

MySQL cheat sheet:

# SQL Cheat Sheet

## What is SQL?

SQL is a database language used to query and manipulate the data in the database.


## MySQL/Language/Definitions

- Data Definition Language(DDL)
- Data Manipulation Language(DML)
- Data Control Language(DCL)
- Data Query Language(DQL)
- Data Transfer Language(DTL)

## Querying from a Table

- **SELECT** a, b **FROM** T; (Querying Data in Columns a, b from Table T)
- **SELECT \* FROM** T; (Querying all rows and columns from a table)
- **SELECT** a, b **FROM** T **WHERE** Condition; (Query data and filter rows with a condition)
- **SELECT DISTINCT** a **FROM** T **WHERE** condition; (Query distinct rows from a table)
- **SELECT** a, b **FROM** T **ORDER BY** ASC/DESC; (Sort the result set in ascending or descending order)
- **SELECT** a, b **FROM** T **ORDER BY** a **LIMIT** n **OFFSET** Offset; (Skip Offset of rows and return the next n rows)
- **SELECT** a, **aggregate(b)** **FROM** T **GROUP BY** A; (Group rows using an aggregate function)
- **SELECT** a, **aggregate(b)** **FROM** T **GROUP BY** A **HAVING** condition; (Filter groups using HAVING Clause)

# MySQL Cheat Sheet



## What is MySQL?

MySQL is an open-source relational database management system. Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language.

Data Type	Date – Time Functions	Working with tables
<ul style="list-style-type: none"><li>• Varchar</li><li>• Char</li><li>• Text</li><li>• Tiny Texttinytext</li><li>• Mediumtext</li><li>• Longtext</li><li>• Blob</li><li>• BIT</li></ul>	<ul style="list-style-type: none"><li>• TIMEDIFF()TIMESTAMPDIFF()</li><li>• CURDATE()</li><li>• NOW()</li><li>• DATADIFF()</li><li>• DATE_FORMAT()</li><li>• DAY()</li><li>• DAYNAME()</li><li>• DAYOFWEEK()</li></ul>	<ul style="list-style-type: none"><li>• Create</li><li>• Insert</li><li>• Update</li><li>• Select</li><li>• Select Distinct</li><li>• Where</li><li>• OrderBy</li><li>• And</li></ul>

## numeric

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

## strings

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

**REGEXP** 'expression'

## date & time

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

## commands

### connecting to a database

# mysql [-h hostname] [-u username] [-ppassword] [dbname]

### importing data

# mysql dbname < dbdumpfile.sql

### backup a database

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

## functions

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



## functions

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

## functions

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