String Functions

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| Function | Description |
| [ASCII](https://www.w3schools.com/sql/func_mysql_ascii.asp) | Returns the ASCII value for the specific character |
| [CHAR\_LENGTH](https://www.w3schools.com/sql/func_mysql_char_length.asp) | Returns the length of a string (in characters) |
| [CHARACTER\_LENGTH](https://www.w3schools.com/sql/func_mysql_character_length.asp) | Returns the length of a string (in characters) |
| [CONCAT](https://www.w3schools.com/sql/func_mysql_concat.asp) | Adds two or more expressions together |
| [CONCAT\_WS](https://www.w3schools.com/sql/func_mysql_concat_ws.asp) | Adds two or more expressions together with a separator |
| [FIELD](https://www.w3schools.com/sql/func_mysql_field.asp) | Returns the index position of a value in a list of values |
| [FIND\_IN\_SET](https://www.w3schools.com/sql/func_mysql_find_in_set.asp) | Returns the position of a string within a list of strings |
| [FORMAT](https://www.w3schools.com/sql/func_mysql_format.asp) | Formats a number to a format like "#,###,###.##", rounded to a specified number of decimal places |
| [INSERT](https://www.w3schools.com/sql/func_mysql_insert.asp) | Inserts a string within a string at the specified position and for a certain number of characters |
| [INSTR](https://www.w3schools.com/sql/func_mysql_instr.asp) | Returns the position of the first occurrence of a string in another string |
| [LCASE](https://www.w3schools.com/sql/func_mysql_lcase.asp) | Converts a string to lower-case |
| [LEFT](https://www.w3schools.com/sql/func_mysql_left.asp) | Extracts a number of characters from a string (starting from left) |
| [LENGTH](https://www.w3schools.com/sql/func_mysql_length.asp) | Returns the length of a string (in bytes) |
| [LOCATE](https://www.w3schools.com/sql/func_mysql_locate.asp) | Returns the position of the first occurrence of a substring in a string |
| [LOWER](https://www.w3schools.com/sql/func_mysql_lower.asp) | Converts a string to lower-case |
| [LPAD](https://www.w3schools.com/sql/func_mysql_lpad.asp) | Left-pads a string with another string, to a certain length |
| [LTRIM](https://www.w3schools.com/sql/func_mysql_ltrim.asp) | Removes leading spaces from a string |
| [MID](https://www.w3schools.com/sql/func_mysql_mid.asp) | Extracts a substring from a string (starting at any position) |

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| Function | Description |
| [POSITION](https://www.w3schools.com/sql/func_mysql_position.asp) | Returns the position of the first occurrence of a substring in a string |
| [REPEAT](https://www.w3schools.com/sql/func_mysql_repeat.asp) | Repeats a string as many times as specified |
| [REPLACE](https://www.w3schools.com/sql/func_mysql_replace.asp) | Replaces all occurrences of a substring within a string, with a new substring |
| [REVERSE](https://www.w3schools.com/sql/func_mysql_reverse.asp) | Reverses a string and returns the result |
| [RIGHT](https://www.w3schools.com/sql/func_mysql_right.asp) | Extracts a number of characters from a string (starting from right) |
| [RPAD](https://www.w3schools.com/sql/func_mysql_rpad.asp) | Right-pads a string with another string, to a certain length |
| [RTRIM](https://www.w3schools.com/sql/func_mysql_rtrim.asp) | Removes trailing spaces from a string |
| [SPACE](https://www.w3schools.com/sql/func_mysql_space.asp) | Returns a string of the specified number of space characters |
| [STRCMP](https://www.w3schools.com/sql/func_mysql_strcmp.asp) | Compares two strings |
| [SUBSTR](https://www.w3schools.com/sql/func_mysql_substr.asp) | Extracts a substring from a string (starting at any position) |
| [SUBSTRING](https://www.w3schools.com/sql/func_mysql_substring.asp) | Extracts a substring from a string (starting at any position) |
| [SUBSTRING\_INDEX](https://www.w3schools.com/sql/func_mysql_substring_index.asp) | Returns a substring of a string before a specified number of delimiter occurs |
| [TRIM](https://www.w3schools.com/sql/func_mysql_trim.asp) | Removes leading and trailing spaces from a string |
| [UCASE](https://www.w3schools.com/sql/func_mysql_ucase.asp) | Converts a string to upper-case |
| [UPPER](https://www.w3schools.com/sql/func_mysql_upper.asp) | Converts a string to upper-case |

