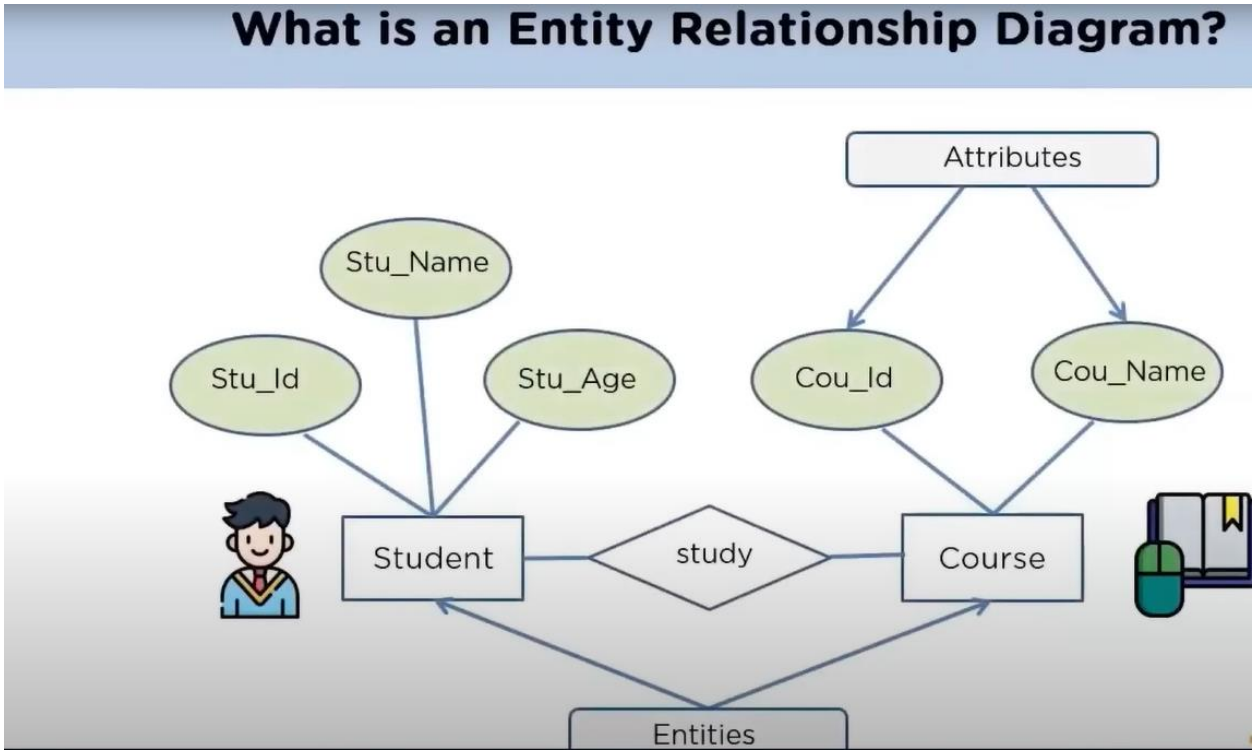
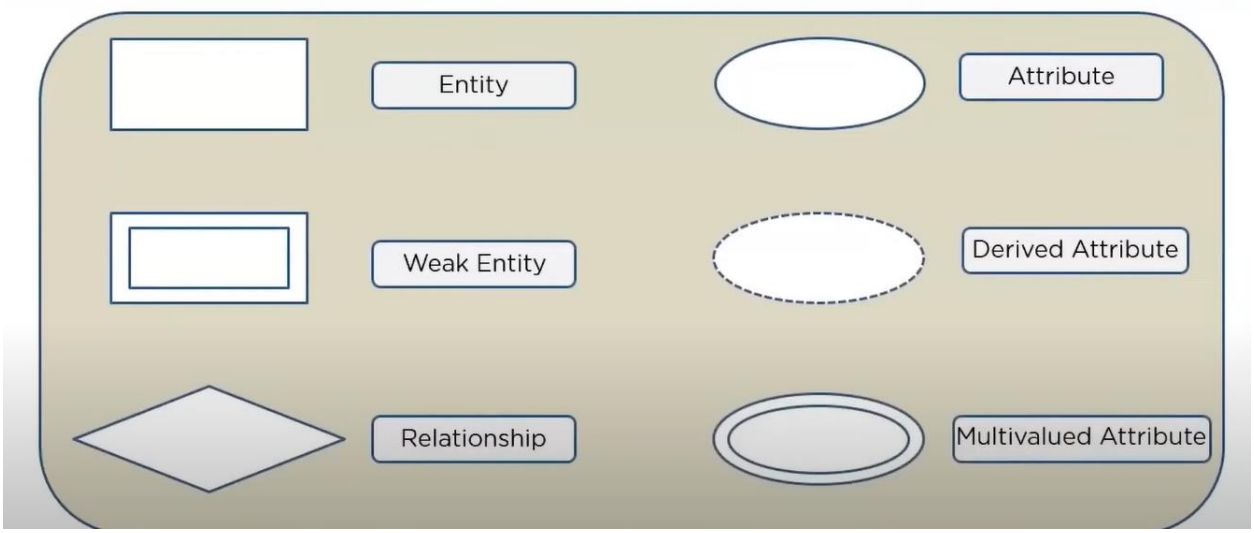
ERD

