



# Fundamentals of Database Structures and SQL Queries

# Introduction



## Structured Query Language

Specific Format

Predefined...

# Some Reserved Word for SQL



- CREATE
- DROP
- ALTER
- RENAME
- INSERT
- UPDATE
- DELETE
- SELECT
- .....

# Types of SQL Commands



- DDL(Data Definition Language)
  - Works on higher level like database, table
- DML(Data Manipulation Language)
  - Works on database row level
- DQL(Data Query Language)
  - Works on Query time

# Types of SQL Commands Example

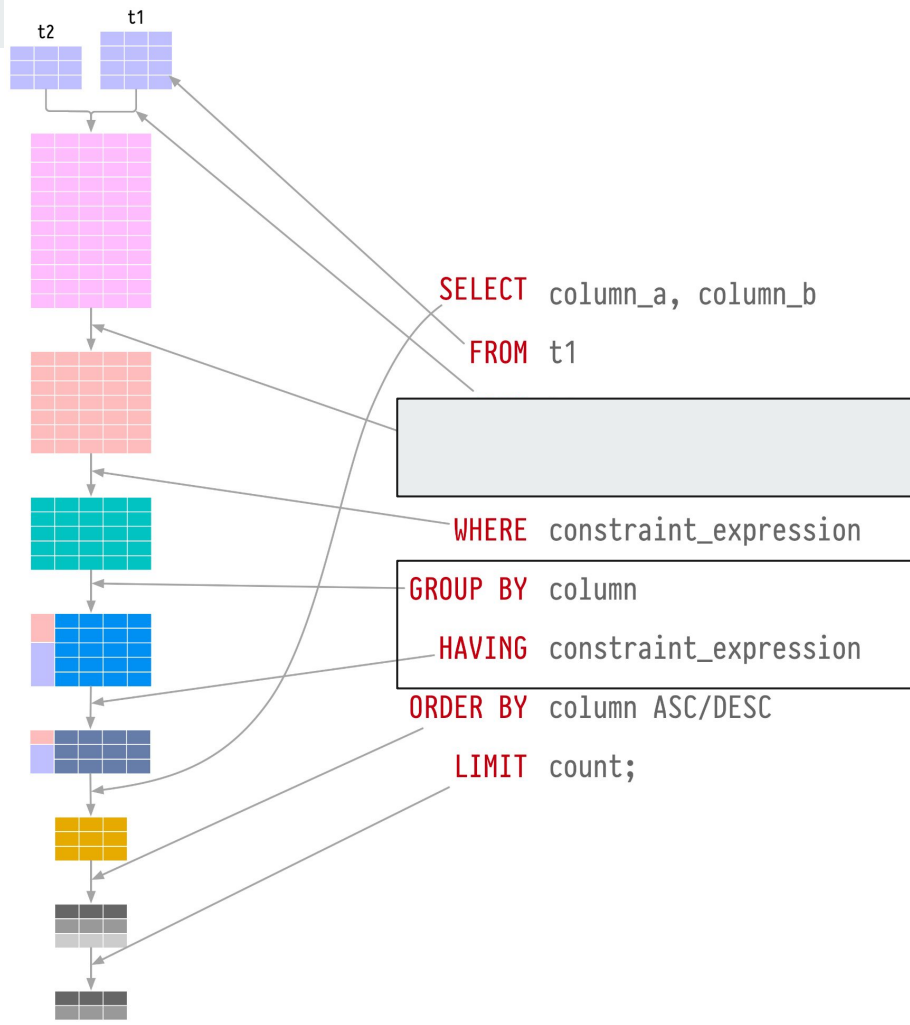
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- CREATE
- DROP
- ALTER
- RENAME
- INSERT
- UPDATE
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- SELECT
- .....

Data Definition Language

Data Manipulation Language

Data Query Language



## Group By



```
SELECT COUNT(CUST_ID), STATE  
FROM CUSTOMER  
GROUP BY STATE;
```

## Group By and Having



```
SELECT COUNT(CUST_ID), STATE  
FROM CUSTOMER  
GROUP BY STATE  
HAVING COUNT(CUST_ID) > 5;
```



# How Pagination Works?

## Pagination

How it works?



# Pagination Solutions



```
SELECT * FROM `ACCOUNT` LIMIT 5 OFFSET 10;
```

This will skip first 10 value then will pick next 5 value.

# How Search Work?



# Search Solution



```
SELECT * FROM `CUSTOMER` WHERE CITY LIKE '%I%'
```

This will find all city name containing with 'I'

```
SELECT * FROM `CUSTOMER` WHERE CITY LIKE 'I%'
```

This will find all city name starting with 'I'

# Interview Question



SQL Query to Find Second Highest Salary?

# Find the N Largest Salary



```
SELECT * FROM employee  
WHERE salary= (SELECT DISTINCT(salary)  
FROM employee ORDER BY salary DESC LIMIT 1 OFFSET N-1);
```

There can be multiple way for the same result