

SQL

CHEAT SHEET



WHAT IS SQL ?

Structured Query Language or SQL is a standard Database language which is used to create, maintain, & retrieve the relational database

TYPES OF SQL COMMANDS

- **DDL** - Define the schema of database or its objects (like tables & indexes) (Ex - CREATE, ALTER, DROP)
- **DML** - Manipulate & Select data in the database (Ex - SELECT, INSERT)
- **DCL** - Rights, permissions & other controls of the database system (Ex - GRANT, REVOKE)

MOST COMMON DATATYPES

- `int(10)`
- `varchar(255)`
- `text`
- `TIMESTAMP`
- `ENUM('Choice1', 'Choice2', ...)`

IMPORTING & EXPORTING DATA FROM CSV

Importing data from CSV – `LOAD DATA LOCAL INFILE <full_file_path> INTO TABLE <tableName>`
`COLUMNS TERMINATED BY ','` OPTIONALLY
`ENCLOSED BY ""` ESCAPED BY ""
`LINE TERMINATED BY '\n'`
`IGNORED 1 LINES`

Exporting data from CSV - SELECT * INTO
OUTFILE <outputFilePath> FIELDS
TERMINATED BY ',' OPTIONALLY CLOSED BY""
LINES TERMINATED BY '\n' FROM
<tableName>;

CREATING A TABLE SYNTAX

```
CREATE TABLE <tableName> {  
    <filename1><fieldtype1>  
(NULL/NOT NULL),  
<fieldname2><fieldtype2>  
};
```

INSERTING DATA IN A TABLE

INSERT INTO<tableName>(column1, column2,
column3,...)

Values(value1, value2, value3, ...);

BASIC QUERY SYNTAX

SELECT f(col1), g(col2),... from table 1
...filter the rows

WHERE col2=1 & col5=4...Aggregate the
data

GROUP BY...

...Filter the results

HAVING h(col4)>=<...

...Sort the results

ORDER BY col2

f,g,h are aggregation functions like
COUNT(*), COUNT(DISTINCT), SUM(),
STDDEV() etc

Other useful Keywords which work with
SELECT
DISTINCT
LIKE
BETWEEN
IN



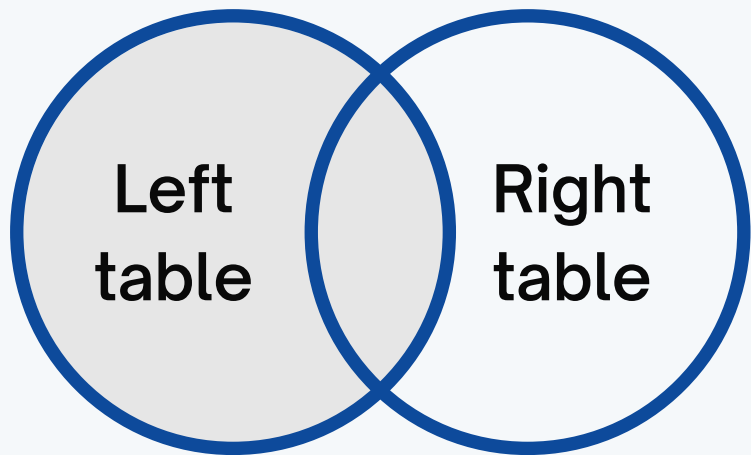
WHAT IS AN INDEX?

- Data structure that improves the speed of operations in a table
- Indexes can be created using one or more columns
- Indexing a column improves search but increases the time for insert & update

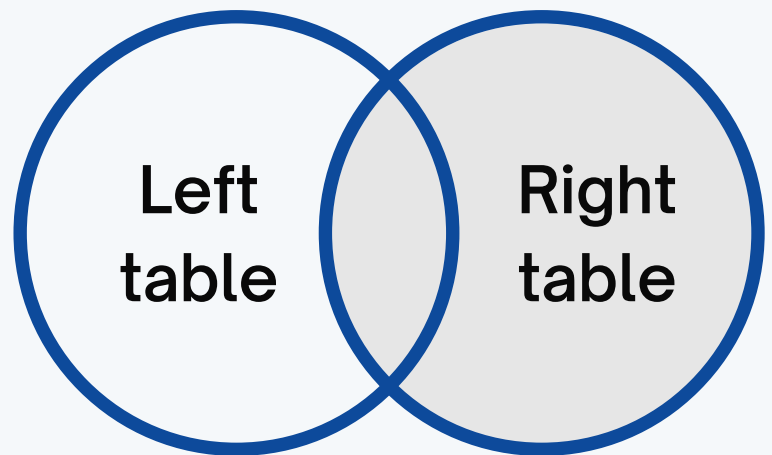
CREATING AN INDEX

```
create index <index_name> on <table>  
(<Column to Index>)
```

