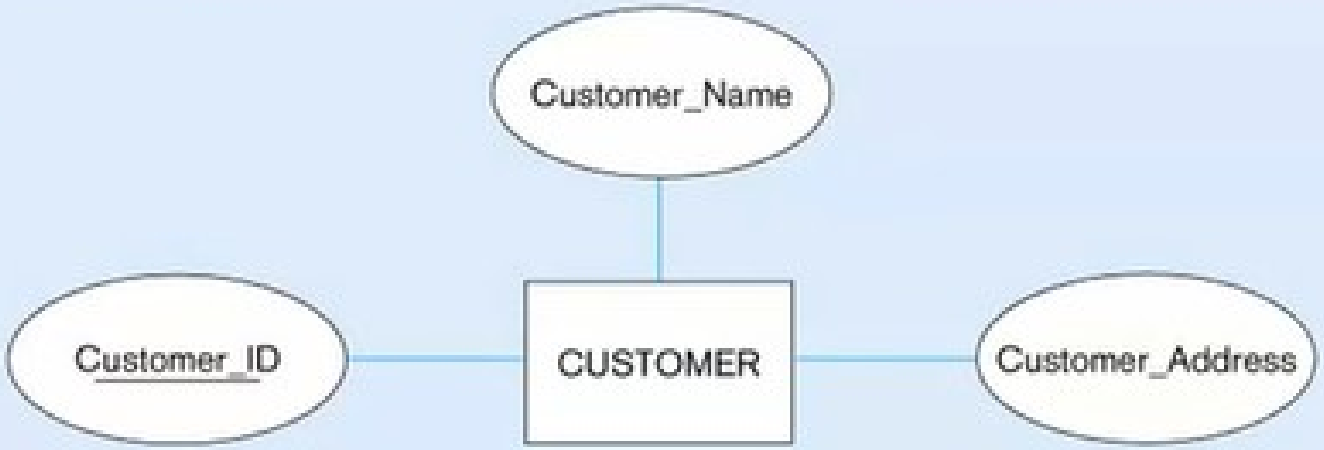
Mapping Regular entity

(a) CUSTOMER entity type with simple attributes



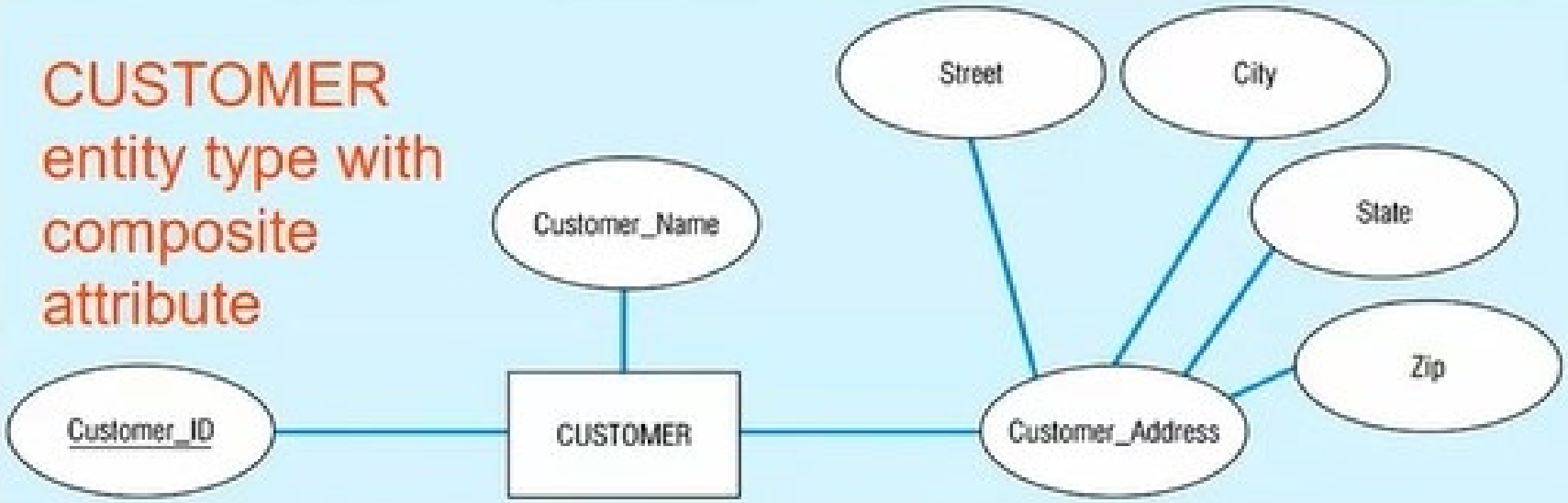
(b) CUSTOMER relation

CUSTOMER

Customer_ID	Customer_Name	Customer_Address

Mapping Composite attribute

