

SQL Cheat Sheet: FUNCTIONS and Implicit JOIN

| Command | Syntax | Description | Example |
|---------------------|--|--|---|
| COUNT | SELECT COUNT(column_name) FROM table_name WHERE condition; | COUNT function returns the number of rows that match a specified criterion. | SELECT COUNT(dep_id) FROM employees; |
| AVG | SELECT AVG(column_name) FROM table_name WHERE condition; | AVG function returns the average value of a numeric column. | SELECT AVG(salary) FROM employees; |
| SUM | SELECT SUM(column_name) FROM table_name WHERE condition; | SUM function returns the total sum of a numeric column. | SELECT SUM(salary) FROM employees; |
| MIN | SELECT MIN(column_name) FROM table_name WHERE condition; | MIN function returns the smallest value of the SELECTED column. | SELECT MIN(salary) FROM employees; |
| MAX | SELECT MAX(column_name) FROM table_name WHERE condition; | MAX function returns the largest value of the SELECTED column. | SELECT MAX(salary) FROM employees; |
| ROUND | SELECT ROUND(2number, decimals, operation) AS RoundValue; | ROUND function rounds a number to a specified number of decimal places. | SELECT ROUND(salary) FROM employees; |
| LENGTH | SELECT LENGTH(column_name) FROM table; | LENGTH function returns the length of a string (in bytes). | SELECT LENGTH(f_name) FROM employees; |
| UCASE | SELECT UCASE(column_name) FROM table; | UCASE function displays the column name in each table in uppercase. | SELECT UCASE(f_name) FROM employees; |
| LCASE | SELECT LCASE(column_name) FROM table; | LCASE function displays the column name in each table in lowercase. | SELECT LCASE(f_name) FROM employees; |
| DISTINCT | SELECT DISTINCT column_name FROM table; | DISTINCT function is used to display data without duplicates. | SELECT DISTINCT UCASE(f_name) FROM employees; |
| DAY | SELECT DAY(column_name) FROM table | DAY function returns the day of the month for a given date. | SELECT DAY(b_date) FROM employees where emp_id = 'E1002'; |
| CURRENT_DATE | SELECT CURRENT_DATE; | CURRENT_DATE is used to display the current date. | SELECT CURRENT_DATE; |
| DATEDIFF() | SELECT DATEDIFF(date1, date2); | DATEDIFF() is used to calculate the difference between two dates or time stamps. The default value generated is the difference in number of days. | SELECT DATEDIFF(CURRENT_DATE, date_column) FROM table; |
| FROM_DAYS() | SELECT FROM_DAYS(number_of_days); | FROM_DAYS() is used to convert a given number of days to YYYY-MM-DD format. | SELECT FROM_DAYS(DATEDIFF(CURRENT_DATE, date_column)) FROM table; |
| DATE_ADD() | SELECT DATE_ADD(date, INTERVAL n type); | DATE_ADD() is used to calculate the date after lapse of mentioned number of units of date type, i.e. if n=3 and type=DAY, the result is a date 3 days after what is mentioned in date column. The type variable can also be months or years. | SELECT DATE_ADD(date, INTERVAL 3 DAY);; |
| DATE_SUB() | SELECT DATE_SUB(date, INTERVAL n type); | DATE_SUB() is used to calculate the date prior to the record date by mentioned number of units of date type, i.e. if n=3 and type=DAY, the result is a date 3 days before what is mentioned in date column. The type variable can also be months or years. | SELECT DATE_SUB(date, INTERVAL 3 DAY);; |
| Subquery | SELECT column_name [, column_name] FROM table1 [, table2] WHERE column_name OPERATOR (SELECT column_name [, column_name] FROM table1 [, table2] [WHERE]) | <p>Subquery is a query within another SQL query and embedded within the WHERE clause.</p> <p>A subquery is used to return data that will be used in the main query as a condition to further restrict the data to be retrieved.</p> | <p>SELECT emp_id, fname, lname, salary FROM employees where salary < (SELECT AVG(salary) FROM employees);</p> <p>SELECT * FROM (SELECT emp_id, f_name, l_name, dep_id FROM employees) AS emp4all;</p> |
| Implicit Inner Join | SELECT column_name(s) FROM table1, table2 WHERE table1.column_name = table2.column_name; | Implicit Inner Join combines two or more records but displays only matching values in both tables. Inner join applies only the specified columns. | SELECT * FROM employees WHERE job_id IN (SELECT job_id FROM jobs); |
| Implicit Cross Join | SELECT column_name(s) FROM table1, table2; | Implicit Cross Join is defined as a Cartesian product where the number of rows in the first table is multiplied by the number of rows in the second table. | SELECT * FROM employees, jobs; |

Author(s)

[Lakshmi Holla](#)
[Abhishek Gagneja](#)



Changelog

| Date | Version | Changed by | Change Description |
|------------|---------|------------------|----------------------|
| 2023-10-03 | 1.3 | Steve Hord | QA pass with edits |
| 2023-10-01 | 1.2 | Abhishek Gagneja | Updated the document |
| 2023-05-04 | 1.1 | Benny Li | Formatting changes |
| 2021-07-28 | 1.0 | Lakshmi Holla | Initial Version |