Examples:

SELECT ASCII(customerName) AS NumCodeOfFirstChar FROM Customers;

SELECT CHAR\_LENGTH("SQL Tutorial") AS LengthOfString;

SELECT CONCAT("SQL ", "Tutorial ", "is ", "fun!") AS ConcatenatedString;

Add several expressions together, and add a "-" separator between them:

SELECT CONCAT\_WS("-", "SQL", "Tutorial", "is", "fun!") AS ConcatenatedString;

SELECT LCASE("SQL Tutorial is FUN!");

SELECT LEFT("SQL Tutorial", 3) AS ExtractFirst3String;

SELECT LENGTH("SQL Tutorial") AS LengthOfString;

SELECT LOWER("SQL Tutorial is FUN!");

SELECT LTRIM("     SQL Tutorial") AS LeftTrimmedString;

SELECT MID("SQL Tutorial", 5, 3) AS ExtractString;

SELECT POSITION("Q" IN "SQL Tutorial") AS MatchPosition;

SELECT REPEAT("SQL Tutorial", 3);

SELECT REPLACE("SQL Tutorial", "SQL", "HTML");

SELECT REVERSE("SQL Tutorial");

SELECT RIGHT("SQL Tutorial is cool", 4) AS ExtractString;

SELECT RTRIM("SQL Tutorial     ") AS RightTrimmedString;

SELECT STRCMP("SQL Tutorial", "SQL Tutorial");

SELECT SUBSTR("SQL Tutorial", 5, 3) AS ExtractString;

SELECT SUBSTRING("SQL Tutorial", 5, 3) AS ExtractString;

SELECT TRIM('    SQL Tutorial    ') AS TrimmedString;

SELECT UPPER("SQL Tutorial is FUN!");

Numeric Functions

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| Function | Description |
| [ABS](https://www.w3schools.com/sql/func_mysql_abs.asp) | Returns the absolute value of a number |
| [ACOS](https://www.w3schools.com/sql/func_mysql_acos.asp) | Returns the arc cosine of a number |
| [ASIN](https://www.w3schools.com/sql/func_mysql_asin.asp) | Returns the arc sine of a number |
| [ATAN](https://www.w3schools.com/sql/func_mysql_atan.asp) | Returns the arc tangent of one or two numbers |
| [ATAN2](https://www.w3schools.com/sql/func_mysql_atan2.asp) | Returns the arc tangent of two numbers |
| [AVG](https://www.w3schools.com/sql/func_mysql_avg.asp) | Returns the average value of an expression |
| [CEIL](https://www.w3schools.com/sql/func_mysql_ceil.asp) | Returns the smallest integer value that is >= to a number |
| [CEILING](https://www.w3schools.com/sql/func_mysql_ceiling.asp) | Returns the smallest integer value that is >= to a number |
| [COS](https://www.w3schools.com/sql/func_mysql_cos.asp) | Returns the cosine of a number |
| [COT](https://www.w3schools.com/sql/func_mysql_cot.asp) | Returns the cotangent of a number |
| [COUNT](https://www.w3schools.com/sql/func_mysql_count.asp) | Returns the number of records returned by a select query |
| [DEGREES](https://www.w3schools.com/sql/func_mysql_degrees.asp) | Converts a value in radians to degrees |
| [DIV](https://www.w3schools.com/sql/func_mysql_div.asp) | Used for integer division |
| [EXP](https://www.w3schools.com/sql/func_mysql_exp.asp) | Returns e raised to the power of a specified number |
| [FLOOR](https://www.w3schools.com/sql/func_mysql_floor.asp) | Returns the largest integer value that is <= to a number |
| [GREATEST](https://www.w3schools.com/sql/func_mysql_greatest.asp) | Returns the greatest value of the list of arguments |
| [LEAST](https://www.w3schools.com/sql/func_mysql_least.asp) | Returns the smallest value of the list of arguments |
| [LN](https://www.w3schools.com/sql/func_mysql_ln.asp) | Returns the natural logarithm of a number |

