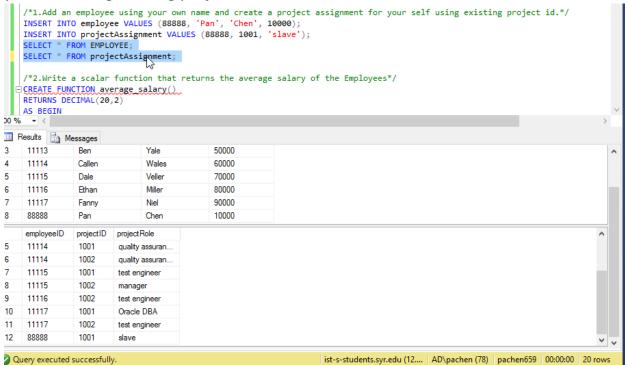
## LAB ASSIGNMENT 8 – Due Sunday Noon

## ANSWER THE FOLLOWING QUESTIONS

1) Add an employee using your own name and create a project assignment for your self using existing project id.



2) Write a scalar function that returns the average salary of the Employee

```
/*2.Write a scalar function that returns the average salary of the Employees*/
   □ CREATE FUNCTION average_salary()
     RETURNS DECIMAL(20,2)
    AS BEGIN
        DECLARE @avg INT;
        SELECT @avg=AVG(employeeSalary)
        FROM employee
         RETURN @avg;
    END:
     /*call the scaler function*/
    SELECT dbo.average_salary() as 'average';
   ⊡ /*3)
             Write a table-valued function that returns the Projects given an EmployeeID as a
100 %
          Messages
Results
     average
     53750.00
```

3) Write a table-valued function that returns the Projects given an EmployeeID as a parameter and

- Show the function created
- b. return the results for your own project

```
|/*3) Write a table-valued function that returns the Projects given an EmployeeID as a parameter and
a. Show the function created
b. return the results for your own project*/
|CREATE FUNCTION projecttable(@EmployeeID INT)
RETURNS TABLE
AS
RETURN
    (SELECT t1.EmployeeID, t2.projectID, employeeFName, employeeLName
    ProjectDesc, ProjectStartDate, ProjectDuration, ProjectRole FROM PROJECTASSIGNMENT T1
    INNER JOIN project t2 ON t1.projectID = t2.projectID
    INNER JOIN employee t3 ON t1.employeeID = t3.employeeID
    WHERE t1.EmployeeID=@EmployeeID);

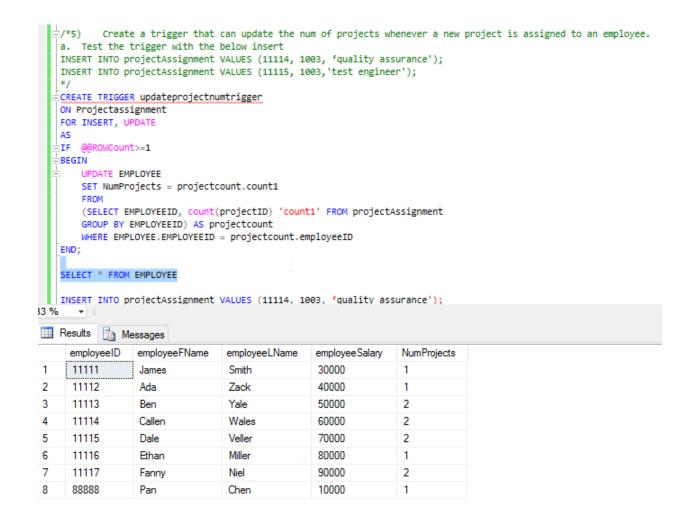
/*call the table-valued function*/
SELECT * FROM dbo.projecttable(88888);
```