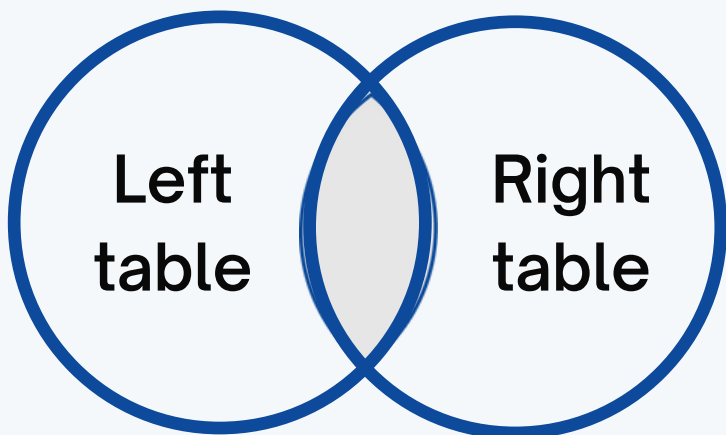
JOINS



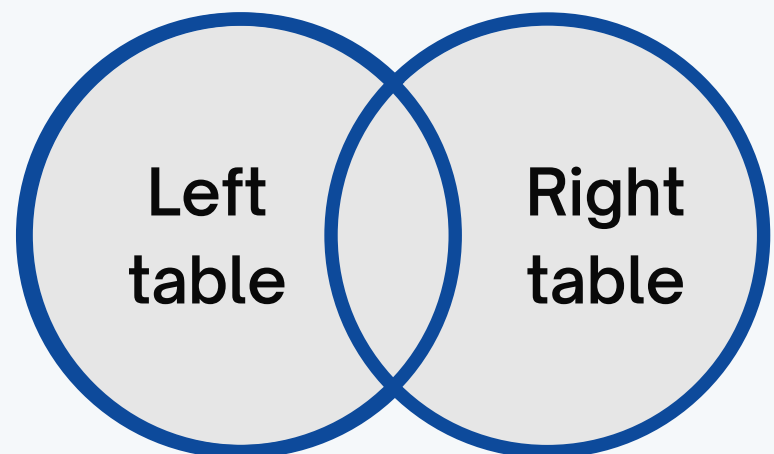
Left Join



Right Join



Inner Join



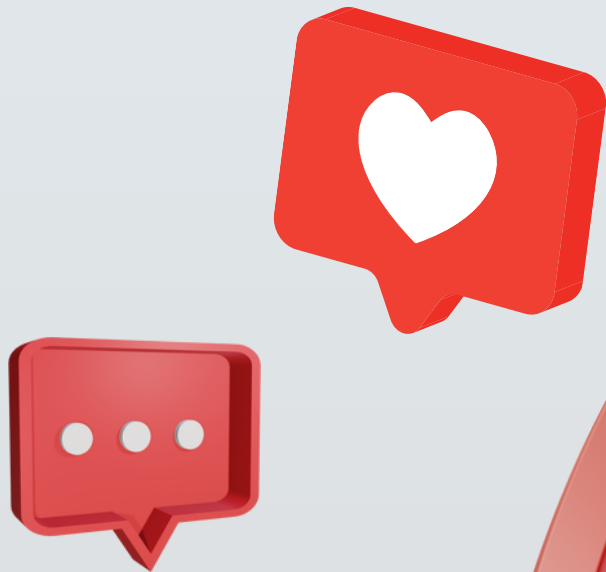
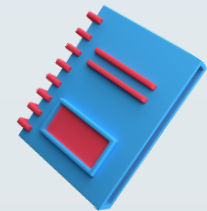
Cartesian Join

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