



Sql: Managing the DBMS.

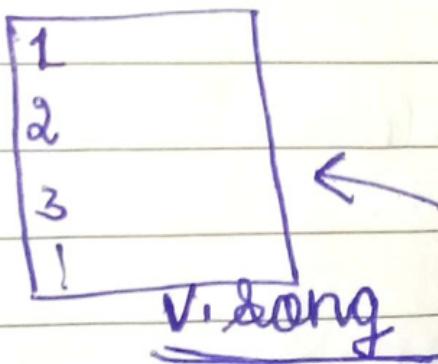
→ this is high level langⁿ
to interact with DB.

RDGMS → table \leftrightarrow relational DB

Data Base Management System [DBMS]

Data: facts, figures statistics etc.

Data Base: collection of interRelated data.



(manually)
doing
manipulation
management
(Del, Update - etc)

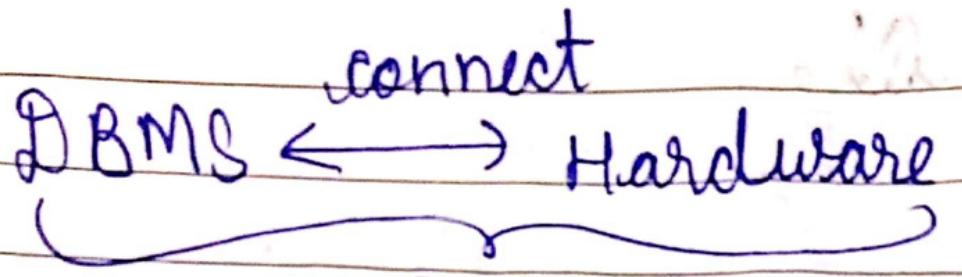
DBM:

DBMS
management

doing by program
like Del, update etc.



WHITEOAK
CAPITAL MUTUAL FUND



DB-administrator → SQL

Introduction of SQL -

→ Data types

→ DDL, DML, DQL, DCL, TCL

Integrity constraints -

- Primary key
- foreign key
- Not-null
- check
- unique

Functions -

Aggregation, Date, String,
Scalar, Numeric, etc.

where - clause

operators -

→ logical opⁿ

→ comparison opⁿ

Joins -

- inner join

- self join

- right join

- left join

- outer join

- cross join

case - when statement (condition)

group by, order by, subquery,

having, union, union all,

Views

CTE (common table expression)

with clause

Windows function

Pivot. table

Index, Sharding, Partitioning,
Replication, UDF

{ Data Science Python ↑ SQL ↓
 Data Analyst P ↓ SQL ↑
 Data eng'n P ↓ SQL ↑

SQL - SQL is set of commands.

Cloud → AWS }
 GCP { Services
 Azure

Big data industry -

Hive, Hbase, Cassandra, Spark
SQL

DML commands -

insert, select, delete, update,
where, orderby, SQL joins,
Subquery, stored procedure
Data types.

Normalization, Denormalization,
query optimization, practice,
schema design (E-12 dig)

Python → pandas ← Sql

① Data Extraction & Data Cleaning

- Select

- where

② Data manipulation

- update

- Alter

- group by

- order by

- limit

③ Data Analysis -

o count, sum, avg, max, min,
subqueries, union operation,
case where, window fun

④ Create and modify DB -

create, view, constraint, indexing

⑤ Data visualization -
Sql \Rightarrow power BI, tableau

Sql \Rightarrow [IBM]

S/w { Mysql, oracle, postgres,
DB2, sqlite }

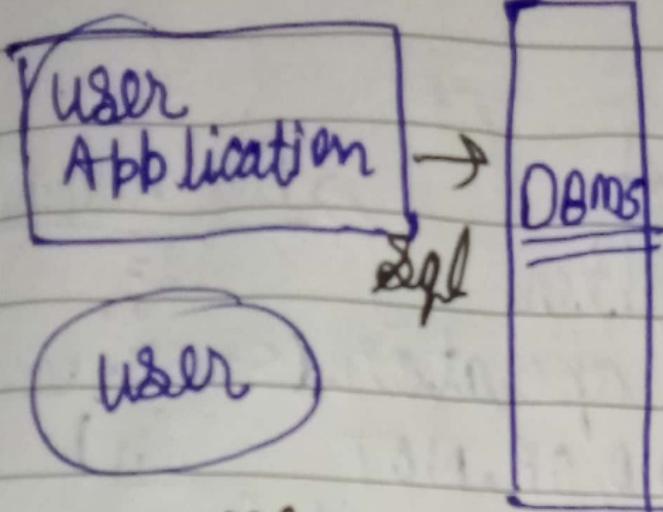
logical processing of sql query

Select
from
join
where
group by
having
order by

logical order -

{ from \rightarrow join \rightarrow where \rightarrow group
 \rightarrow having \rightarrow select \rightarrow distinct
 \rightarrow order by \rightarrow limit }





