

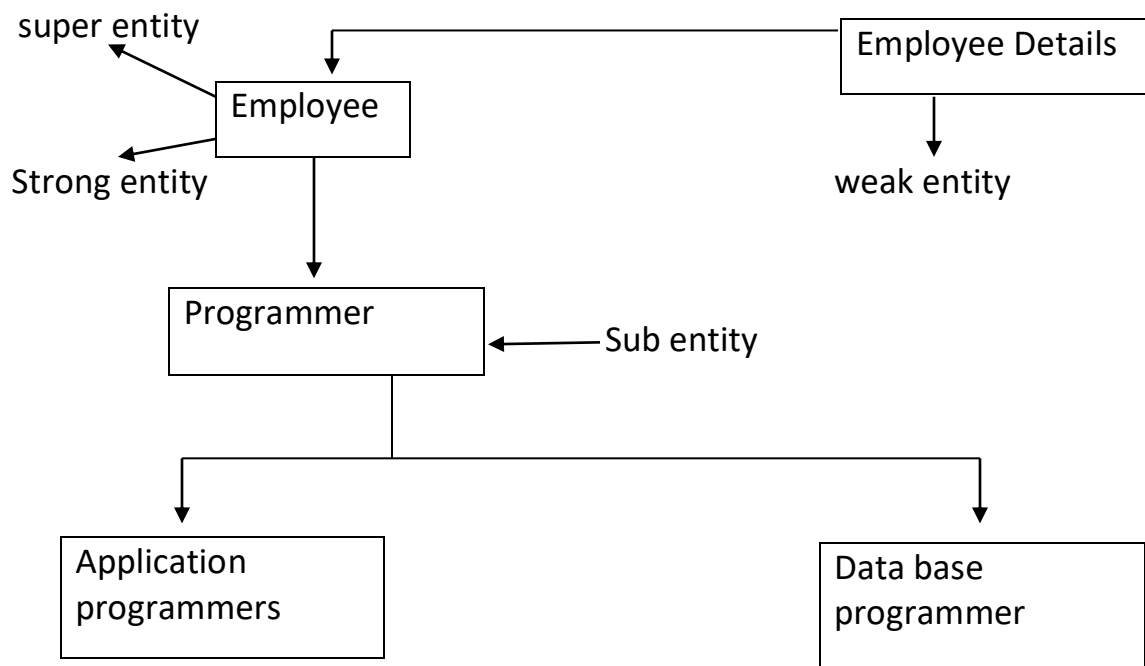
## Unit:-3

### E/R Diagram

- E\R Diagram shows the relation the relationship among entities.
- Where
  - E- entity
  - R- relationship
- In E-R diagram three major components are there.
  - 1) Entity
  - 2) Attribute
  - 3) Relationship

#### ❖ Entity:-

- In DBMS an entity is something there which have certain attributes.
- There are four type of entity.
  - 1) Super entity
  - 2) Sub entity
  - 3) Strong entity
  - 4) Weak entity



## 1) Super entity:

- A entity which is main thing is called super entity.

## 2) Sub entity:-

- An entity which is a part of super entity is called sub entity.

## 3) Strong entity:-

- An entity which is independent entity means it is not dependent on another entity is called strong entity.

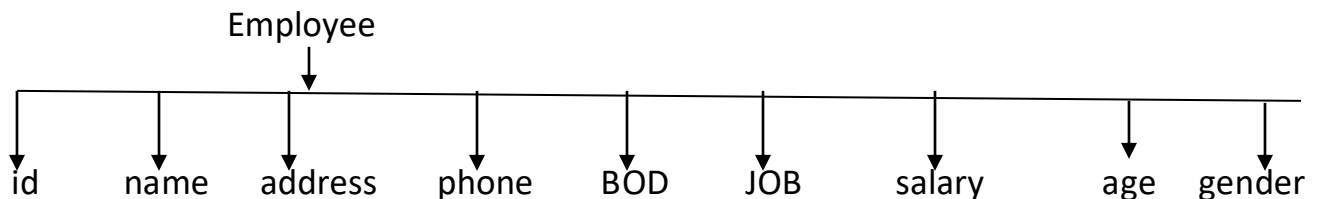
## 4) Weak entity:-

- A entity which is dependent on another entity is called weak entity.

❖ In above example employee is a super and strong entity programmer is a sub entity and employee details is a weak entity.