- Describes the relationship of entities that need to be stored in a db.
- ER diagram is mainly a structural design for db.
- It is a framework using specialized symbols to define relationship b/w entities
- Based of 3 components entities, attributes & relationship.



- Relation b/w 2 entities student & course
- Relation is many to many (as student can opt multiple course + course can also be selected by multiple students)
- ER diagram use as a blueprint which reduces the complexity

Symbols used



Components of Diagram

Entity

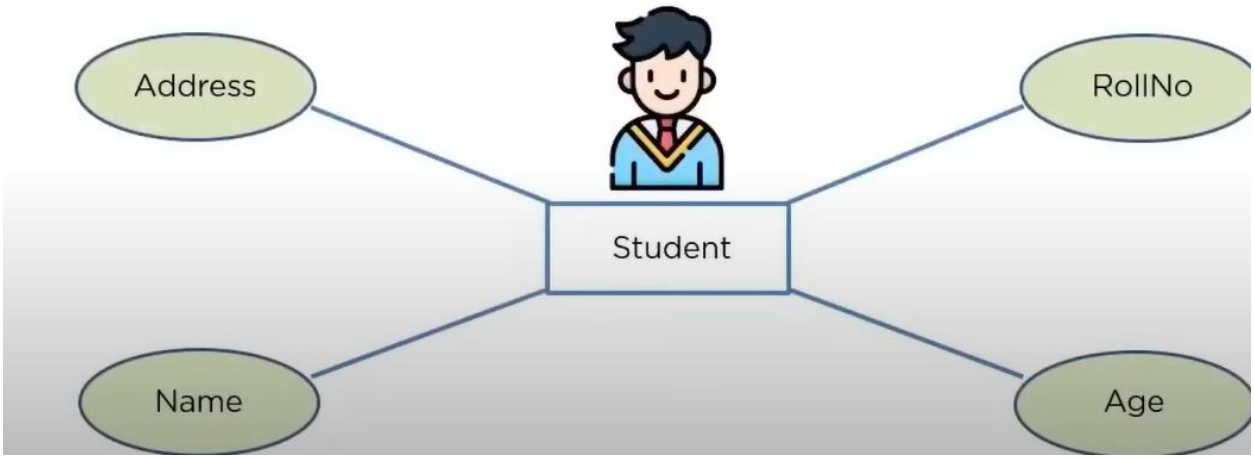
- Can be living or non living

Weak Entity

- An entity that relies on another entity i.e classroom depends on school

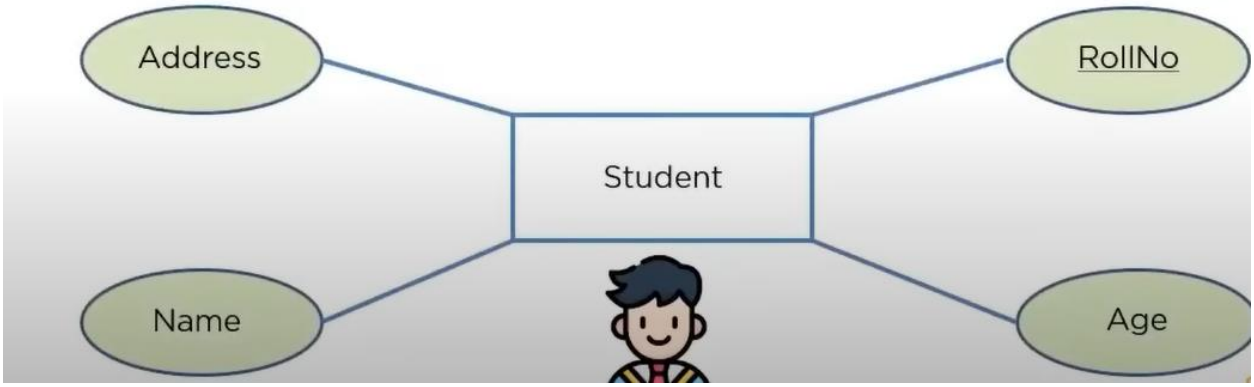
Attribute

- An attribute describes property of an entity



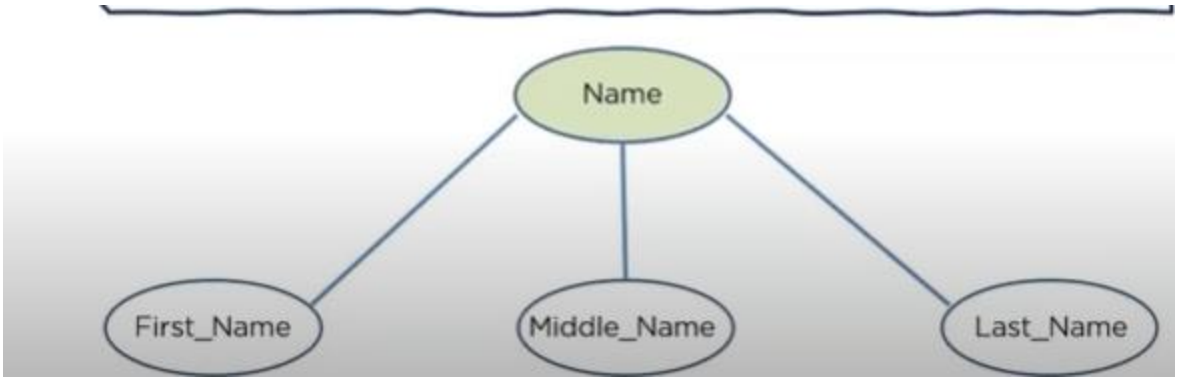
Types of Attribute

1) **key attribute:**
   - uniquely identifies an entity from an entity set
   - test of key is underlined
   - i.e rollno.