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| Function | Description |
| [LOG](https://www.w3schools.com/sql/func_mysql_log.asp) | Returns the natural logarithm of a number, or the logarithm of a number to a specified base |
| [LOG10](https://www.w3schools.com/sql/func_mysql_log10.asp) | Returns the natural logarithm of a number to base 10 |
| [LOG2](https://www.w3schools.com/sql/func_mysql_log2.asp) | Returns the natural logarithm of a number to base 2 |
| [MAX](https://www.w3schools.com/sql/func_mysql_max.asp) | Returns the maximum value in a set of values |
| [MIN](https://www.w3schools.com/sql/func_mysql_min.asp) | Returns the minimum value in a set of values |
| [MOD](https://www.w3schools.com/sql/func_mysql_mod.asp) | Returns the remainder of a number divided by another number |
| [PI](https://www.w3schools.com/sql/func_mysql_pi.asp) | Returns the value of PI |
| [POW](https://www.w3schools.com/sql/func_mysql_pow.asp) | Returns the value of a number raised to the power of another number |
| [POWER](https://www.w3schools.com/sql/func_mysql_power.asp) | Returns the value of a number raised to the power of another number |
| [RADIANS](https://www.w3schools.com/sql/func_mysql_radians.asp) | Converts a degree value into radians |
| [RAND](https://www.w3schools.com/sql/func_mysql_rand.asp) | Returns a random number |
| [ROUND](https://www.w3schools.com/sql/func_mysql_round.asp) | Rounds a number to a specified number of decimal places |
| [SIGN](https://www.w3schools.com/sql/func_mysql_sign.asp) | Returns the sign of a number |
| [SIN](https://www.w3schools.com/sql/func_mysql_sin.asp) | Returns the sine of a number |
| [SQRT](https://www.w3schools.com/sql/func_mysql_sqrt.asp) | Returns the square root of a number |
| [SUM](https://www.w3schools.com/sql/func_mysql_sum.asp) | Calculates the sum of a set of values |
| [TAN](https://www.w3schools.com/sql/func_mysql_tan.asp) | Returns the tangent of a number |
| [TRUNCATE](https://www.w3schools.com/sql/func_mysql_truncate.asp) | Truncates a number to the specified number of decimal places |

Examples:

SELECT ABS(-243.5);

SELECT AVG(buyPrice) AS AveragePrice FROM Products;

SELECT CEIL(25.75);

SELECT CEILING(25.75);

SELECT COUNT(\*) AS NumberOfPerson FROM Person;

SELECT 10 DIV 5;

SELECT EXP(1);

SELECT FLOOR(25.75);

SELECT GREATEST(3, 12, 34, 8, 25);

SELECT LEAST(3, 12, 34, 8, 25);

SELECT MAX(age) AS Eldest FROM Person;

SELECT MIN(age) AS Youngest FROM Person;

SELECT MOD(18, 4);

SELECT PI();

SELECT POW(4, 2);

Return a random decimal number (no seed value - so it returns a completely random number >= 0 and <1):

SELECT RAND();

SELECT ROUND(135.375, 2);

SELECT SUM(QuantityOrdered) AS TotalItemsOrdered FROM OrderDetails;

SELECT TRUNCATE(135.375, 2);

