SQL function** is a predefined formula which takes one or more arguments as input then process the arguments and returns an output. There are two types of SQL functions, aggregate functions, and scalar(non-aggregate) functions. Aggregate functions operate on many records and produce a summary, works with GROUP BY whereas non-aggregate functions operate on each record independently. There are so many built-in functions in SQL to do various calculations on data. (*Source:* [*https://www.w3resource.com/sql/sql-functions.php*](https://www.w3resource.com/sql/sql-functions.php))
* **SQL stored procedure** is a prepared SQL code that you can save, so the code can be reused over and over again. So, if you have an SQL query that you write over and over again, save it as a stored procedure, and then just call it to execute it. You can also pass parameters to a stored procedure, so that the stored procedure can act based on the parameter value(s) that is passed. (*Source:* [*https://www.w3schools.com/sql/sql\_stored\_procedures.asp*](https://www.w3schools.com/sql/sql_stored_procedures.asp))

**Create stored procedure syntax:**

CREATE PROCEDURE procedure\_name  
AS  
sql\_statement  
GO;

Summary:

In this document, we’ve discussed about SQL View, Function and Stored Procedure.