Sources

- W3Schools.com
- DataQuest.io

SQL CHEATSHEET

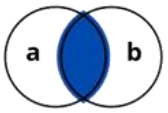
CONSIDER SUPPORTING ME

@AbzAaron

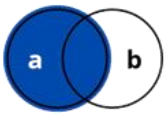
Commands / Clauses

SELECT	Select data from database
FROM	Specify table we're pulling from
WHERE	Filter query to match a condition
AS	Rename column or table with alias
JOIN	Combine rows from 2 or more tables
AND	Combine query conditions. All must be met
OR	Combine query conditions. One must be met
LIMIT	Limit rows returned. See also FETCH & TOP
IN	Specify multiple values when using WHERE
CASE	Return value on a specified condition
IS NULL	Return only rows with a NULL value
LIKE	Search for patterns in column
COMMIT	Write transaction to database
ROLLBACK	Undo a transaction block
ALTER TABLE	Add/Remove columns from table
UPDATE	Update table data
CREATE	Create TABLE, DATABASE, INDEX or VIEW
DELETE	Delete rows from table
INSERT	Add single row to table
DROP	Delete TABLE, DATABASE, or INDEX
GROUP BY	Group data into logical sets
ORDER BY	Set order of result. Use DESC to reverse order
HAVING	Same as WHERE but filters groups
COUNT	Count number of rows
SUM	Return sum of column
AVG	Return average of column
MIN	Return min value of column
MAX	Return max value of column

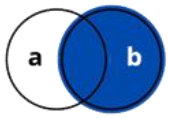
Joins



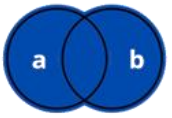
a INNER JOIN b



a LEFT JOIN b



a RIGHT JOIN b



a FULL OUTER JOIN b

Examples

Select all columns with filter applied

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

Select first 10 rows for two columns

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

Select all columns with multiple filters

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

Select all rows from col1 & col2 ordering by col1

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

Return count of rows in table

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

Return sum of col1

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

Return max value for col1

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

Compute summary stats by grouping col2

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

Combine data from 2 tables using left join

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

Aggregate and filter result

```
SELECT col1,
       COUNT(*) AS total
FROM tbl
GROUP BY col1
HAVING COUNT(*) > 10;
```

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;
```

Data Definition Language

CREATE

```
CREATE DATABASE MyDatabase;

CREATE TABLE MyTable (
    id int,
    name varchar(10));

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

ALTER

```
ALTER TABLE MyTable
DROP COLUMN col5;

ALTER TABLE MyTable
ADD col5 int;
```

DROP

```
DROP DATABASE MyDatabase;
DROP TABLE MyTable;
```

Data Manipulation Language

UPDATE

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

INSERT

```
INSERT INTO MyTable (col1, col2)
VALUES ('value1', 'value2');
```

DELETE

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

SELECT

```
SELECT col1, col2
FROM MyTable;
```

Order Of Execution

1. FROM
2. WHERE
3. GROUP BY
4. HAVING
5. SELECT
6. ORDER BY
7. LIMIT

@swapnakpanda

SQL CHEATSHEET

✔ Genuine
✔ Authentic
✔ Quality

Categories

DDL : Data Definition Language
DQL : Data Query Language
DML : Data Manipulation Language
DCL : Data Control Language
TCL : Transaction Control Language

