Data

* Could be anything any **fact** that can be **recorded** and **stored**
* Example fact like text, number, images, videos, speech
* If any fact recorded then it is data

Database

* Collection of related data like collection of numbers or collection of images
* If we decide upon some database we have to put only the things which are related to database so every insertion and deletion only the concerning the data which is related to what we defined.

Traditional Database

* Which contains only text and numbers

MDB

* Multimedia database which contains different types of movies, songs etc.

Geographic Information System

* Which contains mainly images of satellite of the earth.

Real-time Database

* Mainly used in the production like in supermarket we need to keep track of the store and buy of the products.

Data Warehouse

* Data is going to be huge and historical which means we are going to have data stored about a company for the past 100 years and another example is we need to store the stock market rates and we want to predict the futures by looking at the past for the past hundred years

Database Software

* We need to database software for defining the data like the data is int, char, string etc., and construct the data is placing the data on the hard disk or the storage the device and manipulate means adding and deleting data from the database

DBMS

* Is a set of programs which is used to construct and manipulate the database so DBMS is just software?

High Level (HL) or Conceptual Modeling

* Mainly used in order to explain to the people who really do not know about anything how database is implemented. In this level we use some diagrams for entities for example we model a student by an entity and the student might be having some attributes like he says his name and their maybe a relationship like a student attends a course here attends his relationship between student entity and course entity. If we draw the diagram and if we try to explain it clearly then that is called as conceptual view. The most popular conceptual modeling is ER modeling and other model is also available but ER modeling is widely used

Representation or implementation modeling

* Is like a chart while building a charts which we are going to use to build a house this type of model is used by the programmers we generally use relations(tables) at this level so it is also called as relational model

Low Level (LL) or physical data models

* How we are going to take the table and store it in hard disk or the memory device at that point we have to deal about what is structure of the record and store it especially what is the data type and what are the structure how are you going to place it and when you want to retrieve it how many bytes should you go in right

Entity

* Every object is nothing but an object like car, person, board etc.
* When we collect the requirements from clients then nouns are going to be entity and then verbs are going to be relationship for example, a person owns a car that is going to be relationship, an employee works for a department i.e. is going to be a relationship so entity is nothing but any object in your database and relationship is nothing but any verb which we are going to describe is going to be a relationship and what about attributes are nouns which describes the nouns like if a person is entity then he is going to have attribute like he is going to have a name or has an address or phone numbers all are going to be attributes

Entity Type

* Is the name or the heading or this schema; schema is the nothing but the heading or description like Person(name,age,address…)
* Sometimes it is referred as intention
* We can delete or add some elements into the entity type
* At any time the number elements or all the elements in any entity type is called as state
* So entity type means just the name

Entity

* A person who is going to be represented in this entity type itself for example Person(raju,25…) so entity is actually a instance
* Sometimes it is referred as extention
* Entity means the instance

Relationship

* It is actually an instance and relationship type means what is its heading schema
* In ER diagram we don’t use really entities we use entity types which means we do not really show you everything that is present in the database we don’t write a set diagram and then we don’t put a point for every element present in it we are going to represent it in a shortcut just using the entity type
* The main intention of ER diagram is to help communication between the technical designer of the database and the naïve user who does not know anything about the database he is just to going to say word and you are supposed to capture those nouns verbs and you are supposed to put them in the diagram and a refinement has to go on and