SQLServer Lab

1. Create a stored procedure without parameters to show the number of students per department name.[use ITI DB]

2. Create a stored procedure that will check for the # of employees in the project p1 if they are more than 3 print message to the user “'The number of employees in the project p1 is 3 or more'” if they are less display a message to the user “'The following employees work for the project p1'” in addition to the first name and last name of each one. [Company DB]

3. Create a stored procedure that will be used in case there is an old employee has left the project and a new one become instead of him. The procedure should take 3 parameters (old Emp. number, new Emp. number and the project number) and it will be used to update works_on table. [Company DB]

4. add column budget in project table and insert any draft values in it then then Create an Audit table with the following structure

ProjectNo	UserName	ModifiedDate	Budget_Old	Budget_New
p2	Dbo	2008-01-31	95000	200000

   This table will be used to audit the update trials on the Budget column (Project table, Company DB)
   Example:
   If a user updated the budget column then the project number, user name that made that update, the date of the modification and the value of the old and the new budget will be inserted into the Audit table
   Note: This process will take place only if the user updated the budget column

5. Create a trigger to prevent anyone from inserting a new record in the Department table [ITI DB]
   “Print a message for user to tell him that he can’t insert a new record in that table”

6. Create a trigger that prevents the insertion Process for Employee table in March [Company DB].

7. Create a trigger on student table after insert to add Row in Student Audit table (Server User Name , Date, Note) where note will be "[username] Insert New Row with Key=[Key Value] in table [table name]"

Server User Name	**Date**	**Note**

8. Create a trigger on student table instead of delete to add Row in Student Audit table (Server User Name, Date, Note) where note will be" try to delete Row with Key=[Key Value]"

9. Display all the data from the Employee table (HumanResources Schema) As an XML document "Use XML Raw". "Use Adventure works DB"
   A) Elements
   B) Attributes

10. Display Each Department Name with its instructors. "Use ITI DB"
    A) Use XML Auto
    B) Use XML Path

11. Use the following variable to create a new table "customers" inside the company DB. Use OpenXML

```
declare @docs xml ='<customers>
              <customer FirstName="Bob" Zipcode="91126">
                     <order ID="12221">Laptop</order>
              </customer>
              <customer FirstName="Judy" Zipcode="23235">
                     <order ID="12221">Workstation</order>
              </customer>
```

```
        <customer FirstName="Howard" Zipcode="20009">
              <order ID="3331122">Laptop</order>
        </customer>
        <customer FirstName="Mary" Zipcode="12345">
              <order ID="555555">Server</order>
        </customer>
  </customers>'
```

12. Create a cursor for Employee table that increases Employee salary by 10% if Salary <3000 and increases it by 20% if Salary >=3000. Use company DB
13. Display Department name with its manager name using cursor. Use ITI DB
14. Try to display all students first name in one cell separated by comma. Using Cursor
15. Create full, differential Backup for SD DB.
16. Use import export wizard to display students data (ITI DB) in excel sheet
17. Try to generate script from DB ITI that describes all tables and views in this DB
18. Create a sequence object that allow values from 1 to 10 without cycling in a specific column and test it.

Part2: What is the difference between the following objects in SQL Server

1. batch, script and transaction
2. trigger and stored procedure
3. stored procedure and functions

4. drop, truncate and delete statement
5. select and select into statement
6. local and global variables
7. convert and cast statements
8. DDL,DML,DCL,DQL and TCL
9. For xml raw and for xml auto
10. Table valued and multi statemcent function
11. Varchar(50) and varchar(max)
12. Datetime, datetime2(7) and datetimeoffset(7)
13. Default instance and named instance
14. SQL and windows Authentication
15. Clustered and non-clustered index
16. Group by rollup and group by cube
17. Sequence object and identity
18. Inline function and view
19. Table variable and temporary table
20. Row_number() and dense_Rank() function