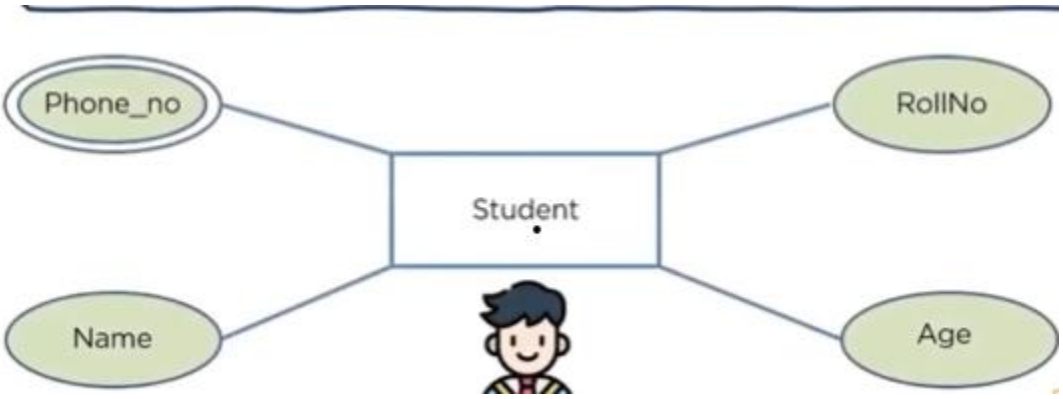
2)Composite Attribute

- An attribute that is composed of other attributes



3) Multivalued Attribute

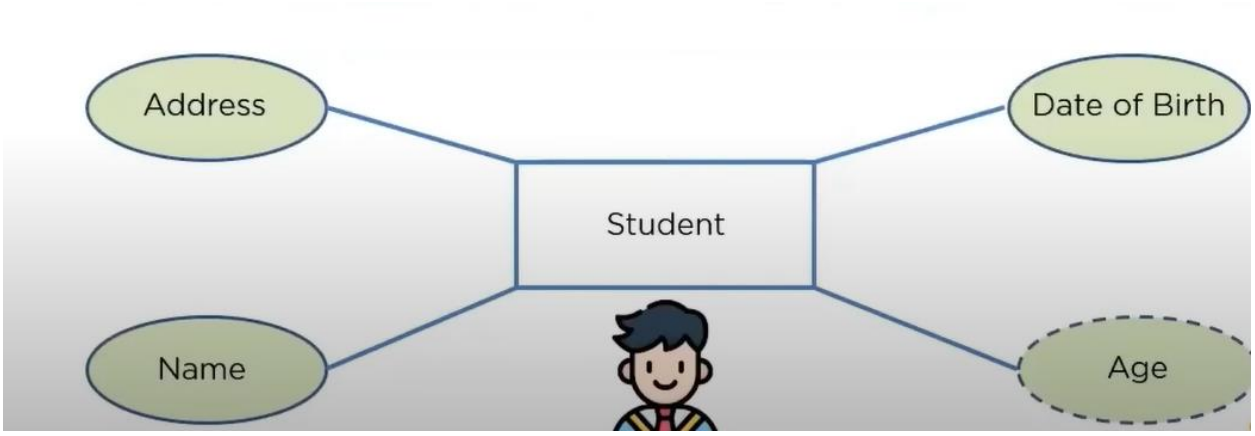
- An attribute that can possess more than one value



Here phone no as it am have more than one val

4) Derived Attribute

- An attribute that can be extracted from other attributes



Here age is a derived attribute of Date of birth

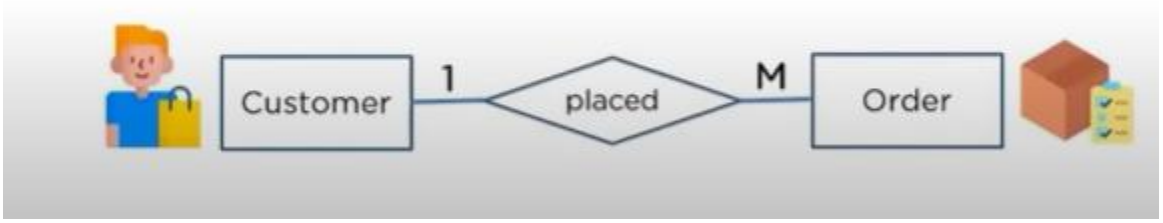
Relationship

- **Shows relationship among entities**

Type of relationship

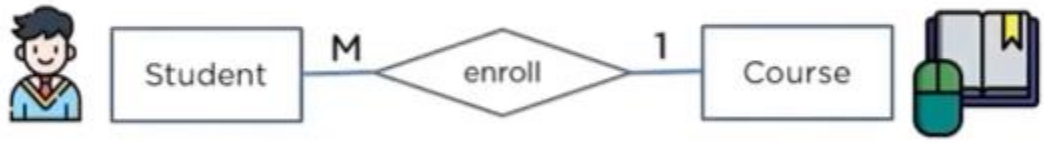
1) **One to one relationship**
   When a single element of entity is associated with single element of another entity
   That is called one to one relationship.

2) One to many



One customer can place multiple orders but a particular order cannot be placed by multiple customers

3) Many to one relationship



4) many to many