--Numeric functions

--ROUND (EXPRESSION): rounds the number to a specified length

SELECT

SALARY,

ROUND (SALARY, 1) AS OneDecimalPlace,

ROUND (SALARY, 2) AS TwoDecimalPlace

FROM FUNCTIONS

--ISNUMERIC (EXPRESSION) - a Boolean value returning 1 if it’s a numeric, otherwise 0

SELECT ZIPCODE, ISNUMERIC (ZIPCODE) AS NUMERIC\_OR\_NOT

FROM FUNCTIONS

--Date/time functions:

SELECT \* FROM FUNCTIONS

SELECT GETDATE () AS TODAYS\_DATE --<< returns the current date and time

SELECT DAY (GETDATE ()) AS TODAYS\_DAY --<< to extract the day from the current date use day

SELECT MONTH (GETDATE ()) AS TODAYS\_MONTH --<< to extract the month from the current date use month

SELECT YEAR (GETDATE ()) AS TODAYS\_YEAR --<< to extract the year from the current date use year

--The DATE\_ADD () function adds or subtracts a specified time interval to a date.

SELECT DATEADD (MONTH, 1, GETDATE ()) AS ADD\_MONTH

SELECT DATEADD (MONTH,-1, GETDATE ()) AS SUBTRACT\_MONTH

--HOW MANY MONTHS HAVE EMPLOYEES WORKED FOR THE COMPANY?

--HOW MANY MONTHS HAS BOB WORKED FOR THE COMPANY?

--DATEDIFF (date): returns number of units between the two specified dates

SELECT

RTRIM(LTRIM(FNAME)) AS FirstName,

RTRIM(LTRIM(LNAME)) AS LastName,

HIREDATE,

CONVERT (VARCHAR (27),DATEDIFF(MONTH,HireDate,GETDATE())) AS MONTHS\_WORKED --<< gives the difference between the hiredate and present date

FROM FUNCTIONS

WHERE FNAME LIKE '%BOB'

--GIVE BONUS OF 10 PERCENT TO AN EMPLOYEE WHO HAS WORKED GREATED THAN 40 MONTHS

SELECT

UPPER(RTRIM(LTRIM(FNAME))) AS FirstName,

LOWER(RTRIM(LTRIM(LNAME))) AS LastName,

HIREDATE,

CONVERT (VARCHAR (27),DATEDIFF(MONTH,HireDate,GETDATE())) AS MONTHS\_WORKED,

SALARY,

(Salary \* .10) AS BONUS,

(Salary \* .10) + Salary AS SALARYWITHBONUS

FROM FUNCTIONS

WHERE FNAME LIKE '%BOB'

AND CONVERT (VARCHAR (27),DATEDIFF(MONTH,HireDate,GETDATE())) >= 40

--WHAT IS THE NAME OF THE MONTH AND DAY EACH EMPLOYEE STARTED WORKING?

--DATENAME(date): returns the name of the date specified as a character

SELECT

LTRIM(Fname) AS FirstName,

LTRIM(RTRIM(Lname)) AS LastName,

HireDate,

DATENAME(MONTH,HIREDATE) AS MONTH\_HIRED,

DATENAME(DAY, HireDate) AS [DAY\_DATE],

DATENAME(WEEKDAY,HIREDATE) AS [WEEKDAY]

FROM FUNCTIONS

--The DATEPART(EXPRESSION) function is used to return a single part of a date/time

SELECT FuncID, HireDate, DATEPART(yyyy, HireDate) AS Function\_Year,

DATEPART(mm, HireDate) AS Function\_Month,

DATEPART(dd, HireDate) AS Function\_Day

FROM FUNCTIONS

WHERE FuncID In (1,2,3)

--Example of how to use date functions. When is a holiday? The following script will get current date and determine if it's a holiday.

--If any of the months and days

SELECT

CASE

WHEN (MONTH (GETDATE ()) = 7 AND DAY (GETDATE ()) = 4) OR -- July the 4th

(MONTH (GETDATE ()) = 1 AND DAY (GETDATE ()) = 1) OR -- New Year's Day

(MONTH (GETDATE ()) = 12 AND DAY (GETDATE ()) = 25) OR -- Christmas Day

(MONTH (GETDATE ()) = 11 AND DAY (GETDATE ()) BETWEEN 22 AND 28

AND DATENAME (DW, GETDATE ()) = 'Thursday') OR -- Thanksgiving

(MONTH (GETDATE ()) = 5 AND DAY (GETDATE ()) BETWEEN 25 AND 31

AND DATENAME (DW, GETDATE ()) = 'Monday') OR -- Memorial Day

(MONTH (GETDATE ()) = 9 AND DAY (GETDATE ()) BETWEEN 1 AND 7

AND DATENAME (DW, GETDATE ()) = 'Monday') -- Labor Day

THEN 'Holiday'

ELSE 'Not a Holiday'

END AS [Is US Holiday]

--ISDATE, IS THE FORMAT TRUE OR NOT

--ISDATE (EXPRESSION) returns a 1 or a 0 indicating a true or false result.

SELECT

ISDATE ('11/29/13') AS 'MM/DD/YY', --<< True

ISDATE ('2013-11-29') AS 'YYYY/MM/DD', --<< True

ISDATE ('13/11/29') AS 'YYYY/MM/DD' --<< false, the year is not formatted as 4 digits