Commands

DDL
CREATE | DROP | ALTER | TRUNCATE
RENAME | COMMENT

DQL
SELECT

DML
INSERT | UPDATE | DELETE | LOCK
CALL | EXPLAIN PLAN

DCL
GRANT | REVOKE

TCL
COMMIT | ROLLBACK
SAVEPOINT | SET TRANSACTION

Operators

Arithmetic
+ - * / %

Bitwise
& | ^

Comparison
= < > <= >= !< !> <> !=

Compound
+= -= *= /= %= &= |= ^=

Logical
AND | OR | NOT | ANY
SOME | ALL | BETWEEN
IN | EXISTS | LIKE
IS NULL | UNIQUE

Important Keywords

WHERE | DISTINCT | LIMIT
ORDER BY | DESC | ASC
AS | FROM | SET | VALUES
CASE | DEFAULT

Database Objects

TABLE | VIEW | SYNONYM
SEQUENCE | INDEX | TRIGGER

Constraints

NOT NULL | UNIQUE
PRIMARY KEY | FOREIGN KEY
CHECK | DEFAULT

Aggregation Functions

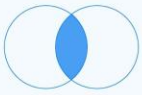
AVG | COUNT
MAX | MIN | SUM

Aggregation Keywords

GROUP BY | HAVING

Joins

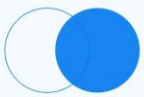
INNER JOIN



LEFT [OUTER] JOIN

FULL [OUTER] JOIN

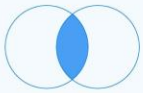
RIGHT [OUTER] JOIN



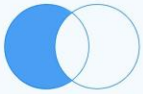
Set Operations

UNION
UNION ALL

INTERSECT



EXCEPT
MINUS



DDL Examples

Create a Table
```
CREATE TABLE Students (
    rollno int PRIMARY KEY,
    fname varchar(255) NOT NULL,
    lname varchar(255)
);
```

Adding a new column to the Table
```
ALTER TABLE Students
ADD email varchar(255);
```

Modifying the data type of existing column
```
ALTER TABLE Students
ALTER COLUMN lname varchar(512);
```

Removing an existing column from the Table
```
ALTER TABLE Students
DROP COLUMN email;
```

Truncate (remove all data) a Table
```
TRUNCATE TABLE Students;
```

Drop a Table
```
DROP TABLE Students;
```

DQL Examples

Fetch all data from a Table
```
SELECT * FROM Students;
```

Filter data from a Table
```
SELECT * FROM Students
WHERE rollno = 1234;
```

```
SELECT * FROM Students
WHERE rollno > 1234
AND   age < 15;
```

Fetch selected columns
```
SELECT fname, lname
FROM   Students
WHERE rollno > 1234
AND   age < 15;
```

Fetch maximum 10 rows
```
SELECT fname, lname
FROM   Students
WHERE rollno > 1234
AND   age < 15
LIMIT  10;
```

Fetch count of records
```
SELECT count (*)
FROM   Students;
```

Fetch Maximum Age
```
SELECT max(age)
FROM   Students;
```

Fetch Minimum Age
```
SELECT min (age)
FROM   Students;
```

Fetch Sum of Age
```
SELECT sum(age)
FROM   Students;
```

Fetch Average Age
```
SELECT avg (age)
FROM   Students;
```

Fetch Average Age for each gender
```
SELECT avg (age)
FROM   Students
GROUP BY gender;
```

Sort (order) fetched records
```
SELECT fname, lname
FROM   Students
WHERE rollno > 1234
AND   age < 15
ORDER BY gender;
```

Sort in descending order
```
SELECT fname, lname
FROM   Students
WHERE rollno > 1234
AND   age < 15
ORDER BY gender DESC;
```

Fetch from 2 Tables
```
SELECT fname, clsteacher
FROM   Students
INNER JOIN Section
ON     Students.section
       = Section.id;
```

DML Examples

Insert data (rows) into a Table
```
INSERT INTO Students (rollno, fname, lname)
VALUES (1234, 'Christiano', 'Ronaldo');
```

Update data (value of column) of a Table
```
UPDATE Students SET lname = 'Messi'
WHERE rollno = 1234;
```

Delete data (rows) from a Table
```
DELETE FROM Students WHERE rollno = 1234;
```

Aggregate and, Filter
```
SELECT section, count (*) AS studentcount
FROM   Students
GROUP BY section
HAVING count (*) > 20;
```

Full Outer Join
```
SELECT fname, clsteacher
FROM   Students
FULL JOIN Section
ON     Students.section = Section.id;
```