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**GitHubURL:** <https://github.com/Wonderdeep/DBFoundations>

## **Assignment 6 - View, Function, and Stored Procedure**

### **Introduction**

Views are like a virtual table that can be made over one or more database tables. Generally, we put those columns in a view that we need to retrieve/query again and again. It is quite common to create views in a database schema to facilitate the writing of queries by solving common filtering criteria. Not only are views good for defining a table without using extra storage, but they also accelerate data analysis. A function is a set of SQL statements with a name that accepts only input parameters, perform actions and return the result. The function can return only a single value or a table. Likewise, a stored procedure is a set of SQL statements with an assigned name stored in a relational database management system as a group that can be reused and shared by multiple programs.

### **Reasons for Using Views**

- Views are used to optimize users' database experience when reusable or frequent queries are needed.
- Views are used to focus, simplify, and customize the perception each user has of the database.
- Views can be used as security mechanisms by letting users access data through the view, without granting the users permission to directly access the underlying base tables.

### **Differences and similarities between a View, Function, and Stored Procedure**

Views, functions, and stored Procedures are a Named Set of SQL Statements that can be saved, so the code can be reused repeatedly. The major difference between a user-defined function and a view is that functions can accept parameters, whereas views cannot. Functions can use these parameters to change the results of the query as it is executed. Also, the output of a user-defined function can be directly used in the SELECT clause, while the same cannot be done on views. As mentioned earlier, a function has a return type and returns a value whereas a procedure does not have a return type; it returns values using the OUT parameters. Functions must return some value whereas for stored procedure it is optional. Moreover, functions are compiled and executed at run time while stored procedures are stored in parsed and compiled state in the database. Once you compile a stored procedure, it can then be used many times.

### **Summary**

This assignment explained the similarities and differences between view, function and stored procedures as Named Sets of SQL Statements