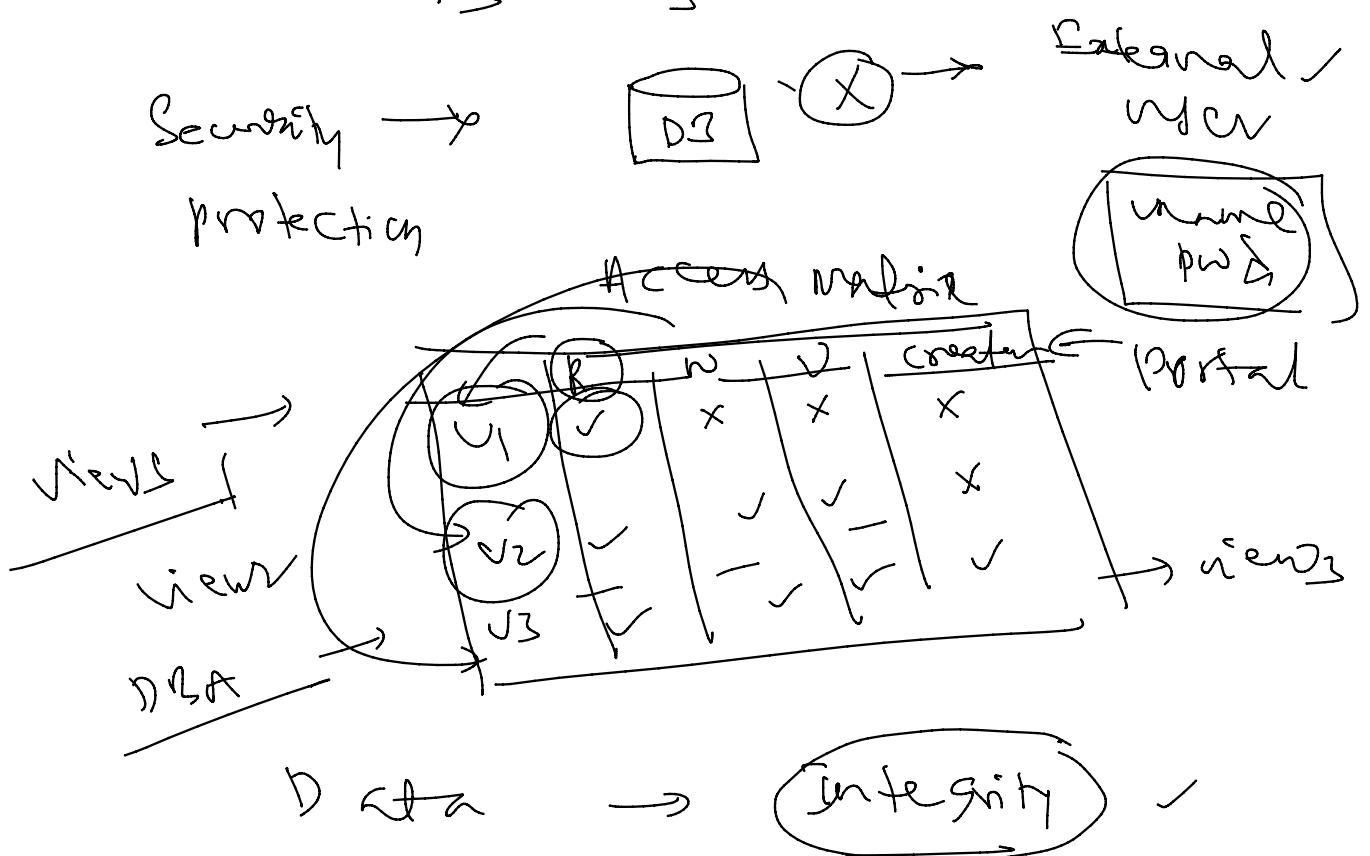


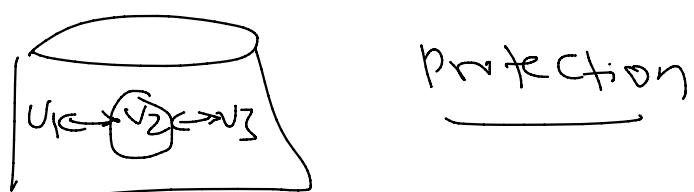
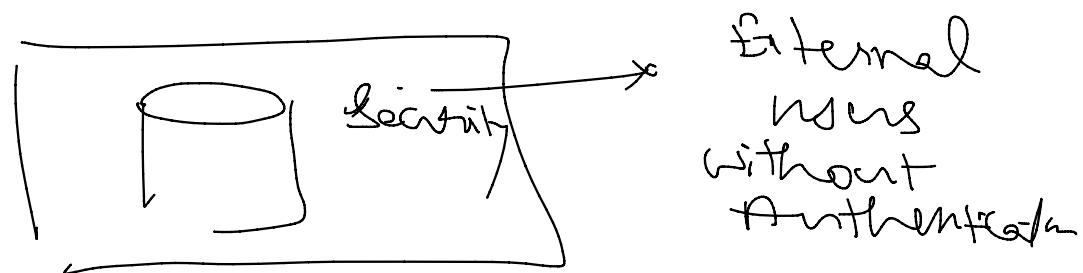
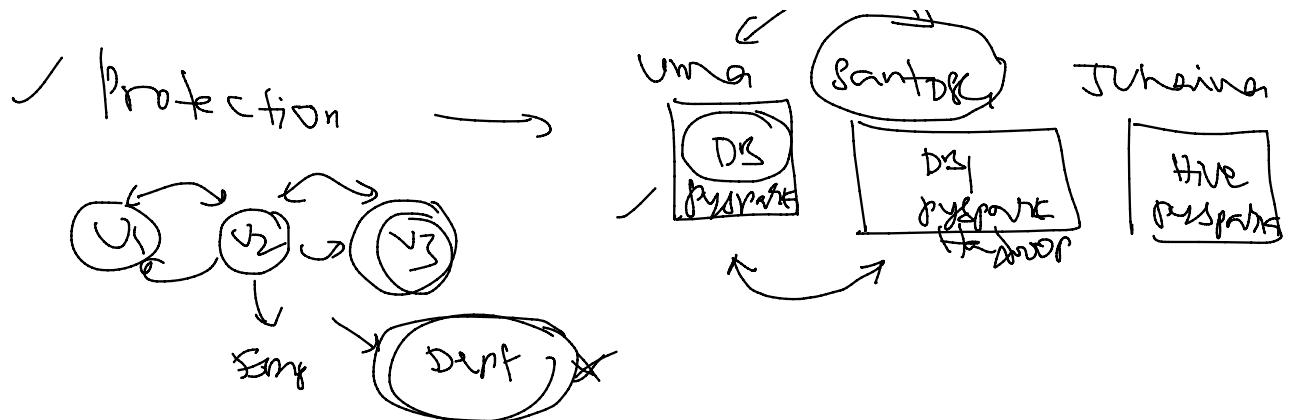
Objectives

① Terms & Terminology

- Data dictionary
- Meta data
- Table space
- DB architecture
- DB user



✓ Probs... Uma (Santosh) Juhaina



Meta Data

Employees [EmpId, name, Ssn, Qual]

