

numeric

TINYINT [(<i>digits</i>)] [unsigned zerofill]	256
BIT,BOOL,BOOLEAN	synonyms for tinyint(1)
SMALLINT [(<i>digits</i>)] [unsigned zerofill]	65,536
MEDIUMINT [(<i>digits</i>)] [unsigned zerofill]	16,777,216
INT,INTEGER [(<i>digits</i>)] [unsigned zerofill]	4,294,967,296
BIGINT [(<i>digits</i>)] [unsigned zerofill]	18,446,744,073,709,551,616
FLOAT [(<i>digits</i> , <i>digits after decimal</i>)] [unsigned zerofill]	23 digits
DOUBLE [(<i>digits</i> , <i>digits after decimal</i>)] [unsigned zerofill]	24...53 digits
DECIMAL [(<i>digits</i> , <i>digits after decimal</i>)] [unsigned zerofill]	a type of DOUBLE stored as a string

strings

CHAR [(<i>length</i>)]	0...255 – fixed length, right-padded with spaces
VARCHAR [(<i>length</i>)]	0...255 – variable length (trailing spaces removed)
BINARY,VARBINARY [(<i>length</i>)]	0...255 – stores bytes instead of character strings
TINYTEXT TINYBLOB	0...255 – text stores strings, blob stores bytes
TEXT BLOB	0...65,535 – text stores strings, blob stores bytes
MEDIUMTEXT MEDIUMBLOB	0...16,777,215 – text stores strings, blob stores bytes
LONGTEXT LONGBLOB	0...4,294,967,295 – text stores strings, blob stores bytes
ENUM (<i>'value1'</i> , <i>'value2'</i> ,...)	list of up to 65,535 members, can have only one value
SET (<i>'value1'</i> , <i>'value2'</i> ,...)	list of up to 64 members, can have zero or more values

REGEXP '*expression*'

date & time

DATE	'YYYY-MM-DD'
DATETIME	'YYYY-MM-DD HH:MM:SS'
TIMESTAMP [(<i>display width</i>)]	'YYYY-MM-DD HH:MM:SS' – display widths: 6, 8, 12 or 14
TIME	'HH:MM:SS'
YEAR [(2 4)]	'YYYY' – a year in 2-digit or 4-digit format

commands

connecting to a database

mysql [-h *hostname*] [-u *username*] [-p*password*] [*dbname*]

importing data

mysql *dbname* < *dbdumpfile.sql*

backup a database

mysqldump [-options] *dbname* [> *dumpfile.sql*]

functions

ABS (<i>X</i>)	SIGN (<i>X</i>)
FLOOR (<i>X</i>)	CEILING (<i>X</i>)
ROUND (<i>X</i> , <i>D</i>)	EXP (<i>X</i>)
DIV (<i>X</i>)	MOD (<i>N</i> , <i>M</i>)
POW (<i>X</i> , <i>Y</i>)	POWER (<i>X</i> , <i>Y</i>)
SQRT (<i>X</i>)	RAND [(<i>seed</i>)]
PI ()	DEGREES (<i>X</i>)
RADIANS (<i>X</i>)	COT (<i>X</i>)
COS (<i>X</i>)	ACOS (<i>X</i>)
SIN (<i>X</i>)	ASIN (<i>X</i>)
TAN (<i>X</i>)	ATAN (<i>X</i>)
LOG (<i>X</i>), LOG2 (<i>X</i>), LOG10 (<i>X</i>)	ATAN2 (<i>X</i>)
TRUNCATE (<i>X</i> , <i>D</i>)	LN (<i>X</i>)



