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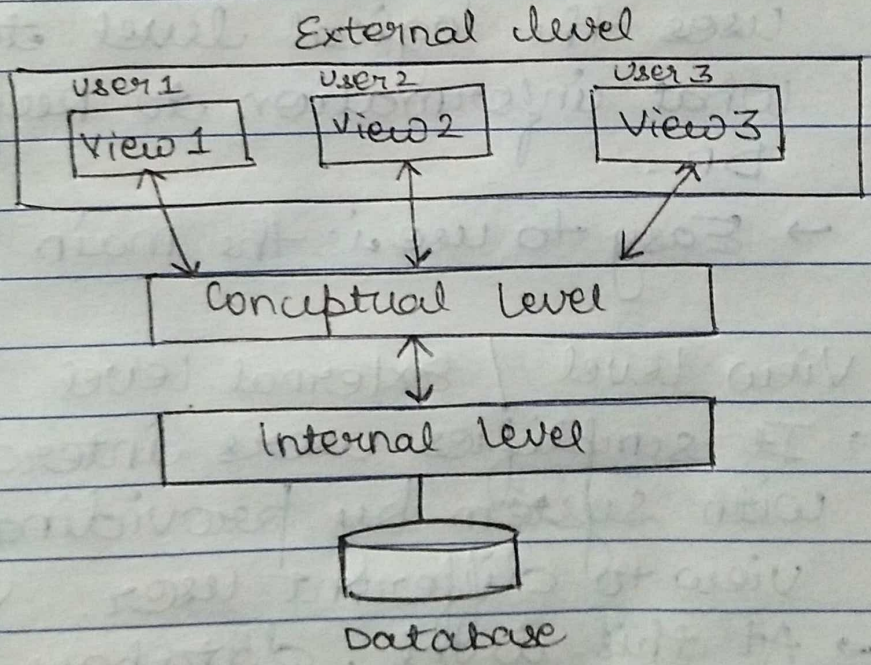
DBMS Architecture

The main purpose of DBMS is to provide users with an abstract view of the data. It means that DBMS hides how the data is stored.

Three level architecture focuses on enabling multiple users to access the same data with a personalized view while storing the data only once.



Physical level / Internal level

→ Low level of data structures are used.

→ It has physical schema that describes physical storage structure of DB.

→ Lowest level of abstraction.

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describes how the data are stored.
→ We must define algorithms that allow efficient access to data.

Logical level / Conceptual level
→ It describes the design of a database at the conceptual level
→ Describes what data are stored in DB and what relationships exists amongst them.
→ DBA (Database Administrator) uses the logical level to decide what information to keep in the DB.
→ Easy to use is the main priority.

View level / External level
→ It simplifies user's interaction with system by providing different view to different user.
→ At this level, database contains several schemas that sometimes called as subschema. These subschema are used to describe the different view of the database.
→ It also provides security mechanisms to prevent users to access

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certain parts of database.

DBA (Database Administrator)
DBA is an individual responsible for controlling, maintaining, co-ordinating and operating a database management system.

DBA plays a crucial role in ensuring the reliability, performance and security of an organization's data.

→Functions of DBA
(i) Database maintenance
(ii) Database security
(iii) Database troubleshooting
(iv) Database design & implementation
(v) Authorization control
(vi) Routine maintenance
↳ Periodic backups
↳ Security patches
↳ Upgrades.