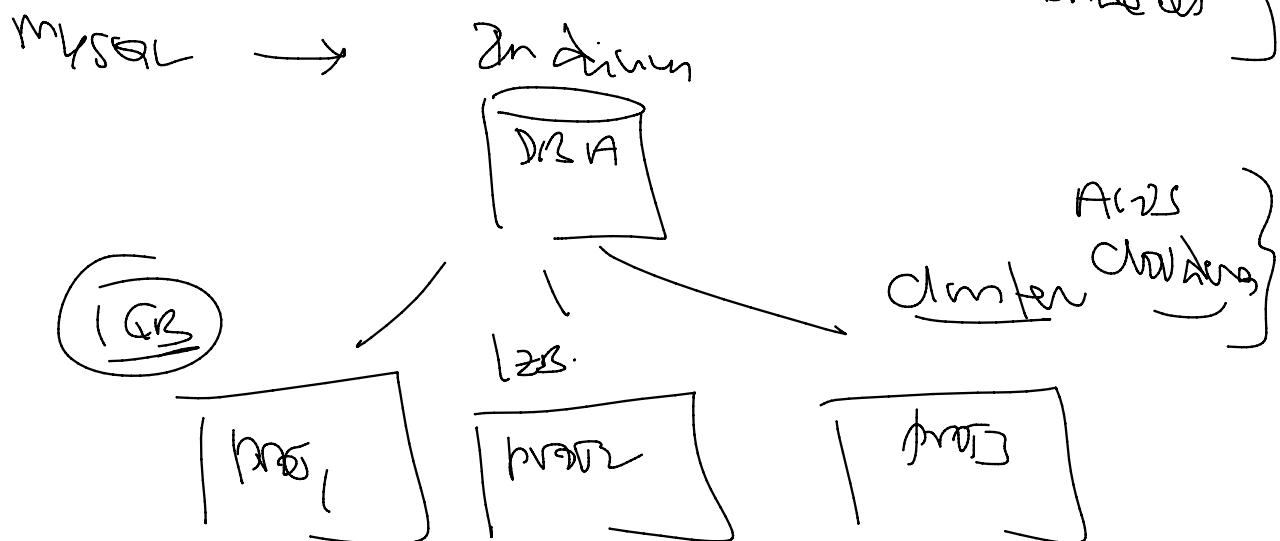
task → attributes → Data
Data → records

The Data that describes the other data is known as meta data.