Date Functions

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| --- | --- |
| Function | Description |
| [ADDDATE](https://www.w3schools.com/sql/func_mysql_adddate.asp) | Adds a time/date interval to a date and then returns the date |
| [ADDTIME](https://www.w3schools.com/sql/func_mysql_addtime.asp) | Adds a time interval to a time/datetime and then returns the time/datetime |
| [CURDATE](https://www.w3schools.com/sql/func_mysql_curdate.asp) | Returns the current date |
| [CURRENT\_DATE](https://www.w3schools.com/sql/func_mysql_current_date.asp) | Returns the current date |
| [CURRENT\_TIME](https://www.w3schools.com/sql/func_mysql_current_time.asp) | Returns the current time |
| [CURRENT\_TIMESTAMP](https://www.w3schools.com/sql/func_mysql_current_timestamp.asp) | Returns the current date and time |
| [CURTIME](https://www.w3schools.com/sql/func_mysql_curtime.asp) | Returns the current time |
| [DATE](https://www.w3schools.com/sql/func_mysql_date.asp) | Extracts the date part from a datetime expression |
| [DATEDIFF](https://www.w3schools.com/sql/func_mysql_datediff.asp) | Returns the number of days between two date values |
| [DATE\_ADD](https://www.w3schools.com/sql/func_mysql_date_add.asp) | Adds a time/date interval to a date and then returns the date |
| [DATE\_FORMAT](https://www.w3schools.com/sql/func_mysql_date_format.asp) | Formats a date |
| [DATE\_SUB](https://www.w3schools.com/sql/func_mysql_date_sub.asp) | Subtracts a time/date interval from a date and then returns the date |
| [DAY](https://www.w3schools.com/sql/func_mysql_day.asp) | Returns the day of the month for a given date |
| [DAYNAME](https://www.w3schools.com/sql/func_mysql_dayname.asp) | Returns the weekday name for a given date |
| [DAYOFMONTH](https://www.w3schools.com/sql/func_mysql_dayofmonth.asp) | Returns the day of the month for a given date |
| [DAYOFWEEK](https://www.w3schools.com/sql/func_mysql_dayofweek.asp) | Returns the weekday index for a given date |
| [DAYOFYEAR](https://www.w3schools.com/sql/func_mysql_dayofyear.asp) | Returns the day of the year for a given date |
| [EXTRACT](https://www.w3schools.com/sql/func_mysql_extract.asp) | Extracts a part from a given date |
| [FROM\_DAYS](https://www.w3schools.com/sql/func_mysql_from_days.asp) | Returns a date from a numeric datevalue |
| [HOUR](https://www.w3schools.com/sql/func_mysql_hour.asp) | Returns the hour part for a given date |
| [LAST\_DAY](https://www.w3schools.com/sql/func_mysql_last_day.asp) | Extracts the last day of the month for a given date |
| [LOCALTIME](https://www.w3schools.com/sql/func_mysql_localtime.asp) | Returns the current date and time |
| [LOCALTIMESTAMP](https://www.w3schools.com/sql/func_mysql_localtimestamp.asp) | Returns the current date and time |
| [MAKEDATE](https://www.w3schools.com/sql/func_mysql_makedate.asp) | Creates and returns a date based on a year and a number of days value |
| [MAKETIME](https://www.w3schools.com/sql/func_mysql_maketime.asp) | Creates and returns a time based on an hour, minute, and second value |
| [MICROSECOND](https://www.w3schools.com/sql/func_mysql_microsecond.asp) | Returns the microsecond part of a time/datetime |

