Database Management System – cs422 DE

Lab 3 – Week 7

This Lab is based on Transact-SQL.

○ Submit your *own work* on time. No credit will be given if the lab is submitted after the due date.
○ Note that the completed lab should be submitted in .doc, .docx, .rtf, .pdf or .zip format only.

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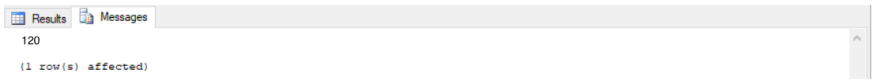
1) [3] Write and execute a T-SQL stored procedure *Factorial*(*n*), which computes and outputs the factorial of the input parameter *n*. If *n* is negative, then the procedure prints an error message.
Attach the screenshots of the output and the command which you used to execute the SP.
ANS:

```
create Procedure PrintFactorial @n int ,@result int output AS
Begin
if @n<0 begin
print 'error: number is negative' ; end
if @n=0 or @n=1 begin
set @result=1
end if @n>2
begin
set @result=1
    while @n>1
      Begin
set @result=@result*@n ; set @n=@n-1 ;
      end
         print  @result
end END


USE [database];
Declare @var varchar(30) EXEC dbo.PrintFactorial 5,@var;
```

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 me the complete code for the *Compute_Tax* SP. Also attach the screenshots of the *Employee* and the new *Tax* table.

ANS:

```
if(OBJECT_ID ('compute_tax')) is not null Drop procedure compute_tax
Go
create procedure compute_tax as
begin
Drop table ##Tax
create table ##Tax ( ssn int , tax float )
     begin
      insert into ##Tax
   15000)*0.15)
select ssn ,
 CASE
WHEN (salary -(7000+ numberOfDependents*950))<=15000 THEN (salary -(7000+
numberOfDependents*950)) * 0.1
WHEN (salary -(7000+ numberOfDependents*950)) > 15000 and (salary -(7000+
numberOfDependents*950)) <= 30000
THEN ((15000) * 0.1) + (((salary -(7000+ numberOfDependents*950))-
WHEN (salary -(7000+ numberOfDependents*950)) > 30000
THEN (15000 * 0.1) + (15000*0.15) + + (((salary -(7000+
numberOfDependents*950))-30000)*0.28)
END
END
```