Vector

Table Space → Allocated to the user

MySQL → Schema → (\emptyset DB) — tables
— views
— indexes



Data Dictionary



DB → DB Objects

Remarkable Entry ✓

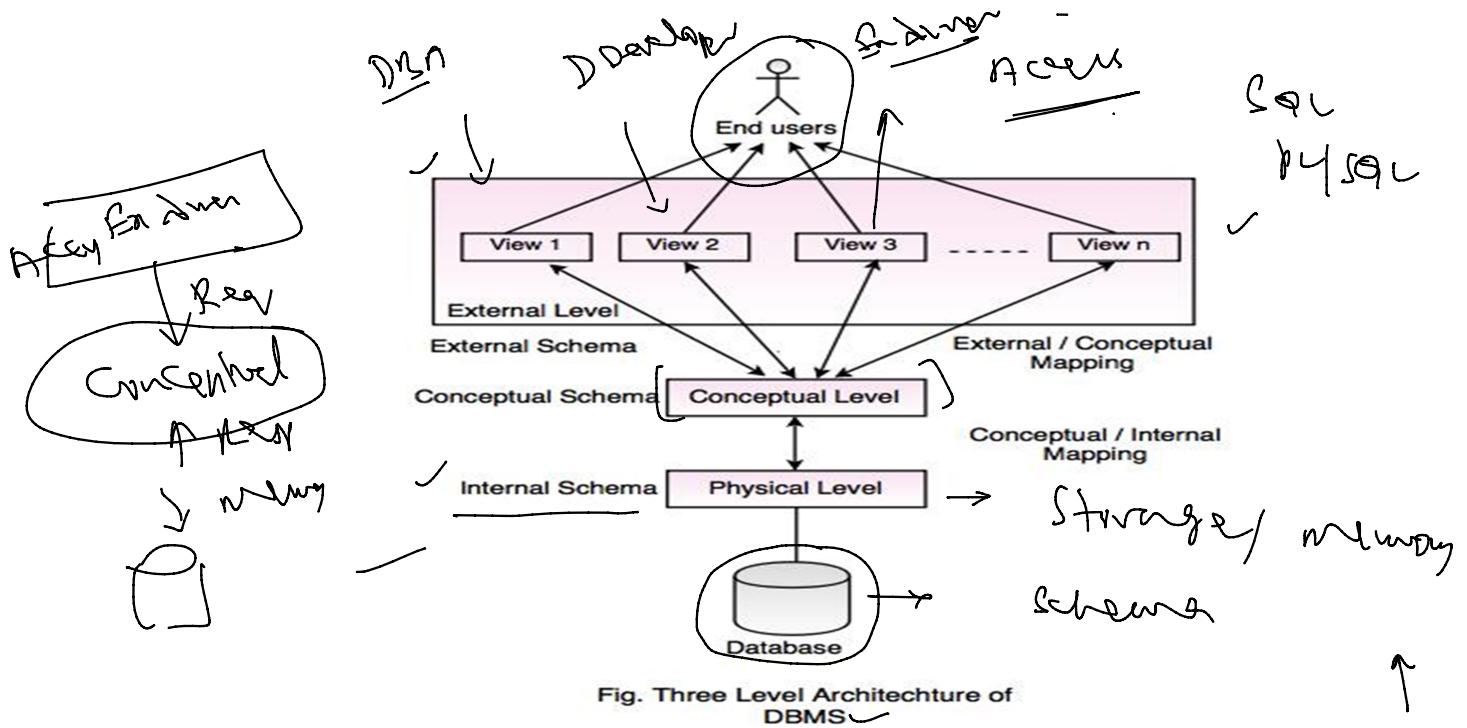
a) Database / Schema

b) Tables Data

c) Triggers

c) Index

d) Constraints



- ① Physical level → Memory (internal schema)
- ② Conceptual level → API [mapping]
- ③ External level → User view

