

## Part1 on View:

1-1) Create a view named **VDept\_Budget** that reports headcount for each department.

The report includes 3 columns as follow:

**Dept\_Name, Dept\_Number, No\_Emp.**

Include all the departments.

Show the content of the view through SQL (Select \* from **VDept\_Budget**;) )

The screenshot displays the SQL Server Enterprise Manager interface. On the left, the Object Explorer shows the server structure for 'DESKTOP-84SSTN5'. The right pane shows the SQL Query window with the following script:

```
--LAB 4
-- PART 1_1
GO
CREATE VIEW VDept_Budget (Dept_Name,Dept_Number, No_Emp)
AS SELECT Dname, D.Dnumber, COUNT(E.Dno)
FROM DEPARTMENT D, EMPLOYEE E
WHERE D.Dnumber=E.Dno
GROUP BY D.Dname, Dnumber
GO
Select * from VDept_Budget
GO
```

Below the script, the 'Results' tab shows the output of the query:

	Dept_Name	Dept_Number	No_Emp
1	Administration	4	3
2	Headquarters	1	1
3	Research	5	4

1-2)

Add yourself or anyone to Employee table in the database . Then Show the content of your view again through SQL (Select \* from VDept\_Budget;) to see if your view is updated according to the changes you just made in the base table Employee.

The screenshot shows the SQL Server Enterprise Manager interface. The Object Explorer on the left displays the database structure for 'DESKTOP-84SSTN5'. The SQL Query window on the right contains the following SQL script:

```

-- PART 1_2
insert into EMPLOYEE values ( 'Reza', 'A', 'Shisheie', '88888888', '19-Aug-87', 'Cleveland State Uni, OH', 'M', '30000', '123456789', '5');
GO

Select * from VDept_Budget
GO

```

The Results window at the bottom displays the output of the query:

Dept_Name	Dept_Number	No_Emp
Administration	4	3
Headquarters	1	1
Research	5	5

The screenshot shows the SQL Server Enterprise Manager interface. The Object Explorer on the left displays the database structure for 'DESKTOP-84SSTN5'. The SQL Query window on the right contains the following SQL script:

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-- PART 1_2
insert into EMPLOYEE values ( 'Reza', 'A', 'Shisheie', '88888888', '19-Aug-87', 'Cleveland State Uni, OH', 'M', '30000', '123456789', '5');
GO

Select * from VDept_Budget
GO

```

The Results window at the bottom displays the output of the query:

Dept_Name	Dept_Number	No_Emp
Administration	4	3
Headquarters	1	1
Research	5	5

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1-3)

Then Change your view to add two more info – Sum\_Salary, Ave\_Salary for each department. Include all the departments. Your report (view) lists 5 Columns as follow:

**Dept\_Name, Dept\_Number, No\_Emp, Sum\_Salary, Ave\_Salary**

Show the content of your changed view to report the updated info after changes in the view and the database.

Show your SQL statements and the result of each step in a Word document. Add screenshots showing your SQLs and the results to show your report is updated before and after the changes in the database.

The screenshot displays the SQL Server Enterprise Manager interface. The Object Explorer on the left shows the server structure, including Databases, Security, and Server Objects. The SQL Query window in the center shows the following SQL code:

```
-- PART 1_3
ALTER VIEW VDept_Budget (Dept_Name,Dept_Number, No_Emp, Sum_Salary, Ave_Salary)
AS SELECT Dname, D.Dnumber, COUNT(E.Dno), SUM(E.Salary), SUM(E.Salary)/COUNT(E.Dno)
FROM DEPARTMENT D, EMPLOYEE E
WHERE D.Dnumber=E.Dno
GROUP BY D.Dname, Dnumber
GO

Select * from VDept_Budget
GO
```

The Results window at the bottom shows the output of the query, displaying a table with 5 columns: Dept\_Name, Dept\_Number, No\_Emp, Sum\_Salary, and Ave\_Salary. The table contains 3 rows of data:

	Dept_Name	Dept_Number	No_Emp	Sum_Salary	Ave_Salary
1	Administration	4	3	93000.00	31000.000000
2	Headquarters	1	1	55000.00	55000.000000
3	Research	5	5	163000.00	32600.000000

## Part2 on Stored Procedure using Cursor

Write a Stored Procedure **SP\_Report\_NEW\_Budget** using the view you created in Part 1-3).

Use **CURSOR** to write the stored Procedure for the tasks below.

The screenshot displays the SQL Server Enterprise Manager interface. The Object Explorer on the left shows the database structure, including the 'Databases' folder and the 'TutorialDB' database. The SQL Query window on the right shows the following T-SQL code:

```

287
288
289
290 -- PART 2
291
292
293 GO
294 CREATE PROCEDURE [SP_Report_NEW_Budget]
295 AS
296 BEGIN
297
298 DECLARE @Count as smallint
299 DECLARE @Dno as int
300 DECLARE @Dname as varchar(15)
301 DECLARE @No_Emp as int
302 DECLARE @SUM_Salary as decimal(10,2)
303 DECLARE @AVE_Salary as decimal(10,2)
304
305 --creates a new table NEW_Dept_Budget
306 DROP TABLE IF EXISTS dbo.NEW_Dept_Budget
307 CREATE TABLE dbo.NEW_Dept_Budget(
308     Dept_No int not null,
309     Dept_Name varchar(30),
310     COUNT_Emp int,
311     New_SUM_Salary INT,
312     New_AVE_Salary INT
313     primary key (Dept_No),
314     foreign key (Dept_No) REFERENCES DEPARTMENT(Dnumber)
315 );
316
317 --Check to see if view VDept_Budget is empty or not
318 SELECT @Count = COUNT(*)
319 FROM VDept_Budget;
320
321 IF @Count > 0
322 BEGIN
323     DECLARE Dept_Cursor CURSOR FOR
324     SELECT VDept_Budget.Dept_Number, VDept_Budget.Dept_Name, VDept_Budget.No_Emp, VDept_Budget.Sum_Salary
325     FROM VDept_Budget

```

The Results window at the bottom shows the output of the procedure, displaying a table with the following data:

Dept_No	Dept_Name	COUNT_Emp	New_SUM_Salary	New_AVE_Salary
1	Headquarters	1	60500	60500
2	Administration	3	111600	37200
3	Research	5	211900	42380

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The screenshot shows the SQL Server Enterprise Manager interface. On the left, the Object Explorer displays the server structure for 'DESKTOP-84SSTN5'. The main window shows a T-SQL script with the following content:

```

326
327 OPEN Dept_Cursor
328 FETCH NEXT FROM Dept_Cursor INTO @Dno, @Dname, @No_Emp, @SUM_Salary
329 WHILE @@FETCH_STATUS=0
330 BEGIN
331 IF @Dno=1
332 SET @SUM_Salary = @SUM_Salary*1.1;
333 IF @Dno=4
334 SET @SUM_Salary = @SUM_Salary*1.2;
335 IF @Dno=5
336 SET @SUM_Salary = @SUM_Salary*1.3;
337 IF @Dno=7
338 SET @SUM_Salary = @SUM_Salary*1.4;
339 SET @AVE_Salary = @SUM_Salary/@No_Emp;
340 INSERT INTO NEW_Dept_Budget VALUES (@Dno, @Dname, @No_Emp, @SUM_Salary, @AVE_Salary);
341 FETCH NEXT FROM Dept_Cursor INTO @Dno, @Dname, @No_Emp, @SUM_Salary
342 END
343 CLOSE Dept_Cursor
344 DEALLOCATE Dept_Cursor
345 END
346 GO
347
348
349 EXEC SP_Report_NEW_Budgety; --Execute our SP
350 SELECT* FROM NEW_Dept_Budget;
351
352 USE master;
353 --Drops the database from master and this is allowed because all of its tables within have been dropped
354 Drop DATABASE [COMPANY1];
355
356
357
358

```

The bottom pane shows the results of the query, displaying a table with 5 columns: Dept\_No, Dept\_Name, COUNT\_Emp, New\_SUM\_Salary, and New\_AVE\_Salary. The data is as follows:

Dept_No	Dept_Name	COUNT_Emp	New_SUM_Salary	New_AVE_Salary
1	Headquarters	1	60500	60500
2	Administration	3	111600	37200
3	Research	5	211900	42380

-- PART 2 CODE

```

GO
CREATE PROCEDURE [SP_Report_NEW_Budgety]
AS
BEGIN

DECLARE @Count as smallint
DECLARE @Dno as int
DECLARE @Dname as varchar(15)
DECLARE @No_Emp as int
DECLARE @SUM_Salary as decimal(10,2)
DECLARE @AVE_Salary as decimal(10,2)

--creates a new table NEW_Dept_Budget
DROP TABLE IF EXISTS dbo.NEW_Dept_Budget
CREATE TABLE dbo.NEW_Dept_Budget(
    Dept_No int not null,
    Dept_Name varchar(30),
    COUNT_Emp int,
    New_SUM_Salary INT,
    New_AVE_Salary INT
    primary key (Dept_No),

```

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```
foreign key (Dept_No) REFERENCES DEPARTMENT(Dnumber)
);

--Check to see if view VDept_Budget is empty or not
SELECT @Count = COUNT(*)
FROM VDept_Budget;

IF @Count > 0
BEGIN
    DECLARE Dept_Cursor CURSOR FOR
        SELECT VDept_Budget.Dept_Number, VDept_Budget.Dept_Name,
VDept_Budget.No_Emp, VDept_Budget.Sum_Salary
        FROM VDept_Budget

    OPEN Dept_Cursor
    FETCH NEXT FROM Dept_Cursor INTO @Dno, @Dname, @No_Emp, @SUM_Salary
    WHILE @@FETCH_STATUS=0
    BEGIN
        IF @Dno=1
            SET @SUM_Salary = @SUM_Salary*1.1;
        IF @Dno=4
            SET @SUM_Salary = @SUM_Salary*1.2;
        IF @Dno=5
            SET @SUM_Salary = @SUM_Salary*1.3;
        IF @Dno=7
            SET @SUM_Salary = @SUM_Salary*1.4;
        SET @AVE_Salary = @SUM_Salary/@No_Emp;
        INSERT INTO NEW_Dept_Budget VALUES (@Dno, @Dname, @No_Emp,
@SUM_SALARY, @AVE_SALARY);
        FETCH NEXT FROM Dept_Cursor INTO @Dno, @Dname, @No_Emp,
@SUM_Salary
    END
    CLOSE Dept_Cursor
    DEALLOCATE Dept_Cursor
END

END
GO

EXEC SP_Report_NEW_Budgety; --Execute our SP
SELECT* FROM NEW_Dept_Budget;

USE master;
--Drops the database from master and this is allowed because all of its tables within
have been dropped
Drop DATABASE [COMPANY1];
```