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| Function | Description |
| [MINUTE](https://www.w3schools.com/sql/func_mysql_minute.asp) | Returns the minute part of a time/datetime |
| [MONTH](https://www.w3schools.com/sql/func_mysql_month.asp) | Returns the month part for a given date |
| [MONTHNAME](https://www.w3schools.com/sql/func_mysql_monthname.asp) | Returns the name of the month for a given date |
| [NOW](https://www.w3schools.com/sql/func_mysql_now.asp) | Returns the current date and time |
| [PERIOD\_ADD](https://www.w3schools.com/sql/func_mysql_period_add.asp) | Adds a specified number of months to a period |
| [PERIOD\_DIFF](https://www.w3schools.com/sql/func_mysql_period_diff.asp) | Returns the difference between two periods |
| [QUARTER](https://www.w3schools.com/sql/func_mysql_quarter.asp) | Returns the quarter of the year for a given date value |
| [SECOND](https://www.w3schools.com/sql/func_mysql_second.asp) | Returns the seconds part of a time/datetime |
| [SEC\_TO\_TIME](https://www.w3schools.com/sql/func_mysql_sec_to_time.asp) | Returns a time value based on the specified seconds |
| [STR\_TO\_DATE](https://www.w3schools.com/sql/func_mysql_str_to_date.asp) | Returns a date based on a string and a format |
| [SUBDATE](https://www.w3schools.com/sql/func_mysql_subdate.asp) | Subtracts a time/date interval from a date and then returns the date |
| [SUBTIME](https://www.w3schools.com/sql/func_mysql_subtime.asp) | Subtracts a time interval from a datetime and then returns the time/datetime |
| [SYSDATE](https://www.w3schools.com/sql/func_mysql_sysdate.asp) | Returns the current date and time |
| [TIME](https://www.w3schools.com/sql/func_mysql_time.asp) | Extracts the time part from a given time/datetime |
| [TIME\_FORMAT](https://www.w3schools.com/sql/func_mysql_time_format.asp) | Formats a time by a specified format |
| [TIME\_TO\_SEC](https://www.w3schools.com/sql/func_mysql_time_to_sec.asp) | Converts a time value into seconds |
| [TIMEDIFF](https://www.w3schools.com/sql/func_mysql_timediff.asp) | Returns the difference between two time/datetime expressions |
| [TIMESTAMP](https://www.w3schools.com/sql/func_mysql_timestamp.asp) | Returns a datetime value based on a date or datetime value |
| [TO\_DAYS](https://www.w3schools.com/sql/func_mysql_to_days.asp) | Returns the number of days between a date and date "0000-00-00" |
| [WEEK](https://www.w3schools.com/sql/func_mysql_week.asp) | Returns the week number for a given date |
| [WEEKDAY](https://www.w3schools.com/sql/func_mysql_weekday.asp) | Returns the weekday number for a given date |
| [WEEKOFYEAR](https://www.w3schools.com/sql/func_mysql_weekofyear.asp) | Returns the week number for a given date |
| [YEAR](https://www.w3schools.com/sql/func_mysql_year.asp) | Returns the year part for a given date |
| [YEARWEEK](https://www.w3schools.com/sql/func_mysql_yearweek.asp) | Returns the year and week number for a given date |

Examples:

SELECT CURDATE();

SELECT CURRENT\_DATE();

SELECT CURRENT\_TIME();

SELECT CURRENT\_TIMESTAMP();

SELECT CURTIME();

SELECT DATE("2017-06-15");

Return the number of days between two date values:

SELECT DATEDIFF("2017-06-25", "2017-06-15");

SELECT LOCALTIME();

Return the week number for a date:

SELECT WEEK("2017-06-15");

Return the weekday number for a date:

SELECT WEEKDAY("2017-06-15");

Return the year and week number for a date:

SELECT YEARWEEK("2017-06-15");

