

# SQL FUNCTIONS

# SQL FUNCTIONS

- **COUNT** Function - The SQL Server COUNT aggregate function is used to count the number of rows in a database table.
- **MAX** Function - The SQL Server MAX aggregate function allows to select the highest (maximum) value for a certain column.
- **MIN** Function - The SQL Server MIN aggregate function allows to select the lowest (minimum) value for a certain column.
- **AVG** Function - The SQL Server AVG aggregate function selects the average value for certain table column.
- **SUM** Function - The SQL Server SUM aggregate function allows selecting the total for a numeric column.
- **SQRT** Function - This is used to generate a square root of a given number.
- **RAND** Function - This is used to generate a random number using SQL command.
- **CONCAT** Function - This is used to concatenate multiple parameters to a single parameter.

# SQL STRING FUNCTIONS

- ASCII()** Ascii code value will come as output for a character expression..
- CHAR()** Character will come as output for given Ascii code or integer.
- CHARINDEX()** Starting position for given search expression will come as output in a given string expression. EX: Select CHARINDEX('G', 'KING')
- LEFT()** Left part of the given string till the specified number of characters
- RIGHT()** Right part of the given string till the specified number of characters.
- LEN()** Number of characters will come as output for a given string expression
- LOWER()** Lowercase string will come as output for a given string data.
- UPPER()** Uppercase string will come as output for a given string data.

# SQL STRING FUNCTIONS

**SUBSTRING()** Part of a string based on the start position value and length value.

Ex: Select SUBSTRING ('WORLD', 1,3)

**REPLACE()** String expression will come as output for a given string data after replacing all occurrences of specified character with specified character.

Ex: Select REPLACE('INDIA', 'I', 'K')

**REVERSE()** Reverse string expression will come as output for a given string data

**STUFF()** String expression will come as output for a given string data after replacing from starting character till the specified length with specified character.

Ex Select STUFF('ABCDEFGH', 2,4,'IJK')

# SQL DATE FUNCTIONS

Below are the commonly used DATE Functions:

FUNCTION	SYNTAX
GETDATE	GETDATE()
DATEADD	DATEADD (datepart , number , date )
DATEDIFF	DATEDIFF ( datepart , startdate , enddate )
DAY	DAY (DATE)
MONTH	MONTH (DATE)
YEAR	YEAR (DATE)
DATEPART	DATEPART (datepart, datecolumnEID)
CONVERT	CONVERT (datatype, expression, style)
FORMAT	FORMAT ( getdate(), 'D') -> Wednesday, September 6, 2017

Select CONVERT (varchar(19),getdate()) -> Sep 6 2017 11:24PM

Select CONVERT (varchar(19),getdate(),10) -> 09-06-17

Select CONVERT (varchar(19),getdate(),110) -> 09-06-2017

# ASSIGNMENT



## ASSIGNMENT – 6

A-1: DEPARTMENT WISE TEAM SIZE AND AVERAGE SALARY OF ALL EMPLOYEES.

A-2 : COUNT OF MANAGERS IN THE COMPANY.

A-3: MAXIMUM & MINIMUM SALARY OF AN ASSOCIATE.

A-4: DEPARTMENT WISE TEAM SIZE AND AVERAGE SALARY OF DELHI EMPLOYEES.

A-5: GENERATE OFFICIAL EMAIL OF THE EMPLOYEE TAKING 1<sup>ST</sup> CHARACTER OF FIRST NAME , 1<sup>ST</sup> CHARACTER OF LAST NAME , LAST 3 DIGITS OF EID, FOLLOWED BY 'RCG.COM'. EMAIL SHOULD BE IN AN UPPER CASE.

A-6: NAME, CITY , PHNO & EMAIL OF THE EMPLOYEES WHOSE AGE  $\geq 40$ .

A-7 EID, NAME DOJ OF EMPLOYEES WHO HAVE COMPLETED 5 YEARS IN THE COMPANY

A-8: DETAILS OF THE MANAGERS HAVING BIRTHDAY IN THE CURRENT MONTH

A-9 : EID, DEPT , DESI , SALARY OF THE EMPLOYEE WHO IS GETTING THE MAXIMUM SALARY

A-10 : EID, NAME OF EMPLOYEE WHO HAS LONGEST NAME

# 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
```

```
    DECLARE @C AS INT;
```

```
    SET @C=@A+@B;
```

```
    RETURN @C;
```

```
END;
```

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

```
DROP FUNCTION MYSUM;
```

# 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')
```



# 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 1<sup>ST</sup> CHARACTER OF 1<sup>ST</sup> NAME , 1<sup>ST</sup> 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.**