

# SQL

[W3School](#)

## SQL

SQL

## Database

```
CREATE DATABASE <database_name>;
```

```
DROP DATABASE <database_name>;
```

## Database

```
SHOW DATABASES;
```

```
BACKUP DATABASE <database_name>  
TO DISK = <filepath>;
```

```
BACKUP DATABASE <database_name>  
TO DISK = <filepath>  
WITH DIFFERENTIAL;
```



```
ALTER TABLE <table_name>
DROP COLUMN <column_name>;
```



```
ALTER TABLE <table_name>
RENAME COLUMN <old_column_name> to <new_column_name>;
```

SQL Server:

```
EXEC sp_rename "table_name.old", "new_name", "COLUMN";
```



```
--- MS 
ALTER TABLE <table_name>
ALTER COLUMN <column_name> <datatype>;

--- MySQL,  Oracle
ALTER TABLE <table_name>
MODIFY COLUMN <column_name> <datatype>;

---  Oracle
ALTER TABLE <table_name>
MODIFY <column_name> <datatype>;
```



```
SELECT <column_name>, <column_name2>, ... FROM <table_name>;
```

- From



```
SELECT DISTINCT <column_name>, <column_name2>, ... FROM <table_name>;
```

- [COUNT()] [ ]

# [ ]

```
SELECT COUNT(*) AS <CustomName> FROM (SELECT DISTINCT <column_name>, <column_name2>, ... FROM <table_name>);
```

# [Access] [ ]

```
SELECT COUNT(DISTINCT <column_name>, <column_name2>, ...) FROM <table_name>;
```



[WHERE]

```
SELECT <column_name> FROM <table_name> WHERE <condition>;
```

e.g:

```
SELECT * FROM Customers  
WHERE CustomerID > 80;
```

- [= < > <= >= <>] [ ]
- [BETWEEN] [ >=] [ <=] [BETWEEN 50 AND 60]
- [LIKE] [ ] pat LIKE s% [ ] s [ ]
- [IN] [IN("Los Angeles", "San Diego")] [Los Angeles] [San Diego] [ ]
- [AND] [OR] [NOT] [ ]
- [NOT] [BETWEEN] [LIKE] [IN] [ ]

[AS]

[AS] [ ] Column [ ]

```
SELECT city, (temp_hi+temp_lo)/2 AS temp_avg, date FROM weather;
```

[(temp\_hi+temp\_lo)/2] [ ] Column temp\_avg



```
SELECT <column_name>, <column_name2>, ... FROM <table_name>
ORDER BY <column_name>, <column_name2>, ... ASC|DESC;
```

- [ ]
- [ ]
- [ ASC | DESC ] [ ]
- [ ORDER BY <column\_name> ASC, <column\_name2> DESC ]

## [ ] RDBMS specify [ ]

- SQL Server/MS Access [ SELECT TOP [ PERCENT ] [ ]
- MySQL [ LIMIT ] [ WHERE ] [ WHERE ]
- Oracle 12 [ ORDER BY <column> FETCH First <number> ROWS ONLY ] [ WHERE ] [ ]
  - [ WHERE ROWNUM <= <number> ]
- [ ORDER BY ] [ ]



```
INSERT INTO <table_name>(<column_name>, <column_name2> ...)
VALUES (<value1>, <value2>, ...);
```

- [ column\_name ] [ ] Column [ ]
- [ ] Column [ ]
- [ ]

```
INSERT INTO <table_name>(<column_name>, <column_name2> ...)
VALUES
(<value1>, <value2>, ...),
(<value1>, <value2>, ...),
...;
```

## NULL

[ NULL ] [ ]

[ IS NULL ] [ IS NOT NULL ] [ ]

```
SELECT <column_name>
FROM <table_name>
WHERE <column_name> IS NULL | IS NOT NULL;
```

NULL [ ] NULL [ ]



```
UPDATE <table_name>
SET <column1> = <value1>, <column2> = <value2>, ...
WHERE <condition>
```

- [ WHERE ] [ **WHERE** ] [ ]



```
DELETE FROM <table_name> WHERE <condition>
```

- [ UPDATE ] [ **WHERE** ] [ ]
- [ ] DROP TABLE <table\_name> [ DELETE FROM ]

# SQL Functions



MAX() [ MIN() ] [ ]

```
SELECT MAX(<column_name>) | MIN(<column_name>) FROM <table_name> WHERE <condition>;
```

- [ AS ] [ ]

```
SELECT MAX(<column_name>) AS <CustomName> FROM ...;
```

- [ GROUP BY ] [ ]

```
SELECT MAX(<column1>) AS <CustomName>, <column2>
FROM <table_name>
```

```
GROUP BY <column2>;
```



COUNT()

```
SELECT COUNT(<column_name>) FROM <table_name> WHERE <condition>;
```

- \* (
- DISTINCT SELECT COUNT(DISTINCT <column\_name> FROM ... )
- WHERE AS GROUP BY



SUM()

```
SELECT SUM(<column_name>) FROM <table_name> WHERE <condition>;
```

- AS WHERE GROUP BY



AVG()

```
SELECT AVG(<column_name>) FROM <table_name> WHERE <condition>;
```

- AS WHERE GROUP BY
- 

```
SELECT * FROM <table_name> WHERE <column1> > (SELECT AVG(<column1>) FROM <table_name>)
```



## Pattern LIKE )

LIKE :

```
SELECT <column> FROM <table_name> WHERE <column> LIKE <pattern>;
```

- [ AND ] [ OR ] [ NOT ] [ LIKE ] [ ]
- [ ]

[ ]

[ ]:

[ ]	[ ]
[ % ]	[ ] 0 [ ]
[ _ ]	[ ] 1 [ ]

[ ]RDBMS specify):

[ ]	[ ]
[ [ ] ]	[ ]
[ ^ ]	[ ]
[ - ]	[ a-z ]
[ { } ]	[ ]

- [ ] PostgreSQL [ ] MySQL [ ] Oracle DB [ ]
- [ ] DB System SQL script [ ]
- [ ] MS Access [ ]

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