



SQL Cheatsheet Essential Commands

Data Querying (SELECT)

- **Retrieve all records** - `SELECT * FROM table_name;`
- **Select specific columns** - `SELECT column1, column2 FROM table_name;`
- **Unique values** - `SELECT DISTINCT column FROM table_name;`
- **Count rows** - `SELECT COUNT(*) FROM table_name;`
- **Group and count** - `SELECT column1, COUNT(*) FROM table_name GROUP BY column1;`
- **Filter rows** - `SELECT column1 FROM table_name WHERE column2 = 'value';`
- **Range filter** - `SELECT * FROM table_name WHERE column1 BETWEEN value1 AND value2;`
- **Sort ascending** - `SELECT * FROM table_name ORDER BY column1 ASC;`
- **Sort descending** - `SELECT * FROM table_name ORDER BY column1 DESC;`

Data Manipulation (INSERT, UPDATE, DELETE)

- **Insert row** - `INSERT INTO table_name (column1, column2) VALUES (value1, value2);`
- **Update data** - `UPDATE table_name SET column1 = value1 WHERE condition;`
- **Delete records** - `DELETE FROM table_name WHERE condition;`

Data Definition (CREATE, ALTER, DROP)

- **Create table** - `CREATE TABLE table_name ( column1 datatype PRIMARY KEY, column2 datatype NOT NULL, column3 datatype DEFAULT default_value );`
- **Add column** - `ALTER TABLE table_name ADD column_name datatype;`
- **Drop column** - `ALTER TABLE table_name DROP COLUMN column_name;`
- **Delete table** - `DROP TABLE table_name;`

Joins & Relationships

- **Inner join** - `SELECT * FROM table1 INNER JOIN table2 ON table1.id = table2.fk_id;`
- **Left join** - `SELECT * FROM table1 LEFT OUTER JOIN table2 ON table1.id = table2.fk_id;`
- **Right join** - `SELECT * FROM table1 RIGHT OUTER JOIN table2 ON table1.id = table2.fk_id;`
- **Full outer join** - `SELECT * FROM table1 FULL OUTER JOIN table2 ON table1.id = table2.fk_id;`

Subqueries & Set Operations

- **Subquery** - `SELECT column FROM table WHERE column IN (SELECT column FROM table WHERE condition);`
- **Union** - `SELECT column FROM table1 UNION SELECT column FROM table2;`
- **Intersect** - `SELECT column FROM table1 INTERSECT SELECT column FROM table2;`
- **Except** - `SELECT column FROM table1 EXCEPT SELECT column FROM table2;`

Indexes, Views & Transactions

- **Create index** - `CREATE INDEX index_name ON table_name (column);`
- **Create view** - `CREATE VIEW view_name AS SELECT column1, column2 FROM table_name WHERE condition;`
- **Inside transaction** - `BEGIN TRANSACTION; -- UPDATE table_name SET column = value WHERE condition;`
- **Save changes** - `COMMIT;`
- **Revert changes** - `ROLLBACK;`