functions

ASCII (<i>'str'</i>)	CONV (<i>number</i> , <i>from_base</i> , <i>to_base</i>)	BIN (<i>num</i>), OCT (<i>num</i>), HEX (<i>num</i>)
ORD (<i>'str'</i>)	CHAR (<i>number</i> [<i>USING charset</i>],...)	CONCAT (<i>'str1'</i> , <i>'str1'</i> ,...)
LENGTH (<i>'str'</i>)	CHAR_LENGTH (<i>'str'</i>)	CONCAT_WS (<i>'separator'</i> , <i>'str1'</i> , <i>'str2'</i>)
BIT_LENGTH (<i>'str'</i>)	REVERSE (<i>'str'</i>)	SOUNDEX (<i>'str'</i>)
LCASE (<i>'str'</i>)	UCASE (<i>'str'</i>)	QUOTE (<i>'str'</i>)
LPAD (<i>'str'</i> , <i>len</i> , <i>'padstr'</i>)	RPAD (<i>'str'</i> , <i>len</i> , <i>'padstr'</i>)	ELT (<i>number</i> , <i>'str1'</i> , <i>'str2'</i> , <i>'str3'</i> ,...)
LEFT (<i>'str'</i> , <i>length</i>)	RIGHT (<i>'str'</i> , <i>length</i>)	FIELD (<i>'str'</i> , <i>'str1'</i> , <i>'str2'</i> , <i>'str3'</i> ,...)
LTRIM (<i>'str'</i>)	RTRIM (<i>'str'</i>)	LOAD_FILE (<i>'filename'</i>)
SPACE (<i>count</i>)	TRIM (<i>'str'</i>)	SUBSTRING (<i>'str'</i> , <i>pos</i> [, <i>length</i>])
REPLACE (<i>'str'</i> , <i>'from'</i> , <i>'to'</i>)	REPEAT (<i>'str'</i> , <i>count</i>)	SUBSTRING_INDEX (<i>'str'</i> , <i>'del'</i> , <i>count</i>)
INSTR (<i>'str'</i> , <i>'substr'</i>)	INSERT (<i>'str'</i> , <i>pos</i> , <i>length</i> , <i>'newstr'</i>)	STRCMP (<i>'str1'</i> , <i>'str2'</i>)
	LOCATE (<i>'substr'</i> , <i>'str'</i> [, <i>pos</i>])	

functions

WEEK (<i>'date'</i> [, <i>mode</i>])	WEEKDAY (<i>'date'</i>)	DAYOFWEEK (<i>'date'</i>)
DAYOFYEAR (<i>'date'</i>)	MONTH (<i>'date'</i>)	MONTHNAME (<i>'date'</i>)
QUARTER (<i>'date'</i>)	YEAR (<i>'date'</i>)	YEARWEEK (<i>'date'</i> [, <i>mode</i>])
HOURL (<i>'date'</i>)	MINUTE (<i>'date'</i>)	SECOND (<i>'date'</i>)
TO_DAYS (<i>'date'</i>)	FROM_DAYS (<i>number</i>)	LAST_DAY (<i>'date'</i>)
SEC_TO_TIME (<i>seconds</i>)	TIME_TO_SEC (<i>'time'</i>)	SYSDATE ()
CURTIME () ,CURRENT_TIME () ,CURRENT_TIME	TIME_FORMAT (<i>'date'</i> , <i>'format'</i>)	
CURDATE () ,CURRENT_DATE () ,CURRENT_DATE	DATE_FORMAT (<i>'date'</i> , <i>'format'</i>)	
NOW () ,CURRENT_TIMESTAMP () ,CURRENT_TIMESTAMP	LOCALTIME () ,LOCALTIME	
UNIX_TIMESTAMP (<i>'date'</i>)	FROM_UNIXTIME (<i>'unix_timestamp'</i> , <i>'format'</i>)	
PERIOD_ADD (<i>'period'</i> , <i>num</i>)	PERIOD_DIFF (<i>'period'</i> , <i>num</i>)	EXTRACT (<i>unit</i> FROM <i>'date'</i>)
ADDDATE (<i>'date'</i> , <i>days</i>)	ADDDATE (<i>'date'</i> , <i>INTERVAL expr unit</i>)	DATE_ADD (<i>'date'</i> , <i>INTERVAL expr unit</i>)
SUBDATE (<i>'date'</i> , <i>days</i>)	SUBDATE (<i>'date'</i> , <i>INTERVAL expr unit</i>)	DATE_SUB (<i>'date'</i> , <i>INTERVAL expr unit</i>)

syntax & examples

Create a database

```
mysql> CREATE DATABASE dbname;
```

Select a database

```
mysql> USE dbname;
```

Delete a database

```
mysql> DROP DATABASE dbname;
```

Add a user to a database

```
mysql> GRANT ALL [PRIVILEGES] ON database.* TO [username]@[hostname] [IDENTIFIED BY 'password'];
```

