

# SQL

## CHEATSHEET

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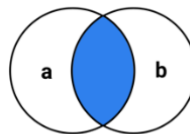
### Common Commands

**SELECT** Select data from database  
**AS** Rename column or table with alias  
**FROM** Specify table we're pulling from  
**WHERE** Filter query to match a condition  
**JOIN** Combine rows from 2 or more tables  
**AND** Combine conditions in a query. All must be met  
**OR** Combine conditions in a query. One must be met  
**LIKE** Search for patterns in a column  
**IN** Specify multiple values when using WHERE  
**IS NULL** Return only rows with a NULL value  
**LIMIT** Limit the number of rows returned  
**CASE** Return value on a specified condition

**CREATE** Create TABLE, DATABASE, INDEX or VIEW  
**DROP** Delete TABLE, DATABASE, or INDEX  
**UPDATE** Update table data  
**DELETE** Delete rows from a table  
**ALTER TABLE** Add/Remove columns from table

**GROUP BY** Group rows that have same values into summary rows  
**ORDER BY** Set order of result. Use DESC to reverse order  
**HAVING** Same as WHERE but used for aggregate functions  
**SUM** Return sum of column  
**AVG** Return average of column  
**MIN** Return min value of column  
**MAX** Return max value of column  
**COUNT** Count number of rows

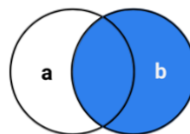
### Joins



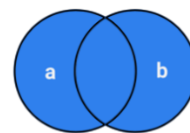
a INNER JOIN b



a LEFT JOIN b



a RIGHT JOIN b



a FULL OUTER JOIN b

### Examples

Select all rows from table with filter applied

```
SELECT * FROM tbl WHERE col1 > 5;
```

Select first 10 rows for 2 columns

```
SELECT col1, col2 FROM tbl LIMIT 10;
```

Select all rows with multiple filters applied

```
SELECT * FROM tbl WHERE col1 > 5 AND col2 < 2;
```

Select all rows from col1 and col2 ordering by col1

```
SELECT col1, col2 FROM tbl ORDER BY 1;
```

Return count of rows in table

```
SELECT COUNT(col1) FROM tbl;
```

Return sum of col1

```
SELECT SUM(col1) FROM tbl;
```

Return max value from col1

```
SELECT MAX(col1) FROM tbl;
```

Computer summary statistics by grouping col2

```
SELECT AVG(col1) FROM tbl GROUP BY col2;
```

Combine data from two tables using a left join

```
SELECT * FROM tbl1 AS t1  
LEFT JOIN tbl2 AS t2 ON t2.col1 = t1.col1;
```

Aggregate and filter results

```
SELECT  
  col1,  
  AVG(col2) * AVG(col3) AS total  
FROM tbl  
GROUP BY col1  
HAVING col4 < 6;
```

Implementation of CASE statement

```
SELECT col1,  
CASE  
  WHEN col1 > 10 THEN "more than 10"  
  WHEN col1 < 10 THEN "less than 10"  
  ELSE "10"  
END AS NewColumnName  
FROM tbl;
```

### Create

```
CREATE DATABASE MyDatabase;
```

```
CREATE INDEX IndexName  
ON TableName(col1);
```

```
CREATE TABLE OurTable (  
  id int,  
  name varchar(12)  
);
```

### Delete

```
DROP DATABASE OurDatabase;
```

```
DROP TABLE OurTable;
```

### Update Table

```
UPDATE OurTable  
SET col1 = 56  
WHERE col2 = 'something';
```

### Delete Records

```
DELETE FROM OurTable  
WHERE col1 = 'something';
```

### Add/Remove Column

```
ALTER TABLE OurTable  
ADD col5 int;
```

```
ALTER TABLE OurTable  
DROP COLUMN col5;
```

### Order of Execution

FROM  
WHERE  
GROUP BY  
HAVING  
SELECT  
ORDER BY  
LIMIT

Sources:

<https://www.dataquest.io/blog/sql-commands/#t-1613505022898>

<https://www.dataquest.io/blog/sql-joins-tutorial/>