



SQL Cheatsheet



Swipe



Data Science



Machine
Learning



Data Structures
& Algorithms



System Design



Querying Single Table

Fetch all columns from the country table:

```
SELECT *  
FROM country;
```

Fetch id and name columns from the city table:

```
SELECT id, name  
FROM city;
```

Fetch city names sorted by the rating column in the default ASCending order:

```
SELECT name  
FROM city
```

Fetch city names sorted by the rating column in the DESCending order:

```
SELECT name  
FROM city  
ORDER BY rating DESC;
```



Aliases

COLUMNS

```
SELECT name AS city_name  
FROM city;
```

TABLES

```
SELECT co.name, ci.name  
FROM city AS ci  
JOIN country AS co  
ON ci.country_id = co.id;
```



Filtering The Output

COMPARISON OPERATORS

Fetch names of cities that have a rating above 3:

SELECT name

FROM city

WHERE rating > 3;

Fetch names of cities that are neither Berlin nor Madrid:

SELECT name

FROM city

WHERE name != 'Berlin'

AND name != 'Madrid';

TEXT OPERATORS

Fetch names of cities that start with a 'P' or end with an 's':

SELECT name

FROM city

WHERE name LIKE 'P%'

OR name LIKE '%s';

Fetch names of cities that start with any letter followed by 'ublin' (like Dublin in Ireland or Lublin in Poland):

SELECT name

FROM city

WHERE name LIKE '_ublin';



OTHER OPERATORS

Fetch names of cities that have a population between 500K and 5M:

```
SELECT name  
FROM city  
WHERE population BETWEEN  
500000 AND 5000000;
```

Fetch names of cities that don't miss a rating value:

```
SELECT name  
FROM city  
WHERE rating IS NOT NULL;
```

Fetch names of cities that are in countries with IDs 1, 4, 7, or 8:

```
SELECT name  
FROM city  
WHERE country_id IN (1, 4, 7, 8);
```



Querying Multiple Tables

INNER JOIN

JOIN (or explicitly INNER JOIN) returns rows that have matching values in both tables.

```
SELECT city.name, country.name  
FROM city  
[INNER] JOIN country  
ON city.country_id = country.id;
```

LEFT JOIN

LEFT JOIN returns all rows from the left table with corresponding rows from the right table. If there's no matching row, NULLs are returned as values from the second table.

```
SELECT city.name, country.name  
FROM city  
LEFT JOIN country  
ON city.country_id = country.id;
```



RIGHT JOIN

RIGHT JOIN returns all rows from the right table with corresponding rows from the left table. If there's no matching row, NULLs are returned as values from the left table.

```
SELECT city.name, country.name  
FROM city  
RIGHT JOIN country  
ON city.country_id = country.id;
```

FULL JOIN

FULL JOIN (or explicitly FULL OUTER JOIN) returns all rows from both tables – if there's no matching row in the second table, NULLs are returned.

```
SELECT city.name, country.name  
FROM city  
FULL [OUTER] JOIN country  
ON city.country_id = country.id;
```



Aggregate Functions

avg(expr)

average value for rows within the group

count(expr)

count of values for rows within the group

max(expr)

maximum value within the group

min(expr)

minimum value within the group

sum(expr)

sum of values within the group



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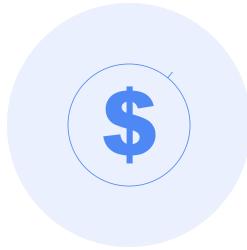
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