CUSTOMER entity type with composite attribute



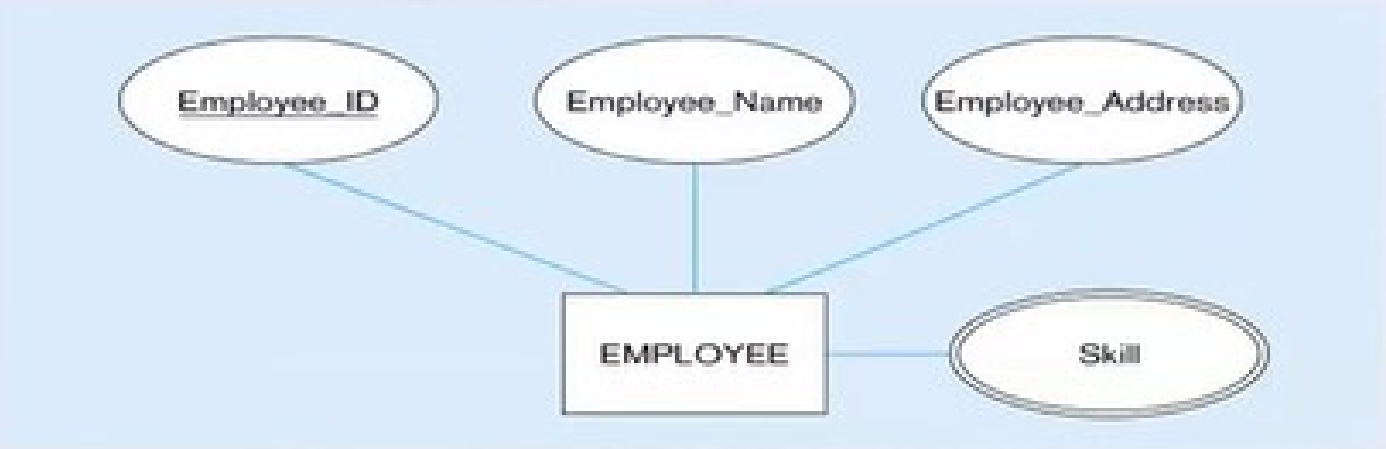
CUSTOMER relation with address detail

CUSTOMER

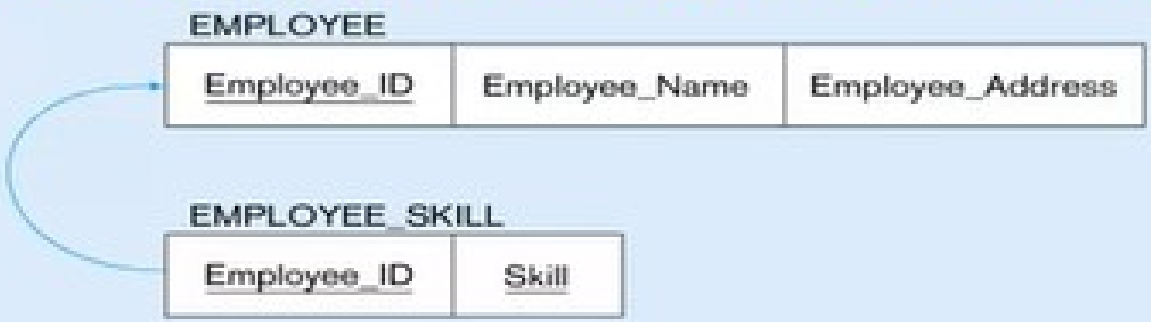
address = concatinations

Customer_ID	Customer_Name	Street	City	State	Zip

