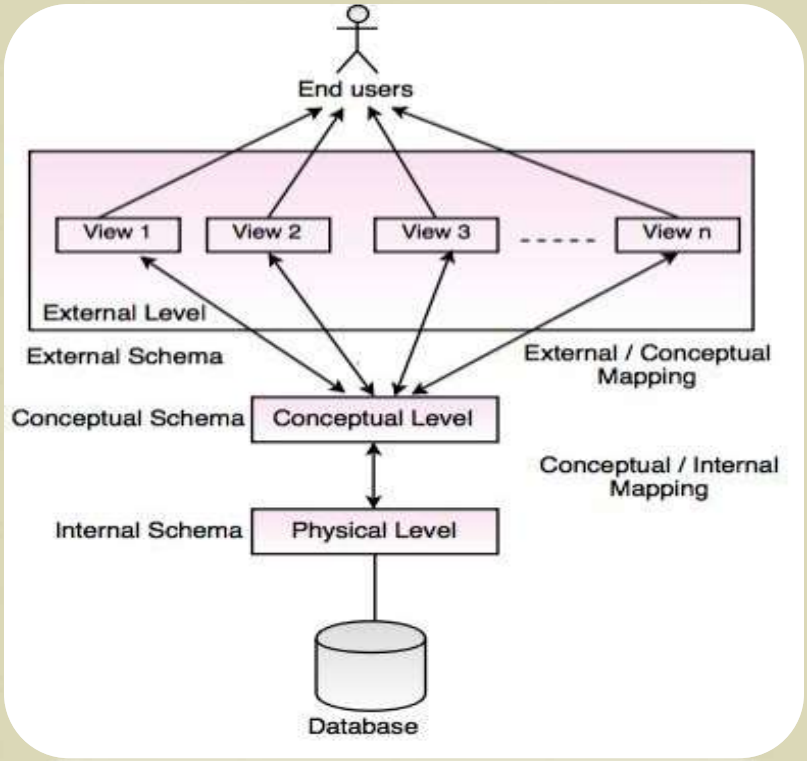
3 Level Architecture



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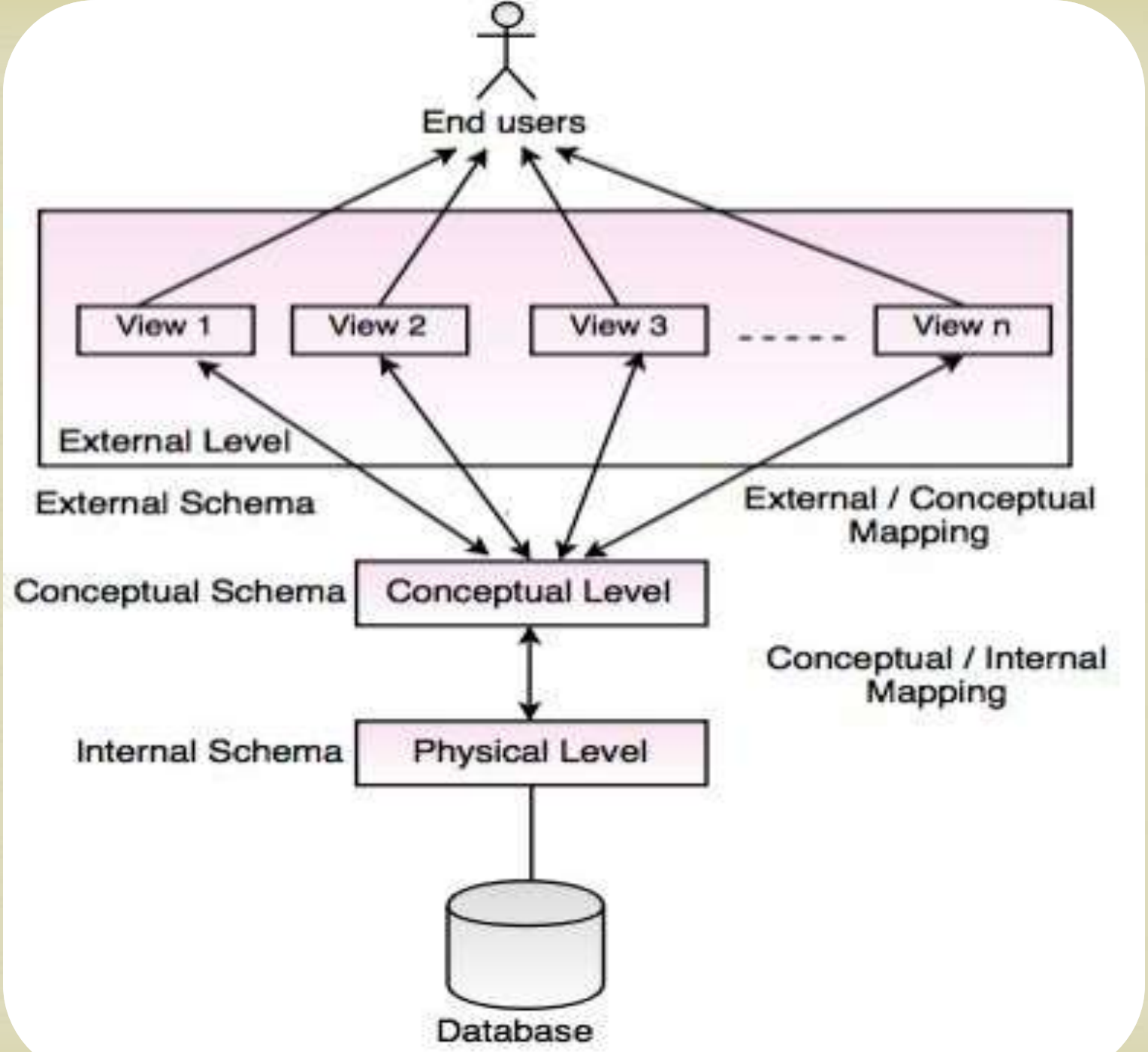
Architecture of DBMS

- Three levels or layers of DBMS Architecture are:
  - External Level
  - Conceptual Level
  - Internal Level


End users
View 1
View 2
View 3
View n
External Level
External Schema
External / Conceptual Mapping
Conceptual Schema
Conceptual Level
Conceptual / Internal Mapping
Internal Schema
Physical Level
Database

Internal Level

- Physical representation of the DB on the computer.
- How the data is stored in the database?
- At lowest level, it is stored in the form of bits with the physical addresses on the secondary storage device.
- At highest level, it can be viewed in the form of files.
- The internal schema defines the various stored data types. It uses a physical data model.

Conceptual Level

- Conceptual level describes the structure of the whole database for a group of users.
- It is also called as the data model.
- Conceptual schema is a representation of the entire content of the database.
- These schema contains all the information to build relevant external records.
- It hides the internal details of physical storage.
- It Represents:
  - entities, attributes, relations

External Level

- The user's view of the database.
- Consists of a number of different external views of the DB.
- Describes part of the DB for particular group of users.
- The user is not aware of the existence of any attributes that are missing from the view.
- It permits users to access data in a way that is customized to their needs, so that the same data can be seen by different users in different ways, at the same time.

Thank You!