

■ SQL Functions Graphical Cheat Sheet

SQL (including MySQL) functions are grouped mainly into five major types:

Type	Description	Examples
Aggregate Functions	Work on a set of rows and return one value	COUNT(), SUM(), AVG(), MIN(), MAX()
Scalar Functions	Work on one value at a time and return one value	LCASE(), UCASE(), ROUND(), NOW()
String Functions	Manipulate text or strings	CONCAT(), SUBSTRING(), LENGTH(), REPLACE()
Date & Time Functions	Work with dates and times	NOW(), CURDATE(), YEAR(), MONTH(), DATEDIFF()
Numeric Functions	Perform mathematical operations	ABS(), ROUND(), CEIL(), FLOOR(), MOD()

1■■■ Aggregate Functions

Function	Example	Description
COUNT()	SELECT COUNT(*) FROM users;	Counts rows
SUM()	SELECT SUM(salary) FROM employees;	Adds up values
AVG()	SELECT AVG(age) FROM students;	Finds average
MIN()	SELECT MIN(price) FROM products;	Finds smallest value
MAX()	SELECT MAX(price) FROM products;	Finds largest value

2■■■ Scalar Functions

Function	Example	Result
UCASE()	SELECT UPPER('ahad');	'AHAD'
LCASE()	SELECT LOWER('HELLO');	'hello'
LENGTH()	SELECT LENGTH('Ahad');	4
ROUND()	SELECT ROUND(15.678, 2);	15.68
NOW()	SELECT NOW();	Current date & time

3■■■ String Functions

Function	Example	Description
CONCAT()	SELECT CONCAT('Ahad', ' ', 'Khan');	Joins strings
SUBSTRING()	SELECT SUBSTRING('HelloWorld', 1, 5);	'Hello'
REPLACE()	SELECT REPLACE('SQL is easy', 'easy', 'fun');	'SQL is fun'
TRIM()	SELECT TRIM(' space ');	Removes spaces

4■■■ Date & Time Functions

Function	Example	Description
NOW()	SELECT NOW();	Current date and time
CURDATE()	SELECT CURDATE();	Current date
YEAR()	SELECT YEAR(NOW());	Extracts year
MONTH()	SELECT MONTH('2025-10-04');	Returns 10
DATEDIFF()	SELECT DATEDIFF('2025-12-31','2025-01-01');	Days between dates

5■■■ Numeric Functions

Function	Example	Description
ABS()	SELECT ABS(-12.5);	Returns 12.5
ROUND()	SELECT ROUND(12.345, 2);	12.35
CEIL()	SELECT CEIL(12.1);	13
FLOOR()	SELECT FLOOR(12.9);	12
MOD()	SELECT MOD(10, 3);	1 (remainder)