Microsoft SQL Server

Programming Advance – Training

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| ***Author*** | ***Date*** | ***Notes*** |
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**Prerequisites**

The following section lists the frameworks and technologies that are required to complete this training document.

* Microsoft SQL Server 2008 or above
* Microsoft SQL Server Management Studio 2008 or above
* Database “Zeus\_SQL\_Training” hosted on ADDServer SQL server
* Basic knowledge of Relational Database System

**Notes**

* Copy-pasting code from the Internet is prohibited. You can study the code samples available on the Internet or any other sources but you should always roll out your own implementation.
* Please use a separate document to write your answers. The answers should be filed for future reference.

**Session 01**

**Concepts**

* Stored Procedure
* Function
* Temporary Tables
* Table-Valued Parameters
* Try Catch
* @@IDENTITY and Scope\_Identity()
* @@RowCount
* ISNULL(), NULLIF(), IS NOT NULL
* Newid(), @@Error, GetDate, GetUTCDate
* Exists

**Exercise**  
  
Resources required for completing this task -

* Stored procedure template - \resources\Sproc Templates
* Create procedure, function etc on schema named as your name - create procedure yourfirstnamelastname.StoredProcedureName (e.g. create procedure richadesai.GetQuizScore )
* Tables –
  + tblQuiz
  + tblQuizRound
  + tblQuizRoundwiseScore
  + ForumUsers

Answer the following questions in short –

1. What is difference between temporary tables, table variables and TVP?
2. Describe following keywords/functions –

@@IDENTITY, Scope\_Identity(), @@RowCount, ISNULL(), NULLIF(), IS NOT NULL, Newid(), @@Error, GetDate, GetUTCDate, Exists

Implement following features -

1. Crate a stored procedure to list down all participants who have scored less than 100 in at least in one quiz. The list should have participant’s details along with QuizId and score.
2. Crate a stored procedure that takes Keyword, Score, FromDate and ToDate as parameters and list down the details participants along with QuizId and Score. The resulting records should satisfy all the following conditions –
   1. Keyword – can be **part** of first name or last name of participant or round title. If null, do not consider this parameter.
   2. Score - should be equal to the total score obtained in a quiz. If null, do not consider this parameter.
   3. FromDate – The quiz start data should be greater than or equal to this date. This is mandatory parameter.
   4. ToDate – The quiz start data should be less than or equal to this date. This is mandatory parameter.
3. Extend stored procedure written in #2 to implement pagination. It should take two additional parameters - PageNo and PageSize and should return additional information - Total Number of records. The resulting records should satisfy following additional conditions –
   1. The results should be sorted by UserName in asceding order and Score in descending order.
   2. The result should return number of records specified by PageSize parameter.
   3. The PageNo parameter should be used to choose the index of first record in the result set.

Example – Suppose PageNo = 5, PageSize = 10, and #2 stored procedure returns 179 rows. Calculate the index i.e. row number from which records to be fetched by using (PageNo-1)\*PageSize + 1. In this case, the index will be 41. Sort the result set and fetch only 10 record from 41st row (41 to 50).