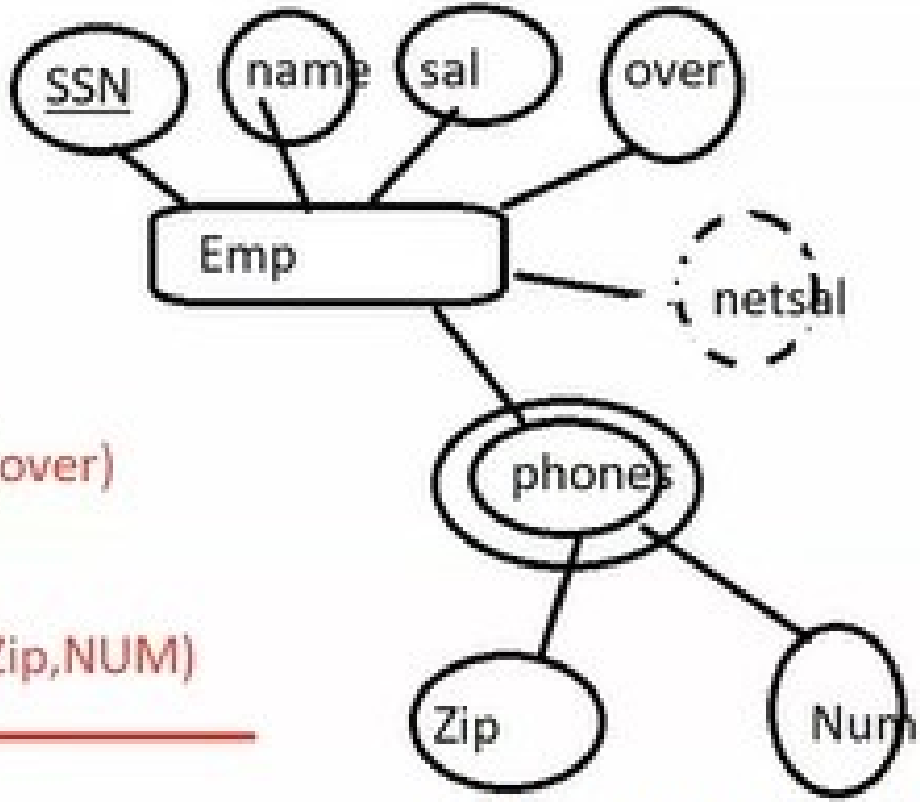
Mapping Multivalued Attribute



Multivalued attribute becomes a separate relation with foreign key



1 – to – many relationship between original entity and new relation



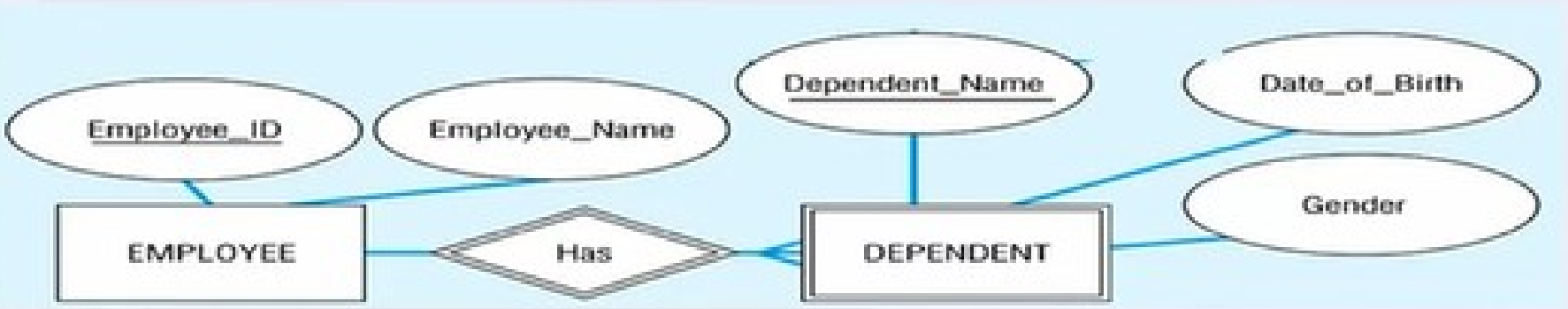
Emp(SSN,Name,sal,over)

