

Database Management System (DBMS) is a collection of programs and files that allows a user to **define structure of database, store data into it, modify the structure and manipulate data**. Apart from this it also provides security, transaction management and concurrency control.

Advantages of Data Base System:

- 1) Reduce data redundancy (duplication of data)
- 2) Control data inconsistency to a large extent
- 3) Database facilitates sharing of data
- 4) Enforce standards
- 5) Centralized databases can ensure data security

Levels of Database Implementation:

1. Internal Level (Physical Level) :

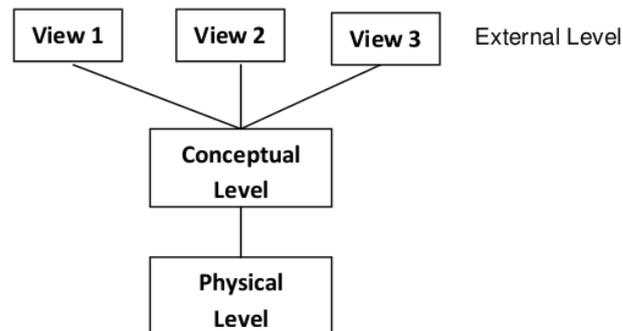
It describes how the data are actually stored on the storage media.

2. Conceptual Level :

It describes what data are actually stored in the database. It also describes the relationships existing among data.

3. External Level (View Level) :

It is closest to the users and is concerned with the way in which the data are viewed by individual users



Referential integrity: The property of a relational database which ensures that no entry in a foreign key column of a table can be made unless it matches a primary key value in the corresponding column of the related table. It is enforced in the database with the help of foreign key constraint.

Tuple: A row in a relation is called a tuple

Attribute: A column in a relation is called an attribute

Domain : Domain of an attribute refers to the set of all the possible values for that attribute.

Degree: Number of attributes in a relation is the degree of that relation

Cardinality: Number of tuples in a relation is the cardinality of that relation.

Candidate Key: A set of one or more minimal attributes used to uniquely identify a tuple in the relation and which can act as Primary Key. A relation can have multiple candidate keys

Primary Key: A candidate key that is primarily chosen for unique identification of tuples in a Relation. Any subset of Primary key should not be Primary key.

Alternate Key: Candidate keys that not chosen as primary key are the alternate keys.