List tables in a database

```
mysql> SHOW TABLES;
```

Show table format

```
mysql> DESCRIBE table;
```

Delete records in a table

```
mysql> DELETE FROM TABLE table [WHERE conditions];
```

Create a table

```
mysql> CREATE TABLE table (column definition,...) [options...];
```

Change a column definition in a table

```
mysql> ALTER TABLE table CHANGE column definition;
```

Change auto_increment value

```
mysql> ALTER TABLE table AUTO_INCREMENT=value;
```

Add a new record

```
mysql> INSERT table (column1, column2,...) VALUES (expr1, expr2...);
```

Update a record in a single table

```
mysql> UPDATE table SET column=expr[, column=expr...] [WHERE conditions] [ORDER BY ...] [LIMIT count]
```

Retrieve information from a table

```
mysql> SELECT {*[expr|column,...]} [FROM table,...] [WHERE conditions] [GROUP BY ...] [HAVING conditions] [ORDER BY ...] [LIMIT count]
```

Show create table syntax

```
mysql> SHOW CREATE TABLE table;
```

Add a column to a table

```
mysql> ALTER TABLE table ADD column definition [AFTER col];
```

Alter table syntax

```
mysql> ALTER TABLE table change specs[, change specs...];
```

or Add a new record

```
mysql> INSERT table SET column=expr[, column=expr...];
```

operators

AND, &&	Logical AND
, OR	Logical OR
XOR	Logical XOR
BINARY	Cast a string to binary string
&	Bitwise AND
	Bitwise OR
^	Bitwise XOR
<<	Left shift
>>	Right shift
-	Invert bits
-	Change sign of value
-	Minus
+	Addition
*	Multiplication
%	Modulo
DIV, /	Integer division, division
<=>	NULL-safe equal to
=	Equal operator
>=	Greater than or equal to
>	Greater than
<=	Less than or equal to
<	Less than
IS	Boolean test
LIKE	Simple pattern matching
!=, <>	Not equal to
NOT LIKE	Negative simple match
NOT REGEXP	Negative regular expression
NOT, !	Negates value
REGEXP	Match on regular expression
RLIKE	Synonym for REGEXP
SOUNDS LIKE	Compare sounds

miscellaneous functions

DATABASE()	VERSION()	CONNECTION_ID()
USER()	CURRENT_USER()	PASSWORD('string')
FOUND_ROWS()	ROW_COUNT()	LAST_INSERT_ID([expr])
BIT_COUNT(number)	FORMAT(number,digits)	BENCHMARK(count, expr)
CAST(expr AS type)	CONVERT(expr, type)	CHARSET('str')
INET_NTOA(expr)	INET_ATON(expr)	LEAST(val1,val2,...)
GET_LOCK('lock',timeout)	RELEASE_LOCK('lock')	GREATEST(val1,val2,...)
ENCRYPT('str','salt')	DECODE('crypt','pass')	ENCODE('str','password')
MD5('string')	SHA1('string')	AES_ENCRYPT('str','key')
COMPRESS('string')	UNCOMPRESS('string')	AES_DECRYPT('str','key')
DES_ENCRYPT('str',{keynum keystr})		DES_DECRYPT('string','key')

grouping functions

AVG(expr)	SUM(expr)
MIN(expr)	MAX(expr)
VARIANCE(expr)	STD(expr)
BIT_AND(expr)	BIT_OR(expr)
COUNT(expr)	
COUNT(DISTINCT expr[, expr...])	
GROUP_CONCAT(expr)	
GROUP_CONCAT([DISTINCT] expr[, expr...] [ORDER BY {int column}expr] [ASC DESC] [, column ...] [SEPARATOR 'string'])	

control flow

```
IF(expression,true_result,false_result)
IFNULL(expression,result)
NULLIF(expression1,expression2)
CASE [value] WHEN [comparison] THEN [result]
    [WHEN [comparison] THEN result...]
    [ELSE result] END
```