Advanced Functions

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| --- | --- |
| Function | Description |
| [BIN](https://www.w3schools.com/sql/func_mysql_bin.asp) | Returns a binary representation of a number |
| [BINARY](https://www.w3schools.com/sql/func_mysql_binary.asp) | Converts a value to a binary string |
| [CASE](https://www.w3schools.com/sql/func_mysql_case.asp) | Goes through conditions and return a value when the first condition is met |
| [CAST](https://www.w3schools.com/sql/func_mysql_cast.asp) | Converts a value (of any type) into a specified datatype |
| [COALESCE](https://www.w3schools.com/sql/func_mysql_coalesce.asp) | Returns the first non-null value in a list |
| [CONNECTION\_ID](https://www.w3schools.com/sql/func_mysql_connection_id.asp) | Returns the unique connection ID for the current connection |
| [CONV](https://www.w3schools.com/sql/func_mysql_conv.asp) | Converts a number from one numeric base system to another |
| [CONVERT](https://www.w3schools.com/sql/func_mysql_convert.asp) | Converts a value into the specified datatype or character set |
| [CURRENT\_USER](https://www.w3schools.com/sql/func_mysql_current_user.asp) | Returns the user name and host name for the MySQL account that the server used to authenticate the current client |
| [DATABASE](https://www.w3schools.com/sql/func_mysql_database.asp) | Returns the name of the current database |
| [IF](https://www.w3schools.com/sql/func_mysql_if.asp) | Returns a value if a condition is TRUE, or another value if a condition is FALSE |
| [IFNULL](https://www.w3schools.com/sql/func_mysql_ifnull.asp) | Return a specified value if the expression is NULL, otherwise return the expression |
| [ISNULL](https://www.w3schools.com/sql/func_mysql_isnull.asp) | Returns 1 or 0 depending on whether an expression is NULL |
| [LAST\_INSERT\_ID](https://www.w3schools.com/sql/func_mysql_last_insert_id.asp) | Returns the AUTO\_INCREMENT id of the last row that has been inserted or updated in a table |
| [NULLIF](https://www.w3schools.com/sql/func_mysql_nullif.asp) | Compares two expressions and returns NULL if they are equal. Otherwise, the first expression is returned |
| [SESSION\_USER](https://www.w3schools.com/sql/func_mysql_session_user.asp) | Returns the current MySQL user name and host name |
| [SYSTEM\_USER](https://www.w3schools.com/sql/func_mysql_system_user.asp) | Returns the current MySQL user name and host name |
| [USER](https://www.w3schools.com/sql/func_mysql_user.asp) | Returns the current MySQL user name and host name |
| [VERSION](https://www.w3schools.com/sql/func_mysql_version.asp) | Returns the current version of the MySQL database |

Examples:

SELECT BIN(15);

Convert a value to a binary string:

SELECT BINARY "SQL Tutorial";

Convert a value to a DATE datatype:

SELECT CONVERT("2017-08-29", DATE);

Return the user name and host name for the MySQL account:

SELECT CURRENT\_USER();

SELECT DATABASE();

Return the current user name and host name for the MySQL connection:

SELECT SESSION\_USER();

Return the current user name and host name for the MySQL connection:

SELECT SYSTEM\_USER();

Return the current user name and host name for the MySQL connection:

SELECT USER();

Return the current version of the MySQL database:

SELECT VERSION();

DATE\_FORMAT(*date*, *format*)

* DATE\_FORMAT(*date*, *format*)
* SELECT DATE\_FORMAT("2017-06-15", "%Y");
* SELECT DATE\_FORMAT("2017-06-15", '%Y-%m-%d');

|  |  |
| --- | --- |
| %a | Abbreviated weekday name (Sun to Sat) |
| %b | Abbreviated month name (Jan to Dec) |
| %c | Numeric month name (0 to 12) |
| %D | Day of the month as a numeric value, followed by suffix (1st, 2nd, 3rd, ...) |
| %d | Day of the month as a numeric value (01 to 31) |
| %e | Day of the month as a numeric value (0 to 31) |
| %f | Microseconds (000000 to 999999) |
| %H | Hour (00 to 23) |
| %h | Hour (00 to 12) |
| %I | Hour (00 to 12) |
| %i | Minutes (00 to 59) |
| %j | Day of the year (001 to 366) |
| %k | Hour (0 to 23) |
| %l | Hour (1 to 12) |
| %M | Month name in full (January to December) |
| %m | Month name as a numeric value (00 to 12) |
| %p | AM or PM |
| %r | Time in 12 hour AM or PM format (hh:mm:ss AM/PM) |
| %S | Seconds (00 to 59) |
| %s | Seconds (00 to 59) |
| %T | Time in 24 hour format (hh:mm:ss) |
| %U | Week where Sunday is the first day of the week (00 to 53) |
| %u | Week where Monday is the first day of the week (00 to 53) |
| %V | Week where Sunday is the first day of the week (01 to 53). Used with %X |
| %v | Week where Monday is the first day of the week (01 to 53). Used with %x |
| %W | Weekday name in full (Sunday to Saturday) |
| %w | Day of the week where Sunday=0 and Saturday=6 |
| %X | Year for the week where Sunday is the first day of the week. Used with %V |
| %x | Year for the week where Monday is the first day of the week. Used with %v |
| %Y | Year as a numeric, 4-digit value |
| %y | Year as a numeric, 2-digit value |