**Entity Relationship Model**

* **Entity**
* A thing in the real world with an independent existence.
* May be an object with physical existence
* Example: House, Person
* Or with a conceptual existence
* Example: Course, Job
* **Attributes**
* Properties that describe the entities.
* **Composite Attributes**
* Can be divided into further parts.
* Example: Name -> First name, Middle name, Last name
* **Simple Attributes**
* Cannot be divided further
* Example: Weight -> Cannot be divided further.
* **Single-Valued Attributes**
* Have a single value for a particular entity
* Example: Age -> Single-Valued attributes of a person.
* **Multivalued Attributes**
* Can have set of values for a particular entity.
* Example: College degree, languages known -> Multivalued attributes of a person
* **Derived Attributes**
* Can be derived from other attributes.
* Example: Age -> can be derived from date of birth
* **Stored Attributes**
* From which the value of other attributes is derived.
* Example: Date of birth
* **Complex Attributes**
* Has multivalued & composite components in it.
* Multivalued attributes -> represented within ‘{}’.
* Composite attributes -> represented within ‘()’.
* Example: {CollegeDegrees(College, Year, Degree, Field)}
* **Null Values**
* Null is something which is not applicable or unknown.
* **Entity Type:**
* A collection of entities that have the same attributes.
* Example: Student
* **Entity Set:**
* Collection of entities of a particular type at a point in time.
* **Key Attribute**
* The attribute that is capable of identifying each entity uniquely.
* Example Student\_ID
* **Value Set of Attributes**
* The set of value that can be assigned to an attribute.
* **Weak Entity Types**
* Entity types that do not have key attributes of their own.
* Identified by relating to another entity type called the identifying or the owner entity type.
* Relationship between weak entity type to its owner -> identifying relationship
* **Relationship**
* Relationship is an association among 2 pr more entities.
* Example: Teacher teaches student. Here “teaches” is the relationship