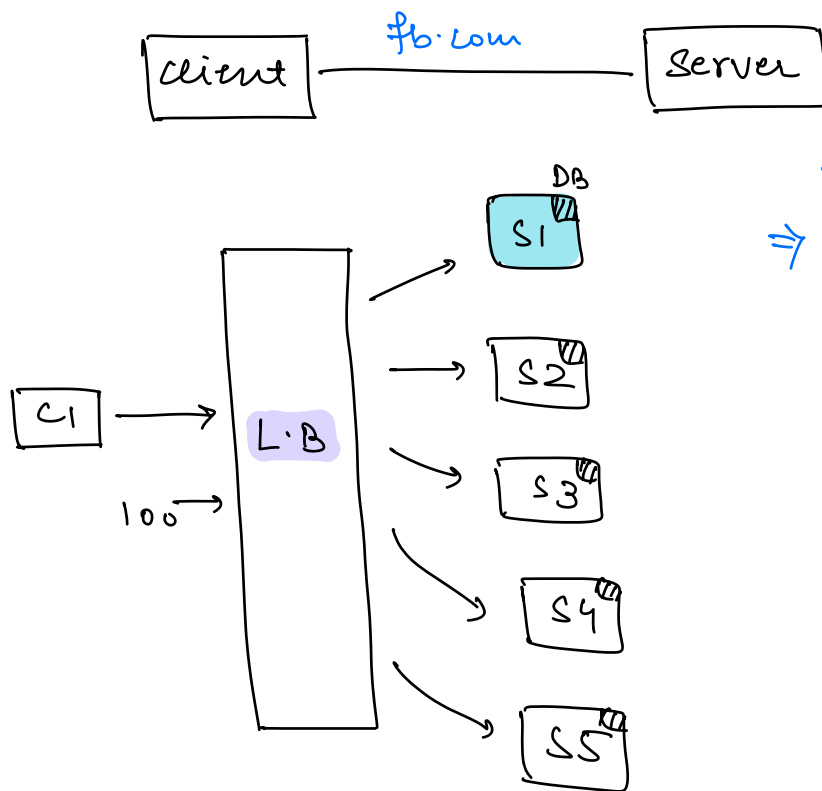
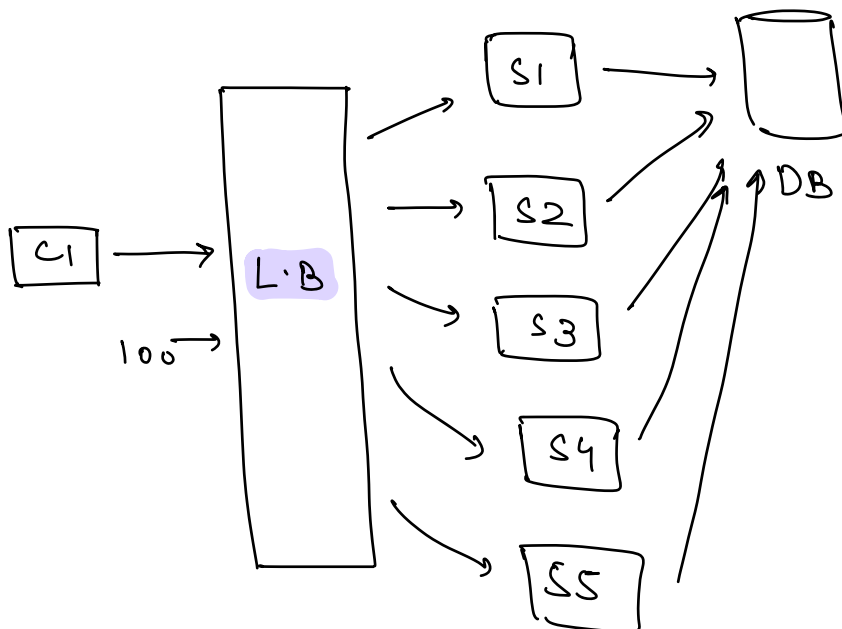
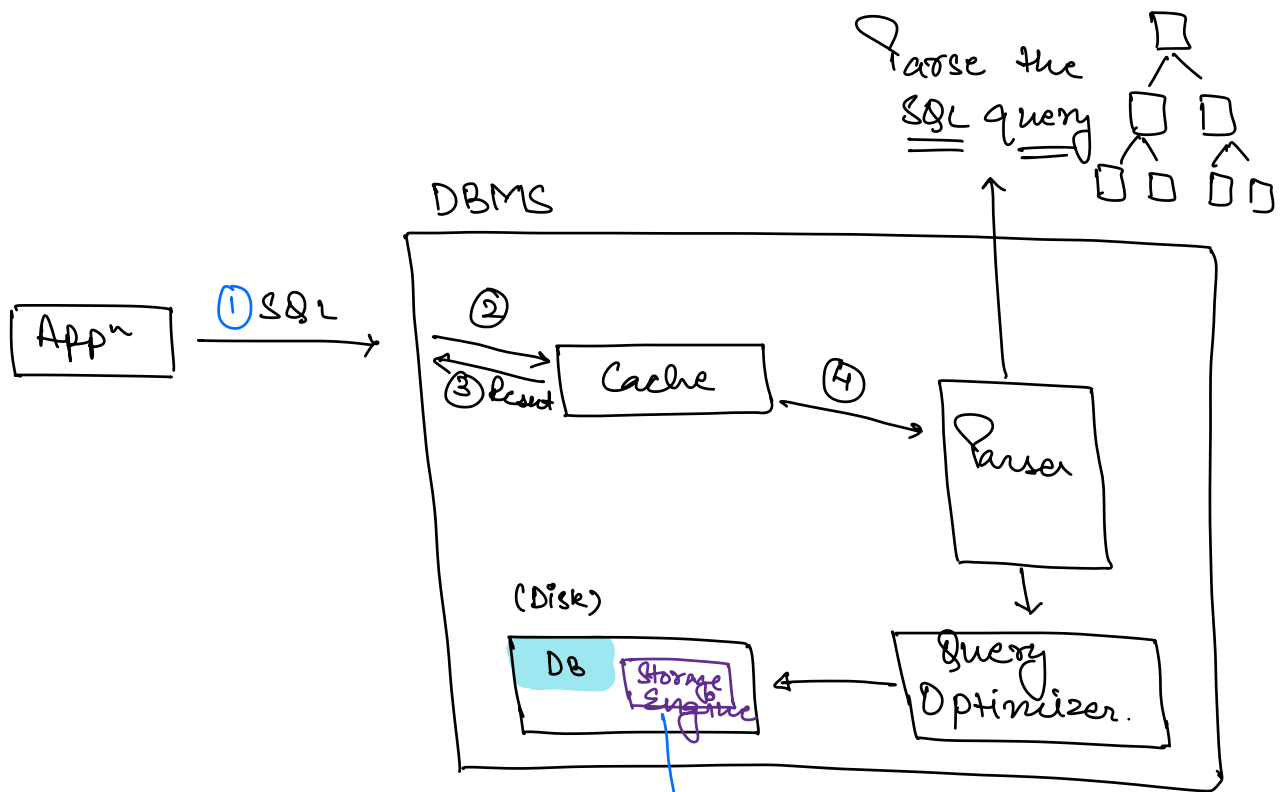


