Lab 10

1. **[3] Write and execute a T-SQL stored procedure *Factorial*(*n*), which computes and outputs the factorial of the input parameter *n*. If *n* is negative, then the procedure prints an error message.**
   Attach the screenshots of the output and the command which you used to execute the SP.
   Ans:-

```
Alter procedure getFactorial(@number int)
as
begin
set nocount on
Declare @fact int = 1,
@result int=1
if(@number<0)
print 'no negative value is alowed';
else
begin
while (@fact<=@number)
Begin
	Set @result = @result * @fact
	Set @fact += 1
End
Select convert(varchar,@number)+'!='+convert(varchar,@result)
end
End
	exec getFactorial 5;
```

T-SQLQuery factori...S7QG\zelalem (54))* compute tax correc...S7QG\zelalem (56))*

```
Alter procedure getFactorial(@number int)
as
begin
set nocount on
Declare @fact int = 1,
@result int=1
if(@number<0)
print 'no negative value is alowed';
else
begin
while (@fact<=@number)
Begin
    Set @result = @result * @fact
    Set @fact += 1
End
Select convert(varchar,@number)+'!='+convert(varchar,@result)
end
End
exec getFactorial -5;
```

100 %

Messages

```
no negative value is alowed

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```

-SQLQuery factori...S7QG\zelalem (54)) | compute tax correc...S7QG\zelalem (56))*

```
Alter procedure getFactorial(@number int)
as
begin
set nocount on
Declare @fact int = 1,
@result int=1
if(@number<0)
print 'no negative value is alowed';
else
begin
while (@fact<=@number)
Begin
    Set @result = @result * @fact
    Set @fact += 1
End
Select convert(varchar,@number)+'!='+convert(varchar,@result)
end
End
exec getFactorial 5;
```

00 %

Results | Messages

	(No column nam...
1	5!=120

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2. **[7] Create a Table *Employee* with the fields: social security no. (primary key), name, position, no. of dependents, annual salary.**

Write and execute a T-SQL procedure *Compute_Tax* to do the following:

- **Create a new table *Tax* with fields: social security no., income tax.**
- **Fill the table *Tax* with data by computing the income tax for each person in the Employee Table.**

The income tax is computed from the annual salary S and the number of dependents D.

Net Salary: S - (7000 + D*950)

Tax Computed as follows:

- 10% of the first 15,000 of net salary;
- plus 15% of the next 15,000 of net salary;
- plus 28% of any net salary over 30,000.

For getting full credit for this problem, you need to show the complete code for the *Compute_Tax* SP. Also attach the screenshots of the *Employee* and the new *Tax* table.

Ans:

```
USE CS422
SET ANSI_NULLS ON
GO
ALTER procedure Compute_Tax
AS
BEGIN
create table Tax(SSN varchar(20),
       IncomeTax decimal)


INSERT INTO Tax
       SELECT empl.SSN,
       (CASE WHEN empl.netsalary>=15000
                     THEN 0.1*15000
              ELSE
              0.1*empl.netsalary
              END +

       CASE WHEN empl.netsalary>=30000
          THEN 0.15*15000
          ELSE
       CASE WHEN empl.netsalary>=15000
              THEN 0.15*(empl.netsalary-15000)
              ELSE 0 end END +
       CASE WHEN empl.netsalary>=30000
              THEN 0.28*(empl.netsalary-30000)
              ELSE 0  END )

       AS IncomeTax from (select ssn ,(anualSalary-(7000+dependents*950)) as netSalary
from dbo.Employee) AS empl;
END
select * from Tax;
```

Employee table

compute tax correc...S7QG\zelalem (56))* compute tax proced...S7QG\zelalem (57))

```
create table Employee(SSN varchar(15) primary key NOT NULL,
    name varchar(20),position varchar(20),
    dependents int,anualSalary smallmoney);
Insert into Employee(SSN,name,position,dependents,anualSalary)
     values('112-425-7896','tare','Accountant',2,95000),
      ('112-425-1247','zola','developer',1,105000),
      ('104-425-7896','abela','Accountant',2,108000);
    select * from  Employee
```

100 %

Results Messages

	SSN	name	position	depende...	anualSalary
1	104-425-7896	abela	Accountant	2	108000.00
2	112-425-1247	zola	developer	1	105000.00
3	112-425-7896	tare	Accountant	2	95000.00

Compute_tax store procedure

compute tax correc...S7QG\zelalem (56))* | computeTax proced...S7QG\zelalem (57))* | employeeTable.sql...LS7QG\zelalem (64))* | SQLQuery2.sql

```
SET ANSI_NULLS ON
GO

ALTER procedure Compute_Tax
AS
BEGIN
create table Tax(SSN varchar(20),
    IncomeTax decimal)


INSERT INTO Tax
    SELECT empl.SSN,
    (CASE WHEN empl.netsalary>=15000
            THEN 0.1*15000
        ELSE
        0.1*empl.netsalary
        END +

    CASE WHEN empl.netsalary>=30000
       THEN 0.15*15000
       ELSE
    CASE WHEN empl.netsalary>=15000
        THEN 0.15*(empl.netsalary-15000)
        ELSE 0 end END +
    CASE WHEN empl.netsalary>=30000
        THEN 0.28*(empl.netsalary-30000)
        ELSE 0  END )

    AS IncomeTax from (select ssn ,(anualSalary-(7000+dependents*950)) as netSalary from dbo.Employee) AS empl;
END
select * from Tax;
```

100 %

Results

SSN	IncomeTax
104-425-7896	23098
112-425-1247	22524
112-425-7896	19458

(3 rows affected)

Completion time: 2019-11-10T21:41:04.8160278-06:00

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Query executed successfully.