**Assignment Day4 –SQL: Comprehensive practice**

1. What is View? What are the benefits of using views?

A view is a virtual table whose contents are coming from one or more base tables and defined by a query. There are several benefits. Firstly, Views can simplify how users work with data. Secondly, view can be customized according to different user types. Third, when data schema changes, view can be served as a backward compatible interface.

2. Can data be modified through views?

YES. The data in the base table will be modified even we operate through views. Because the view does not hold its own value, it is only a virtual table, all data are coming from base table.

3. What is stored procedure and what are the benefits of using it?

Stored procedure is a group of T-SQL statements which is stored in database for future reuse. There are a lot of benefits to use stored procedure. Firstly, stored procedure can take parameters, so it can limit the direct access which increase the database security. Secondly, since the stored procedure will reuse and optimize the data access plan, so the stored procedure will have a faster execution and better performance. Thirdly, since stored procedure is code reuse, and it will guarantee a successfully execution, so it will largely reduce the maintenance effort. Lastly, the stored procedure can help reduce network traffic.

4. What is the difference between view and stored procedure?

At first, the view cannot take any parameters while the stored procedure does. Secondly, view can only contain just a single select statement but stored procedures can contain multiple statements. Thirdly, view can be used as a building block in large queries but the stored procedures cannot be used in large queries. Lastly, view cannot use to modify any table and stored procedures can modify one or more tables.

5. What is the difference between stored procedure and functions?

Firstly, the function must have return value but the stored procedure is optional. Secondly, function can have only have input parameters but the stored procedure can have input and output parameters. Lastly, stored procedure can call a function but the a function cannot call a stored procedure.

6. Can stored procedure return multiple result sets?

YES. In this case, we should use the “out” model parameters of a stored procedure.

7. Can stored procedure be executed as part of SELECT Statement? Why?

NO. Because the stored procedure may or may not have return value. It depends on how we write the stored procedure. So the return value is not guaranteed, then the database engine will not parse queries that select from it.

8. What is Trigger? What types of Triggers are there?

Trigger is a special type of stored procedure. And it will be executed automatically when a specific event happens. Types of trigger include: DDL triggers, DML triggers (have instead of trigger, after trigger, and for trigger).

9. What are the scenarios to use Triggers?

There are some real-time scenarios such as the salesforce scenarios, for example, update the stock property, we can use trigger to automate the manipulating.

10. What is the difference between Trigger and Stored Procedure?

The biggest difference is trigger is executed automatically but stored procedure is not. And another difference is trigger cannot take parameters however a stored procedure does. At last, the trigger never have a return value, however stored procedure may have a return value.