⇒ Client - Server Architecture.



Issues
⇒ 1) Space
2) Redundancy
3) Inconsistency.





Cache: $\{K, V\}$

{ SQL : Output }
query

⇒ InnoDB.

- ACID compliant.
- fault tolerance
- Crash Recovery.

1. Client sends the query.
2. Query is checked in Cache.
3. If the query is present in cache, return the result.
4. Else,
 query \Rightarrow Parser \Rightarrow Optimizer \Rightarrow Executed.

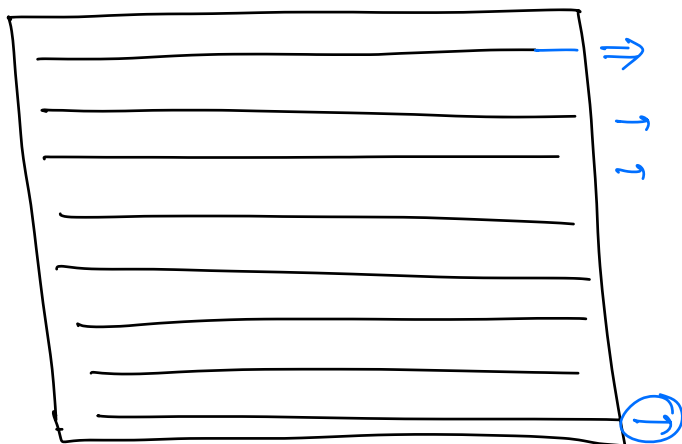
JOIN (A) & (B) & (C) & (D)

A B C D

Optimizer
 \downarrow

\Rightarrow Multiple Execution plans.

\Rightarrow
1000 rows.



Full Table
Scan.
 (Sequential
Scan)

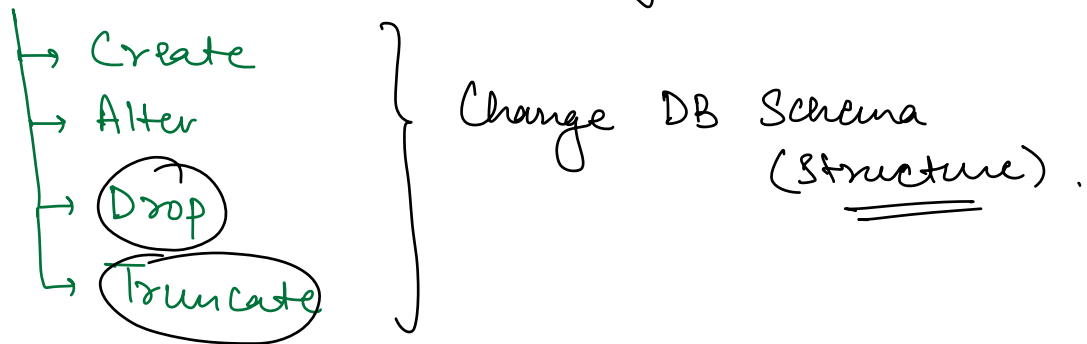
Index

↳ Full Index Scan

⇒ DDL vs DML Commands.

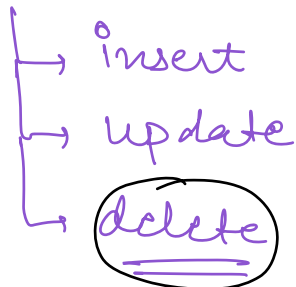
⇒ Every SQL query will be of some type

DDL : Data Definition Language.


Create
Alter
Drop
Truncate
} Change DB Schema (Structure).

⇒ DDL queries are used to create/update/delete the database structure but NOT the data.

DML : Data Manipulation Language


Insert
Update
Delete

⇒ NO CHANGE IN DB SCHEMA.

⇒ DML queries are used to create/update/delete the data from the tables.

DQL : Data Query Language
↳ SELECT

DELETE (VS) DROP (VS) TRUNCATE.

⇒ Delete from students
where id = 10;

⇒ Delete from students ≡ Truncate.

⇒ DROP : deletes the table from the DB.