4) Alter the Employee table to add a new column called 'Num of Projects' which can be **INTEGER** data type. Write a procedure that updates employee table with the total projects assigned to each employee (to the newly created column)

```
ALTER TABLE EMPLOYEE ADD NumProjects Int;
     SELECT * FROM EMPLOYEE;
     SELECT * FROM PROJECTASSIGNMENT;
   CREATE PROCEDURE totalprojects
     AS
   ĖBEGIN
         UPDATE EMPLOYEE
         SET NumProjects = projectcount.count1
         FROM
         (SELECT EMPLOYEEID, count(projectID) 'count1' FROM projectAssignment
         GROUP BY EMPLOYEEID) AS projectcount
         WHERE EMPLOYEE.EMPLOYEEID = projectcount.employeeID
     END;
         EXEC totalprojects;
         DROP PROCEDURE totalprojects
   ⊡ /*5)
             Create a trigger that can update the num of projects whenever a new project is assi
100 % ▼ <
Results
           Messages
     employeeID
                 employeeFName
                                employeeLName
                                                employee Salary
                                                               Num Projects
     11111
                                                               NULL
 1
                 James
                                 Smith
                                                30000
2
      11112
                 Ada
                                 Zack
                                                40000
                                                               NULL
3
     11113
                                                50000
                                                               NULL
                 Ben
                                 Yale
4
     11114
                                                60000
                                                               NULL
                 Callen
                                 Wales
5
                                                70000
                                                               NULL
      11115
                 Dale
                                 Veller
6
                 Ethan
                                                               NULL
     11116
                                 Miller
                                                80000
7
      11117
                                                90000
                                                               NULL
                 Fanny
                                 Niel
8
      88888
                                                10000
                                                               NULL
                 Pan
                                 Chen
```

```
ALTER TABLE EMPLOYEE ADD NumProjects Int;
     SELECT * FROM EMPLOYEE;
     SELECT * FROM PROJECTASSIGNMENT;
   CREATE PROCEDURE totalprojects
     AS
   ⊟BEGIN
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         SET NumProjects = projectcount.count1
         (SELECT EMPLOYEEID, count(projectID) 'count1' FROM projectAssignment
         GROUP BY EMPLOYEEID) AS projectcount
         WHERE EMPLOYEE.EMPLOYEEID = projectcount.employeeID
     END;
         EXEC totalprojects;
         DROP PROCEDURE totalprojects
⊡ /*5)
100 % ▼ <
             Create a trigger that can update the num of projects whenever a new pro-
Results 🚹 Messages
     employeeID
                employeeFName
                                employeeLName
                                               employee Salary
                                                             NumProjects
    11111
                                Smith
                                               30000
 1
                 James
                                                              1
 2
                                                              1
     11112
                 Ada
                                Zack
                                               40000
 3
                                                              2
     11113
                 Ben
                                Yale
                                               50000
 4
     11114
                                               60000
                                                              2
                 Callen
                                Wales
                                                              2
 5
     11115
                 Dale
                                Veller
                                               70000
 6
     11116
                 Ethan
                                Miller
                                               80000
                                                              1
                                                              2
 7
     11117
                 Fanny
                                Niel
                                               90000
                                               10000
     88888
                 Pan
                                Chen
```

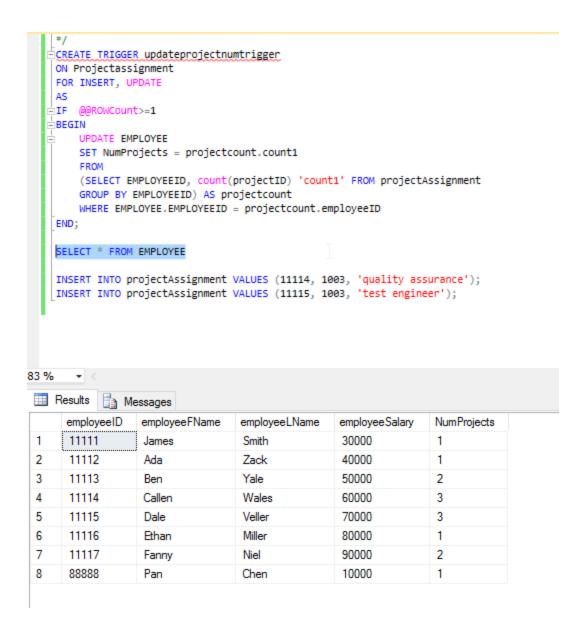
5) Create a trigger that can update the num of projects whenever a new project is assigned to an employee.



## a. Test the trigger with the below insert

INSERT INTO projectAssignment VALUES (11114, 1003, 'quality assurance');

INSERT INTO projectAssignment VALUES (11115, 1003, 'test engineer');



## **INSTRUCTIONS**

- For each question, ensure that the screenshot of the function and procedure scripts and return value is also pasted in the document
- Make sure you paste the before and after screenshots for question 4. That
  is, the values for 'No of Projects' in Employee before and after execution of
  the procedure

Please submit your lab report in one PDF file to BlackBoard. Name your file in this format "IST659-Lab8-Lastname-Firstname.pdf".