**What are Temporary tables?**  
Temporary tables, are very similar to the permanent tables. Permanent tables get created in the database you specify, and remain in the database permanently, until you delete (drop) them. On the other hand, temporary tables get created in the TempDB and are automatically deleted, when they are no longer used.  
  
**Different Types of Temporary tables**  
In SQL Server, there are 2 types of Temporary tables - Local Temporary tables and Global Temporary tables.  
  
  
  
  
  
  
  
  
**How to Create a Local Temporary Table:**  
Creating a local Temporary table is very similar to creating a permanent table, except that you prefix the **table name with 1 pound (#) symbol**. In the example below, **#PersonDetails** is a local temporary table, with Id and Name columns.  
**Create Table #PersonDetails(Id int, Name nvarchar(20))**  
  
**Insert Data into the temporary table:**  
Insert into #PersonDetails Values(1, 'Mike')  
Insert into #PersonDetails Values(2, 'John')  
Insert into #PersonDetails Values(3, 'Todd')  
  
**Select the data from the temporary table:**  
Select \* from #PersonDetails  
  
**How to check if the local temporary table is created**  
Temporary tables are created in the TEMPDB. Query the sysobjects system table in TEMPDB. The name of the table, is suffixed with lot of underscores and a random number. For this reason you have to use the LIKE operator in the query.  
Select name from tempdb..sysobjects   
where name like '#PersonDetails%'  
  
**You can also check the existence of temporary tables** using object explorer. In the object explorer, expand TEMPDB database folder, and then exapand TEMPORARY TABLES folder, and you should see the temporary table that we have created.  
  
**A local temporary table is available, only for the connection** that has created the table. If you open another query window, and execute the following query you get an error stating 'Invalid object name #PersonDetails'. This proves that local temporary tables are available, only for the connection that has created them.  
  
**A local temporary table is automatically dropped**, when the connection that has created the it, is closed. If the user wants to explicitly drop the temporary table, he can do so using  
DROP TABLE #PersonDetails  
  
**If the temporary table, is created inside the stored procedure**, it get's dropped automatically upon the completion of stored procedure execution. The stored procedure below, creates **#PersonDetails** temporary table, populates it and then finally returns the data and destroys the temporary table immediately after the completion of the stored procedure execution.  
Create Procedure spCreateLocalTempTable  
as  
Begin  
Create Table #PersonDetails(Id int, Name nvarchar(20))  
  
Insert into #PersonDetails Values(1, 'Mike')  
Insert into #PersonDetails Values(2, 'John')  
Insert into #PersonDetails Values(3, 'Todd')  
  
Select \* from #PersonDetails  
End  
  
**It is also possible for different connections**, to create a local temporary table with the same name. For example User1 and User2, both can create a local temporary table with the same name #PersonDetails. Now, if you expand the Temporary Tables folder in the TEMPDB database, you should see 2 tables with name #PersonDetails and some random number at the end of the name. To differentiate between, the User1 and User2 local temp tables, sql server appends the random number at the end of the temp table name.   
  
**How to Create a Global Temporary Table:**  
To create a Global Temporary Table, prefix the name of the table with 2 pound (##) symbols. EmployeeDetails Table is the global temporary table, as we have prefixed it with 2 ## symbols.  
Create Table ##EmployeeDetails(Id int, Name nvarchar(20))  
  
**Global temporary tables are visible** to all the connections of the sql server, and are only destroyed when the last connection referencing the table is closed.  
  
**Multiple users, across multiple connections** can have local temporary tables with the same name, but, a global temporary table name has to be unique, and if you inspect the name of the global temp table, in the object explorer, there will be no random numbers suffixed at the end of the table name.  
  
**Difference Between Local and Global Temporary Tables:**  
1. Local Temp tables are prefixed with single pound (#) symbol, where as gloabl temp tables are prefixed with 2 pound (##) symbols.  
  
2. SQL Server appends some random numbers at the end of the local temp table name, where this is not done for global temp table names.  
  
3. Local temporary tables are only visible to that session of the SQL Server which has created it, where as Global temporary tables are visible to all the SQL server sessions  
  
4. Local temporary tables are automatically dropped, when the session that created the temporary tables is closed, where as Global temporary tables are destroyed when the last connection that is referencing the global temp table is closed