**WEEK 5 Objectives:**

* SQL Modular Programming Objects (View vs Stored Procedure vs UDF vs Trigger)
* Error Handling (@@error, Try .. Catch blocks)
* Transaction control (Begin Tran, Commit, Rollback, @trancount)

**TASK 1: First, watch the following 30 Kudveknat SQL Videos.**

**Joins related concepts covered:**

1. [Stored Procedures](http://csharp-video-tutorials.blogspot.com/2012/08/stored-procedures-part-18.html)
2. [Stored Procedures with output parameters](http://csharp-video-tutorials.blogspot.com/2012/08/stored-procedures-with-output.html)
3. [Difference between output parameters and return values](http://csharp-video-tutorials.blogspot.com/2012/08/stored-procedure-output-parameters-or.html)
4. [Optional parameters in sql server stored procedures](http://csharp-video-tutorials.blogspot.com/2013/09/part-68-optional-parameters-in-sql.html)
5. [Advantages of stored procedures](http://csharp-video-tutorials.blogspot.com/2012/08/advantages-of-using-stored-procedures.html)
6. [Inline Table Valued functions](http://csharp-video-tutorials.blogspot.com/2012/09/inline-table-valued-functions-part-31.html)
7. [Multi-Statement Table Valued functions](http://csharp-video-tutorials.blogspot.com/2012/09/multi-statement-table-valued-functions.html)
8. [Important concepts related to functions in sql server](http://csharp-video-tutorials.blogspot.com/2012/09/important-concepts-related-to-functions.html)
9. [Views](http://csharp-video-tutorials.blogspot.com/2012/09/views-in-sql-server-part-39.html)
10. [Updateable Views](http://csharp-video-tutorials.blogspot.com/2012/09/updateable-views-part-40.html)
11. [Indexed Views](http://csharp-video-tutorials.blogspot.com/2012/09/indexed-views-in-sql-server-part-41.html)
12. [View Limitations](http://csharp-video-tutorials.blogspot.com/2012/09/limitations-of-views-part-42.html)
13. [DML Triggers](http://csharp-video-tutorials.blogspot.com/2012/09/dml-triggers-part-43.html)
14. [DML After Update Trigger](http://csharp-video-tutorials.blogspot.com/2012/09/after-update-trigger-part-44.html)
15. [Instead of insert trigger](http://csharp-video-tutorials.blogspot.com/2012/09/instead-of-insert-trigger-part-45.html)
16. [Instead of update trigger](http://csharp-video-tutorials.blogspot.com/2012/09/instead-of-update-triggers-part-46.html)
17. [Instead of delete trigger](http://csharp-video-tutorials.blogspot.com/2012/09/instead-of-delete-trigger-part-47.html)
18. [Error handling in SQL Server 2000](http://csharp-video-tutorials.blogspot.com/2012/10/error-handling-in-sql-server-2000-part.html)
19. [Error handling in SQL Server 2005 and later versions](http://csharp-video-tutorials.blogspot.com/2012/10/error-handling-in-sql-server-2005-and_6.html)
20. [Transactions in SQL Server](http://csharp-video-tutorials.blogspot.com/2012/10/transactions-in-sql-server-part-57.html)
21. [Transaction ACID Tests](http://csharp-video-tutorials.blogspot.com/2012/10/transaction-acid-tests-part-58.html)
22. [Table valued parameters in SQL Server](http://csharp-video-tutorials.blogspot.com/2015/09/table-valued-parameters-in-sql-server.html)
23. [Dynamic SQL in SQL Server](http://csharp-video-tutorials.blogspot.com/2017/03/dynamic-sql-in-sql-server.html)
24. [Prevent sql injection with dynamic sql](http://csharp-video-tutorials.blogspot.com/2017/04/prevent-sql-injection-with-dynamic-sql.html)
25. [Dynamic SQL in Stored Procedure](http://csharp-video-tutorials.blogspot.com/2017/04/dynamic-sql-in-stored-procedure.html)
26. [Dynamic sql table name variable](http://csharp-video-tutorials.blogspot.com/2017/04/dynamic-sql-table-name-variable.html)
27. [Quotename function in SQL Server](http://csharp-video-tutorials.blogspot.com/2017/04/quotename-function-in-sql-server.html)
28. [Dynamic SQL vs Stored Procedure](http://csharp-video-tutorials.blogspot.com/2017/05/dynamic-sql-vs-stored-procedure.html)
29. [Dynamic sql output parameter](http://csharp-video-tutorials.blogspot.com/2017/05/dynamic-sql-output-parameter.html)
30. [Temp tables in dynamic sql](http://csharp-video-tutorials.blogspot.com/2017/05/temp-tables-in-dynamic-sql.html)

**NOTE:** If you have difficulty understanding Kudvenkat’s YouTube videos, then I suggest you read his articles describing these videos’ material in writing. You can translate the article much easily.

* Here is the link for his articles: <https://csharp-video-tutorials.blogspot.com/p/free-sql-server-video-tutorials-for.html>

**TASK # 2: Create answers for the following Tasks/ Questions and send Aslon the script that contains your answers.**

**Task # 1: Using AdventureWorks database tables create of these SQL objects:**

* **View**
* **Stored Procedure**
* **Scalar UDF**
* **In-line Table valued UDF**
* **Multi-Statement UDF**
* **One DML trigger of your choice**

**Special Instructions:**

* You can use any table and any logic that you can think of. But you need to be professional and creative. Don’t choose simple code or don’t go for very complex or lengthy code.
* Please incorporate INPUT @PARAMETERS to these SQL Modular Programming objects**. (Try to use some single valued and some table valued input @paramters)**
* When applicable, please use error handling steps in them as well. **(Ex: Try/Catch blocks)**
* Also, use Transaction Control in them too, when applicable. **(Ex: Begin Transactions, Commit, Rollback, etc)**

**Note:** Some of these objects cannot accepts input parameters, so you don’t support input parameters for them.

**QUESTION # 1: Explain and give examples for main differences among the following SQL modular programming objects:**

**View vs Stored Procedure vs UDF vs Trigger**

**Note:** Please, be very specific about their differences. You need to point of why you would need to choose one over another one.