DB Views

DBA

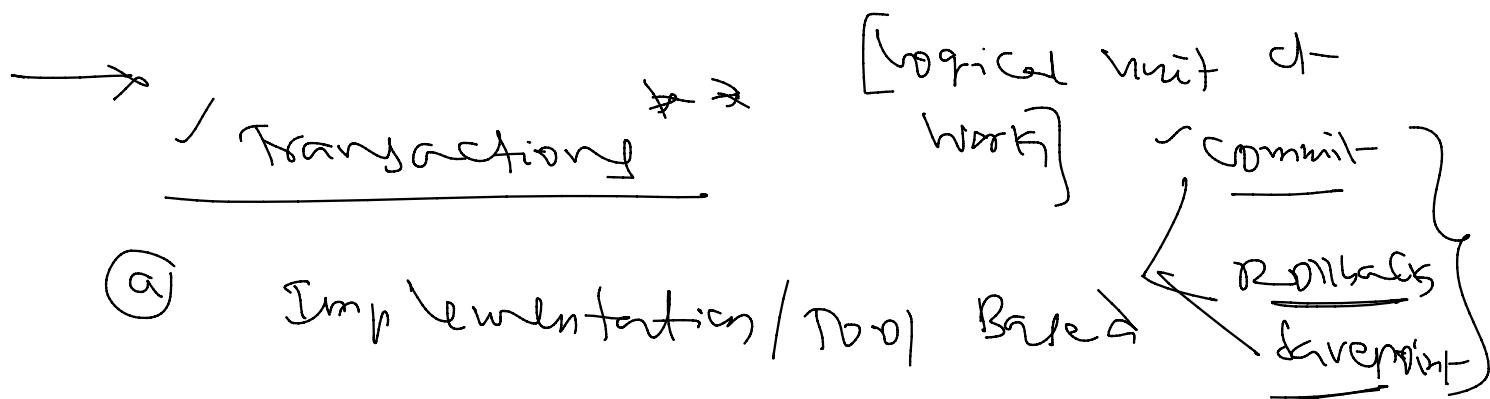
② Database Designer

③ Data Analyst

④ End user

⑤ Casual user

⑥ Sophisticated user



⑤ RDBMS

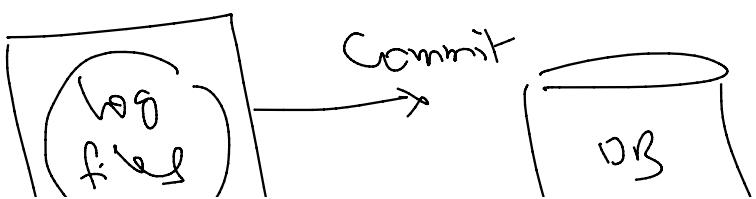
→ Logical unit of work

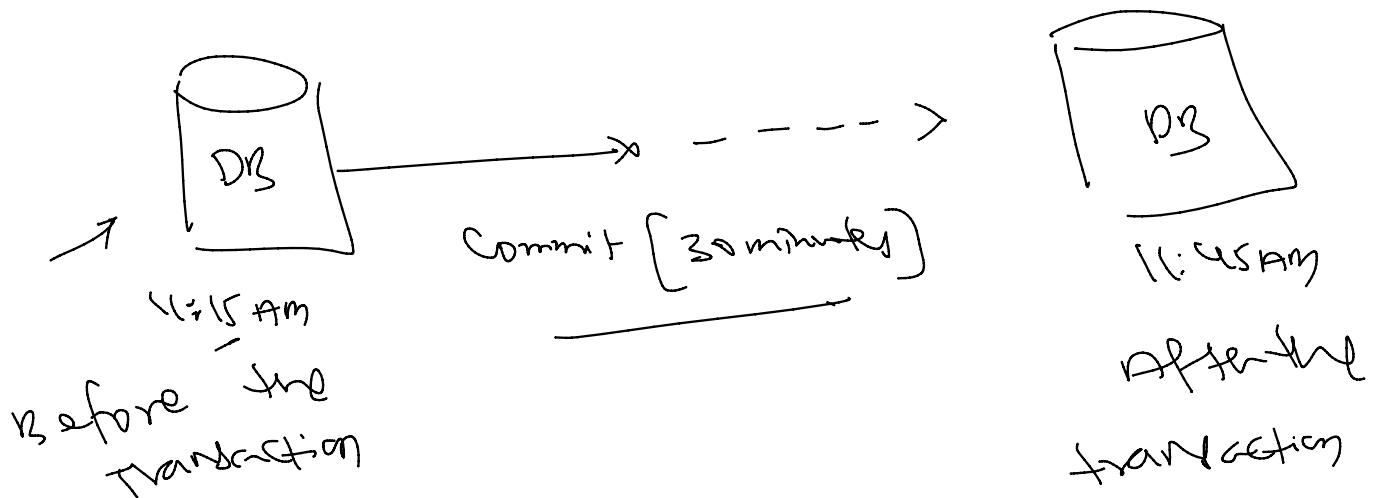
✓ Quality of the data

↑
Properties of transactions

↓
DB

User →



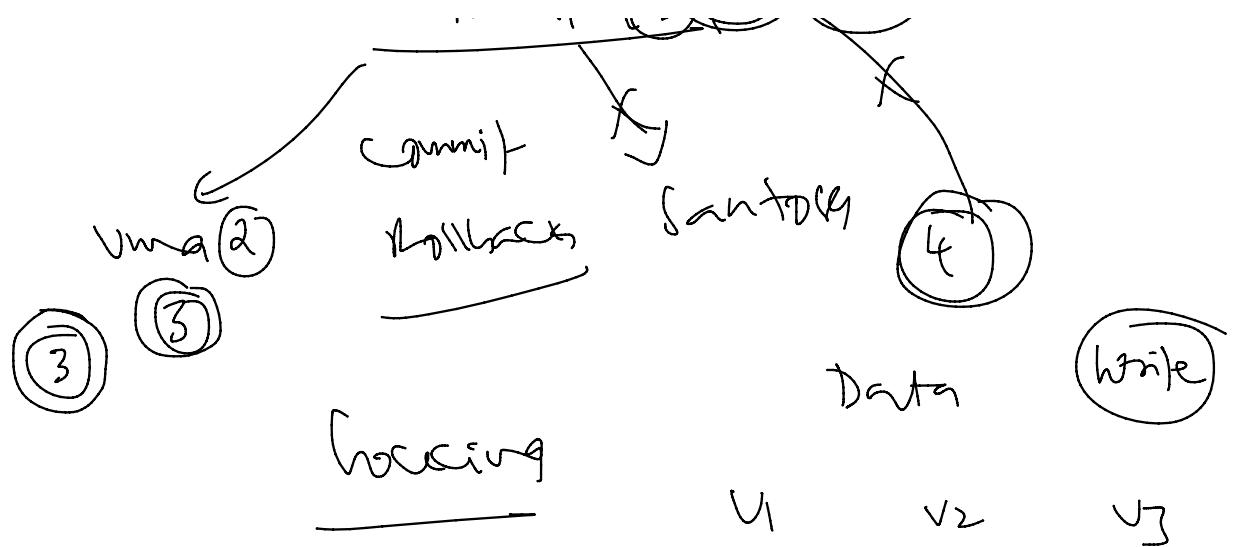


Database is a result of transactions

Transaction properties

- ① Atomicity → code → Fully Commit / Partial Rollback
- ② Consistency ✓
- ③ ✓ Isolation →
 - User → Transaction
 - ↳ Same
- ④ Durability





- ~~Multiple users are not allowed~~
- to write the data simultaneously
- only one user can write the data [insert/update/delete]