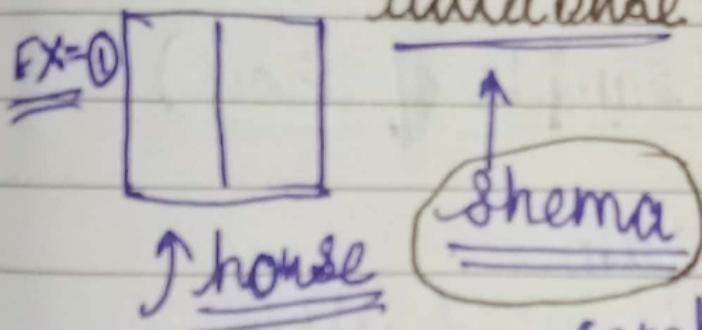
RDBMS
mySQL, DB2, etc

Storage Area

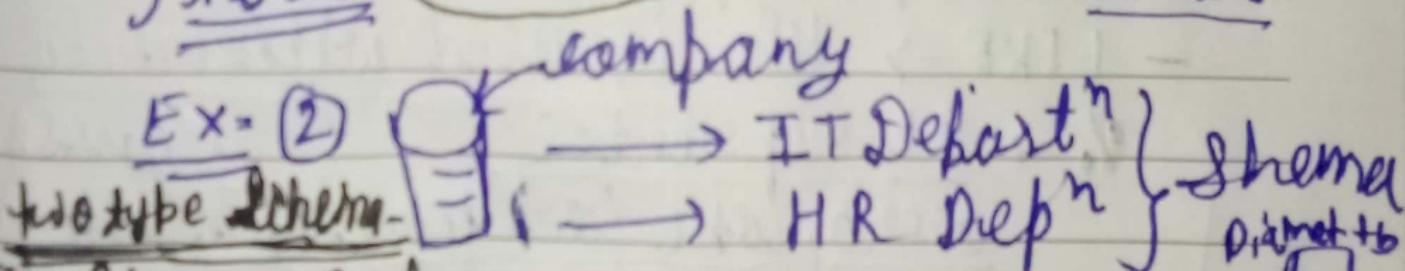
→ product
→ customer

- ① total no. of cust
- ② total Review
- ③ most seller product

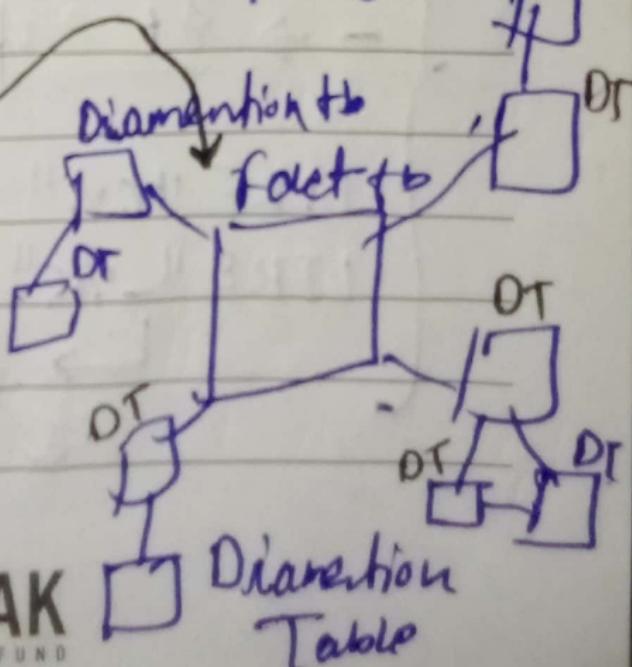
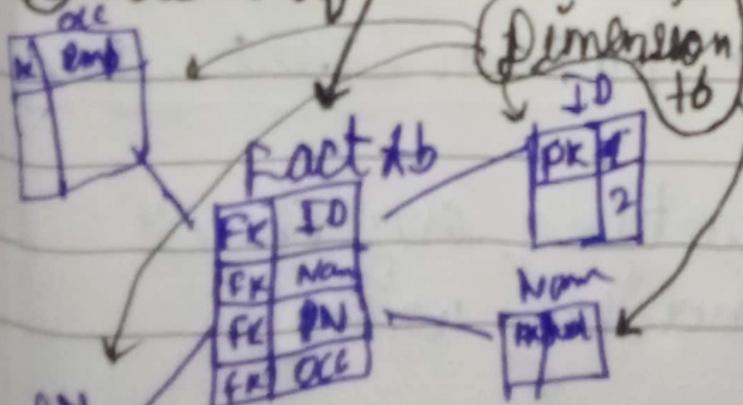
"Logical division of database"



Database (container)
↳ Schema
↳ Table
↳ Views



① Star Schema
② Snowflake Schema



WHITEOAK
CAPITAL MUTUAL FUND

- Select
- Select distinct
- Where — use filter
 - ! = or
- Where with operator (\leq , \geq , B/w, like,
- Where with AND, OR, NOT in
- Orderby → For String
 - ↳ Ascending order
- Orderby DESC
 - ↳ Descending order
- Limit
 - ↳ Top (sample of rows)
- Min and Max
- Count, avg, sum
- LIKE → like is used with where
 - % → It represents zero, one (or) multiple charⁿ
 - _ → It represents a single charⁿ

LIKE "C%" → pattern starts c only.

LIKE "%C"

↳ Starting any charⁿ
& ending with C

- Sql IN and NOT IN

↳ IN operator allows users to specify multiple values in where clause.

- **BETWEEN** operator and NOT BETWEEN

- AS → for aliasing

- Group by → we can't use where

- Having clause ← clause come into

↳ where keyword can't be used with aggregate function.

where
group by
having
order by
limit

LeetCode practice