Chapter 06: MySQL Function

Introduction

- Data can be manipulated in queries through functions supported by SQL.
- A function is a special type of predefined command set that performs some operation and return a single value. Functions operate on zero, one, two or more values that are provided to them.
- The values that are provided to functions are called parameters or arguments.

Function:- " A function is a special type of predefined command set that performs some operation and returns a single value.

STRING FUNCTION

- CHAR( ) :- This function returns the character for each integer passed.

  Syntax:-- CHAR(value[, value2.....])
  - Return a string made up of the ASCII representation of the decimal value list.
  - String in numeric formate are converted to a decimal value.
  - Null values are ignored.

- CONCAT ( )
  - This function concatenates two strings.
  - Conat(str1, str2.....)
  - Returns argument str1 concatenated with argument str2.
- LOWER/LCASE( )
  - This function converts a string into lowercase.
  - Lower(str)
  - LCASE(str)
  - Returns the argument str, with all letters in lowercase.
  - The return value has the same data type as the argument char(CHAR OR VARCHAR)
- SUBSTR( )
  - This function extracts a substring from a given string .
  - SUB(str,m[,n]) OR SUBstr(str From m[FOR n])
  - Returns a portion of str, beginning at character m,n characters long.if m is 0, it is trated as 1. If m is positive, MySQL counts from the beginning of str to find the first character. If m is negative, MySQL counts backwards from the end of str. If n is omitted, My SQL returns all characters to the end of str. If n is less than 1, a null is returned.

- Floating point numbers passed as arguments to substr are automatically converted to integers,

- UPPER/UCASE

  This function converts the given string into upper case.
  ----UPPER(str) -----UCASE(str)
  - Returns argument str, withallletters uppercase.
  - The return value has the same data type as the argument str.

- LTRIM

  This function removes leading spaces i.e spaces from the left of given string.
  LTRIM(str)
  - Removes spaces from the left of argument str with initial characters removed.

- RTRIM
  - This function removes trailing spaces i.e., spaces from the right of given string.
  - RTRIM(str)
  - Returns str, with trailing spaces removed after the last character.
- TRIM

  This function removes leading and trailing spaces from a given string i.e it performscombined functions of LTRIM( ) and RTRM( ).
  TRIM([{BOTH | LEADING | TRAILING } [REMSTR] FROM]STR), trm([remstr FROM] str)
  - Returns the string str with all remstr prefixes or suffixes removed.
  - If none of the specifiers BOTH ,LEADING, or TRAILING is given , BOTH is assumed.
  - remstr is optional and , if not specified, spaces are removed.
- INSTR

  This function removes searches for given second string into the given first string
  INSTR(str1,str2)
  - Searches str1 for str2 and returns the position.
- Length
  - This function returns the length of a given string in bytes..
  - LENGTH(str)
  - Returns the length of parameter specified by argument str in characters.
  - If argument str has datatype CHAR, the length includes all trailing blanks.
  - If argument str is null, his function returns null.
- Left( )

  This function returns the leftmost number of characters as specified.
  LEFT(str,len)
  - Returns the leftmost len characters from the string str.
  - Returns NULL if any argument is NULL.
- Right( )

This function returns the rightmost number of characters as specified.

RIGHT(str,len)

- Returns the rightmost len characters from the string str.
- Returns NULL if any argument is NULL.

- MID( )

This function returns a substring starting from the specified.

MID(str,pos,len)

- Returns a substring from str starting from pos and having number of characters as len.
- MID(str,pos,len) is a synonym for SUBSTRING(STR,POS,LEN)

- MOD( )

This function returns the modulus(i.e., remainder) of given two numbers.

- MOD(m,n), M%N , M MOD N
- Returns remainder of argument m divided argument n.
- Returns m if n is 0 i.e, if denominator is 0.

- Power/Pow( )
  - This function returns m^n i.e , a number m raised to the nth power.
  - POWER(m, n) or POW(m,n)
  - Returns value of argument m raised to the nth power.
  - The base m and the exponent n can be any numbers, but if m is negative, n must be an integer.

- ROUND( )

This function returns a number rounded off as per given specifications

ROUND(n[,m])

- Returns value of argument n rounded to m places right of the decimal point; if m is omitted to 0 place, m can be negative to round off digits left of the decimal point. M must be an integer.

- SIGN( )

This function returns sign of a given number.

- Sign(n)
- If argument n<0, the function returns-1;
- If argument n>0, the function returns 1
-

- SQRT( )
  - This function returns the square root of given number..
  - SQRT(n)
  - Returns square root of argument n. the value n cannot be negative
  - SQRT returns a “real” result.

- TRUNCATE( )

This function returns a number with some digits truncated.

TRUNCATE(n,m)

- Returns value of argument n truncated to argument m decimal places.
- If argument m is given as 0 places, m can be negative to truncate(i.e make zero) m digits Left of the decimal point.

Date and time function –Date functions operate on values of the Date datatype

- CURDATE()/CURRENT _DATE():- This function returns the current date.
  - CURDATE( ) OR CURRENT_DATE( ) OR CURRENT_DATE
  - Returns the current date as a value in 'YYYY-MM-DD' or YYYYMMDD format , depending on whether the function is used in a string or numeric context.
  - CURRENT_DATE and CURRENT_DATE( ) is the synonym for CURDATE( )
- DATE()
  - This function extracts the date part of a date or datetime expression.
  - Extracts the date part of the date or detetime expressions expr
  - DATE(expr)
- MONTH()
    - This function returns the month from the date passed
    - MONTH( )
    - Returns the month for date, in the range 1 to 12 for January to December.
    - Return 0 for dates such as '0000-00-00' or '2008-00-00' that have a zero month part.
- MONTHNAME( )
  - This function returns the name of the month for a date.
  - MONTHNAME(DATE)
  - Returns the name of the month of the given date.
- DAY()

YEAR( ) –

- this function returns the year part of a date.
- YEAR(date)
- Returns the year for date , in the range 1000 to 9999.
- Returns 0 for the "ZERO" date

DAYNAME( )

- This function returns the name of weekday
- DAYNAME(date())
- Returns the name of the weekday for date.

DAYOFMONTH( )

- This function returns the day of month.
- DAYOFMONTH(DATE)
- Returns the day of the month for date in the range 1 to 31.
- Returns or 0 for dates such as '0000-00-00' or '2008'-00-00' that have a zero day part.

DAYOFWEEK( )

- This function returns the day of week.
- DAYOFWEEK(date)
- Returns the weekday index for date(1=Sunday,2=Monday,….7=Saturday)

DAYOFYEAR( )

- This function returns the day of year.
- DAYOFYEAR(date)
- Returns the day of the year for date , in the range 1 to 366.

NOW()

- This function returns the current date and time.
- NOW()
- Returns the current date and time as a value in 'YYYY'-MM-DD HH:MM:SS' or YYYYMMDDHHMMSS.uuuuuu format, dependingon whether the function is used in a string or numeric context.
- The value is expressed in the current time zone.
- Now() returns a constant time that indicates the time at which the statement began to execute.