USER DEFINED FUNCTIONS

User Defined functions can be used to perform a complex logic, can accept parameters and return data.

SQL Server supports two types of User Defined Functions as mentioned below

Scalar Functions – The function which returns a Scalar/Single value.

```
CREATE FUNCTION MYSUM (@A INT, @B INT )
RETURNS INT
AS
BEGIN
    DECALRE @C AS INT;
    SET @C=@A+@B;
    RETURN @C;
END;

SELECT DBO.MYSUM(10,20);
DROP FUNCTION MYSUM;
```

parameters of fn

defined return type syntax “returns”

declare a variable c as int

@ is used infront of variable

return value sysntax “return”

DBO is required to call usd

USER DEFINED FUNCTIONS

Table Valued Functions – The function which returns a row set of SQL server Table.

```
CREATE FUNCTION GETEMP (
    @DEP VARCHAR(50)
) RETURNS TABLE
AS

RETURN ( SELECT * FROM EMP WHERE DEPT = @DEP)
;

SELECT * FROM DBO.GETEMP('ADMIN')
```

begin end not required sice its only single line code.

SInce its returns a table “select * from” is required

ASSIGNMENT

ASSIGNMENT – 7

A-1: CREATE A FUNCTION CALC TO PERFORM THE SPECIFIED OPERATION ON THE GIVEN TWO NUMBERS .

A-2: FUNCTION TO GENERATE THE EMAIL ID BY ACCEPTING NAME & EID. EMAIL SHOULD CONTAIN 1ST CHARACTER OF 1ST NAME , 1ST CHARACTER OF LAST NAME, LAST 3 DIGITS OF EMP ID FOLLOWED BY @RCG.COM;

A-3: FUNCTION TO RETURN EID, NAME, DESI, DEPT ,SALARY OF THE EMPLOYEES OF A SPECIFIED DEPARTMENT.

A-4: FUNCTION TO DISPLAY THE NAME , DEPT . DESI , CITY OF THE EMPLOYEES WHO HAVE THE BIRTHDAY IN THE CURRENT MONTH.

A-5: FUNCTION TO DISPLAY THE NAME, DEPT & DOJ OF EMPLOYEES WHO HAVE COMPLETED 5 YEARS IN THE COMPANY.

SQL SUB QUERIES

Sub Queries

A Subquery or Inner query or Nested query is a query within another SQL query, and embedded within the WHERE clause.

A subquery is used to return data that will be used in the main query as a condition to further restrict the data to be retrieved

There are a few rules that subqueries must follow:

- Subqueries must be enclosed within parentheses.
- A subquery can have only one column in the SELECT clause.
- An ORDER BY cannot be used in a subquery, although the main query can use an ORDER BY.
- Subqueries that return more than one row can only be used with multiple value operators, such as the IN operator.

if its = used in subquery only one values should return
if its in subquery can returns multiple values.

- The BETWEEN operator cannot be used with a subquery; however, the BETWEEN can be used within the subquery.

outer query

inner query

Simple Sub Queries

Subqueries are most frequently used with the SELECT statement. The basic syntax is as follows:

```
SELECT column_EID [, column_EID ]
FROM   table1 [, table2 ]
WHERE  column_EID OPERATOR
(SELECT column_EID [, column_EID ]
FROM table1 [, table2 ]
[WHERE])
```

Note: Although Subqueries are commonly used with Select statement, these can also be used with Insert, Update or Delete Statements