Levels of a DBMS Architecture

Internal Level (Physical Level)

The internal level is the lowest level of the architecture and deals with the physical storage of data on the hardware. It focuses on how data is actually stored, including aspects such as storage structures, access methods, and indexing techniques. This level defines how data is stored in blocks, tracks, and sectors, and how the data structures (like B-trees, hash tables, etc.) are managed.

Conceptual Level (Logical Level)

The conceptual level is the middle level and represents the logical structure of the entire database for a community of users. It focuses on what data is stored in the database and the relationships among those data. This level provides a global view of the database and hides the complexities of the physical storage. It describes the structure of the whole database for a community of users, using logical constructs such as tables, views, and indexes.

External Level (View Level)

The external level is the highest level of the architecture and is closest to the end-users. It focuses on how individual users view the data. This level involves multiple user views, where each view is a subset of the database tailored to the needs of a particular user or group of users. It provides a way to hide certain parts of the database from certain users for security and simplicity.

Summary of the Three Levels

Internal Level: Physical storage of data.

Conceptual Level: Logical structure of the database.

External Level: User-specific views of the database.