Assignment Day4 –SQL: Comprehensive practice

# Answer following questions

(You can skip questions 1,2,3,7,8 on writing queries part, those are not required)

1. What is View? What are the benefits of using views? **A view is a virtual table whose contents are defined by a query. The advantages are Hiding the complexity**, **Implementing Row and Column Level Security and Presenting the aggregated data by hiding the detailed data.**
2. Can data be modified through views? **No, we cannot because VIEW is a virtual table.**
3. What is stored procedure and what are the benefits of using it? **A stored procedure groups one or more Transact-SQL statements into a logical unit, stored as an object in a SQL Server database. Stored procedures help centralize your Transact-SQL code in the data tier, increases database security, Faster execution, can help reduce network traffic for larger ad hoc queries, and could be reusable.**
4. What is the difference between view and stored procedure? **View is simple showcasing data stored in the database tables whereas a stored procedure is a group of statements that can be executed. A view is faster as it displays data from the tables referenced whereas a store procedure executes sql statements**
5. What is the difference between stored procedure and functions? **Functions can be called from Procedure whereas Procedures cannot be called from a Function. The function must return a value but in Stored Procedure it is optional.**
6. Can stored procedure return multiple result sets? **Most stored procedures return multiple result sets. Such a stored procedure usually includes one or more select statements. The consumer needs to consider this inclusion to handle all the result sets.**
7. Can stored procedure be executed as part of SELECT Statement? Why? No because stored procedure is a sort of data type that could be call by it name.
8. What is Trigger? What types of Triggers are there? **It is a special type of stored procedure that automatically runs when an event occurs in the database server. DDL Triggers and DML Triggers.**
9. What are the scenarios to use Triggers? **When Log table modifications, Log table modifications**
10. What is the difference between Trigger and Stored Procedure? **Stored Procedures are called by the programmer wherever it wants to fire but triggers fired automatically when insert, delete, update, occured. And triggers can be implemented to tables & views only whereas stored procedure used in the database independently**

# Write queries for following scenarios

Use Northwind database. All questions are based on assumptions described by the Database Diagram sent to you yesterday. When inserting, make up info if necessary. Write query for each step. Do not use IDE. BE CAREFUL WHEN DELETING DATA OR DROPPING TABLE.

Q1,

a- INSERT INTO Region values(5, 'Middle Earth')

Declare @error int = @@error

b- INSERT INTO Territories VALUES(98105,'Gondor',6)

DECLARE @error INT = @@ERROR

c- INSERT INTO Employees VALUES('Aragorn', 'King' ,'Accountant, 'Ms.' )

INSERT INTO EmployeeTerritories VALUES(@@IDENTITY,98105)

DECLARE @error2 INT = @@ERROR

Q2,

UPDATE Territories

SET TerritoryDescription = 'Arnor'

WHERE TerritoryDescription = 'Gondor'

Q3 DELETE FROM EmployeeTerritories

WHERE TerritoryID = (SELECT TerritoryID FROM Territories WHERE TerritoryDescription = 'Arnor')

DELETE FROM Territories

WHERE TerritoryDescription = 'Arnor'

DELETE FROM Region

WHERE RegionDescription = 'Middel Earth'

Q4

CREATE VIEW View\_Product\_Order\_Gaddam

AS

SELECT ProductName,SUM(Quantity) As TotalOrderQty FROM [Order Details] OD JOIN Products P ON P.ProductID = OD.ProductID

GROUP BY ProductName

Q5,

ALTER PROC sp\_Product\_Order\_Quantity\_Gaddam

@ProductID INT,

@TotalOrderQty INT OUT

AS

BEGIN

SELECT @TotalOrderQty = SUM(Quantity) FROM [Order Details] OD JOIN Products P ON P.ProductID = OD.ProductID

WHERE P.ProductID = @ProductID

GROUP BY ProductName

END

Q6,

ALTER PROC sp\_Product\_Order\_City\_Gaddam

@ProductName NVARCHAR(50)

AS

BEGIN

SELECT TOP 5 ShipCity,SUM(Quantity) FROM [Order Details] OD JOIN Products P ON P.ProductID = OD.ProductID JOIN Orders O ON O.OrderID = OD.OrderID

WHERE ProductName=@ProductName

GROUP BY ProductName,ShipCity

ORDER BY SUM(Quantity) DESC

END

EXEC sp\_Product\_Order\_City\_Gaddam 'Queso Cabrales'

Q7,

BEGIN TRAN

select \* from Region

select \* from Territories

select \* from Employees

select \* from EmployeeTerritories

GO

ALTER PROC sp\_move\_employees\_gaddam

AS

BEGIN

IF EXISTS(SELECT EmployeeID FROM EmployeeTerritories WHERE TerritoryID = (SELECT TerritoryID FROM Territories WHERE TerritoryDescription ='Troy'))

BEGIN

DECLARE @TerritotyID INT

SELECT @TerritotyID = MAX(TerritoryID) FROM Territories

BEGIN TRAN

INSERT INTO Territories VALUES(@TerritotyID+1 ,'Stevens Point',3)

UPDATE EmployeeTerritories

SET TerritoryID = @TerritotyID+1

WHERE EmployeeID IN (SELECT EmployeeID FROM EmployeeTerritories WHERE TerritoryID = (SELECT TerritoryID FROM Territories WHERE TerritoryDescription ='Troy'))

IF @@ERROR <> 0

BEGIN

ROLLBACK

END

ELSE