## 2) Attributes:-

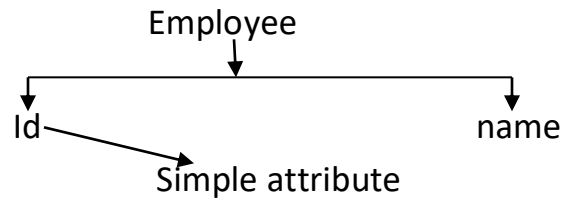
- Characteristics of entity its known as attributes.
- Attribute is a value or property of an entity.



- There are six type of attributes.
  - Simple attribute
  - Composite attribute
  - Single value attribute
  - Multi value attribute
  - Base attribute
  - Derived attribute

## 1) Simple attribute:-

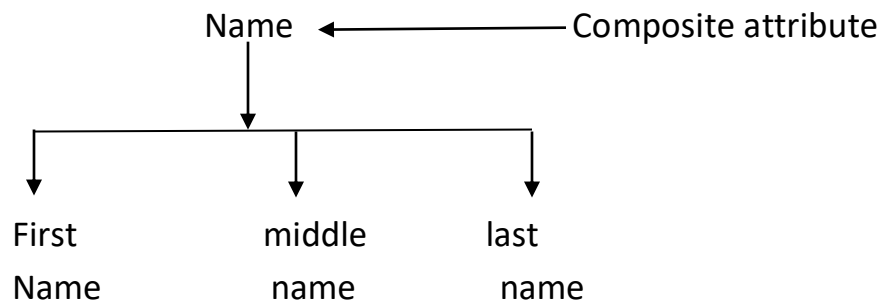
- Simple attribute can not be further broken or sub divided.



- In above example we can not be divide ID... Attribute, so ID is a simple attributes.

## 2) Composite attribute:-

- More than one value of single attribute so single attributes known as composite attribute.



- In above example we declare name into three further attributes so name is composite attribute.

## 3) Multi- value attribute:-

- If an.. attributes which has multiple value so that kind of attributes are known as multi value attribute.
- Example :- phone no
- Phone number of employee is the multi value attributes because phone no has one or more value.

## 4) Single value attribute:-

- If attribute has a single value than there kind of attribute known as single value attribute.
- Birth of date is a single value attribute because it has only a single value.

## 5) Base attribute:-

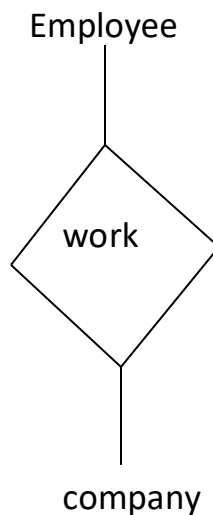
- Date is a base attribute because we can calculate age of employee with the help of birth of date.

## 6) derived attribute:-

- age is a derive attributes because we can declare age depend on employee birth of date.

## ❖ Relationship:-

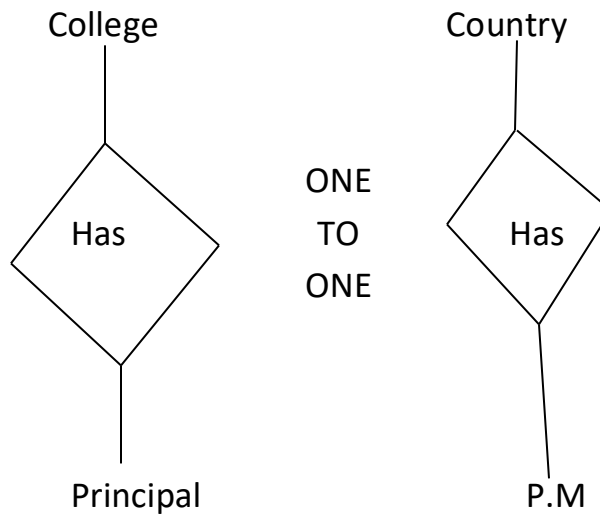
Relationship is a association or a link between two entity.



in above example an employee work for a company so, work represent as a relationship between two entity,

- There are four types of relationship
  1. One to one relationship (1:1)
  2. One to many relationship (1:m)
  3. Many to one relationship (m:1)
  4. Many to many relationship (m:m)

✓ **One to one relationship:-**



Above example represent one to one relationship between college to principal and country or p.m.

✓ **One to many relationship:-**