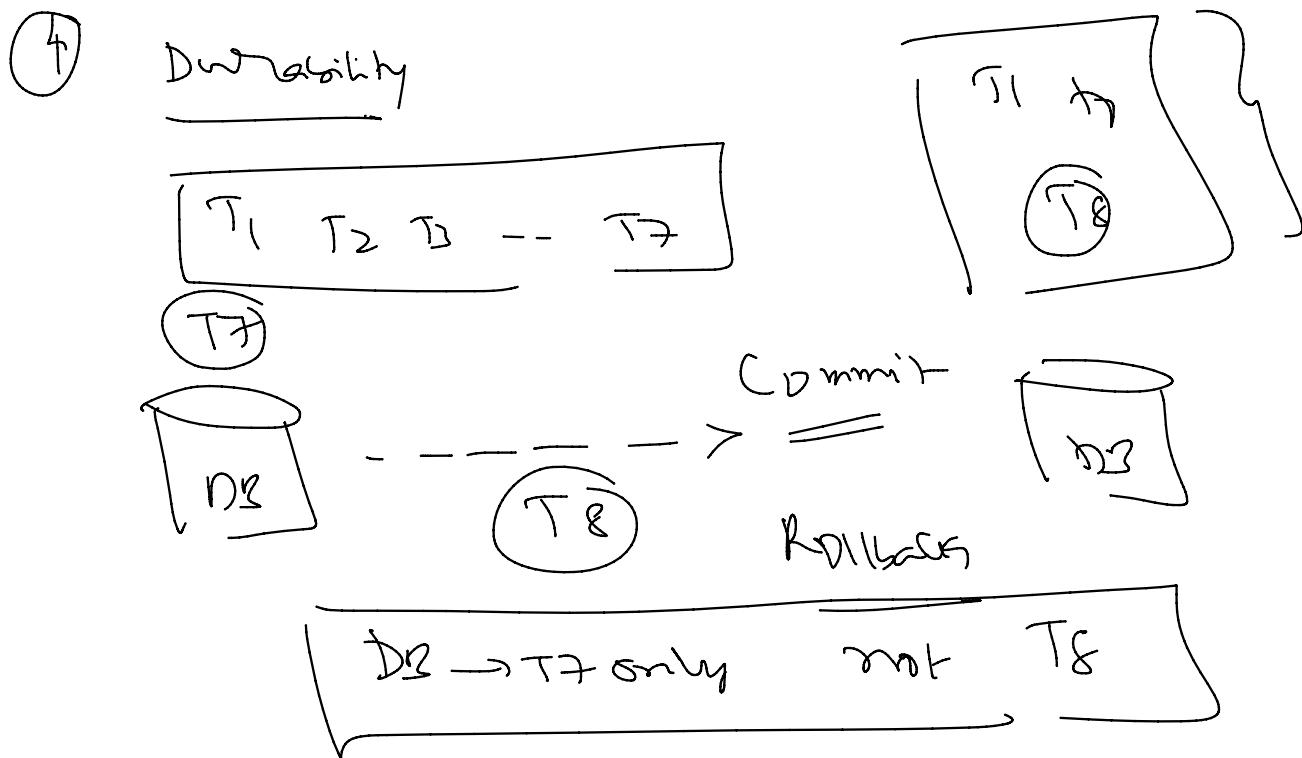
locking → write locks

Any number of users can read the data simultaneously →
Read lock [select]

This means read lock can be

- ① How many read locks can be held in a DB?
- ② How many write locks can be held in a DB by a user?

Transactions



SQL Constructs

- ① IN
② NOT IN

- ③ IF NULL
- ④ IF NOT NULL
- ⑤ BETWEEN AND
- ⑥ NOT BETWEEN AND
=, >, >=, <, <=
!=, <>
- ⑦ DISTINCT

⑧ CASE Statement
 → Joins \Rightarrow

⑨ IN and NOT IN Refer to MySQL Workbench

⑩ BETWEEN AND

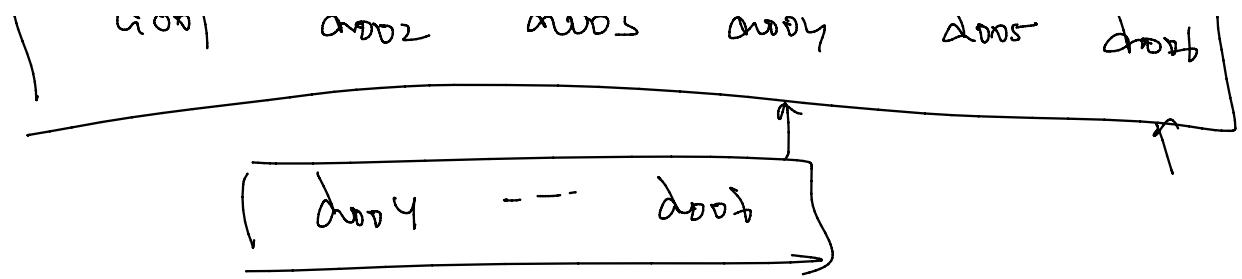


✓ 01-01-2010 to 01-01-2020

↓ filter →

2012 → 2020

↓ ↓
2001 2002 2003 2004 2005 2006



\rightarrow Entities PICKUP

Range Dates / Data

②

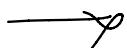
[between and]

01-01-2010 -

01-01-2010

③

Not between and



Key take aways

①

meta data

②

table space

③

Data Dictionary

④

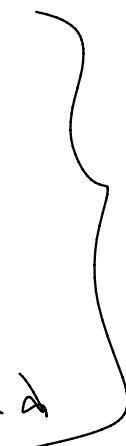
Data base architecture

{ Internal / conceptual / External }

⑤ DB way → DBA/DA/DD/BI/SV — —

Operations

- ① IN
- ② NOT IN
- ③ Between AND
- ④ NOT Between AND



key take aways Day - 10

- ① Between AND, NOT Between AND
- ② In, NOT IN
- ③ Is NOT null, Is null
- ④ =, !=, <>, >=, <=
- ⑤ distinct
- ⑥ Case statement

Dry-11

① Tiny -

② Normalizations