Emp_phones(SSN,Zip,NUM)

لو مشترك في علاقة اخرى يبقى اعمله عمود جديد

netsal=sal+over

Mapping Weak entity



EMPLOYEE

Employee_ID	Employee_Name

DEPENDENT

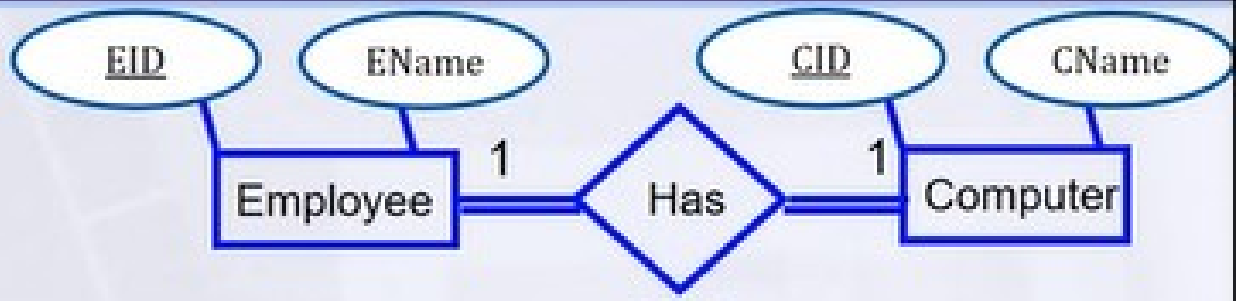
Depend_Name	Employee_ID	Date_of_Birth	Gender

Composite primary key

2 Mandatory

One-to-One

2 Mandatory



1 table

tbl_xy (PK,....,....,....)

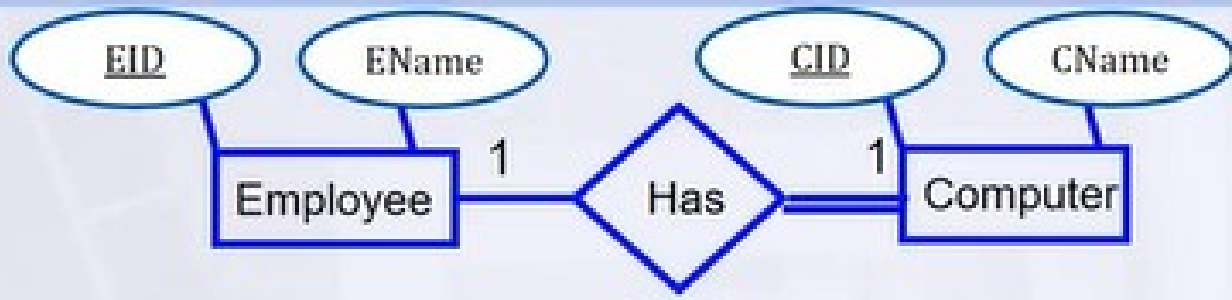
PK = PKx or PKy

Emp(EID, Ename, Cname, CID)

Optional-Mandatory

One-to-One

X optional – Y mandatory



2 tables

tbl_x (PKx,….,……..)

tbl_y (PKy,….,….,PKx….)

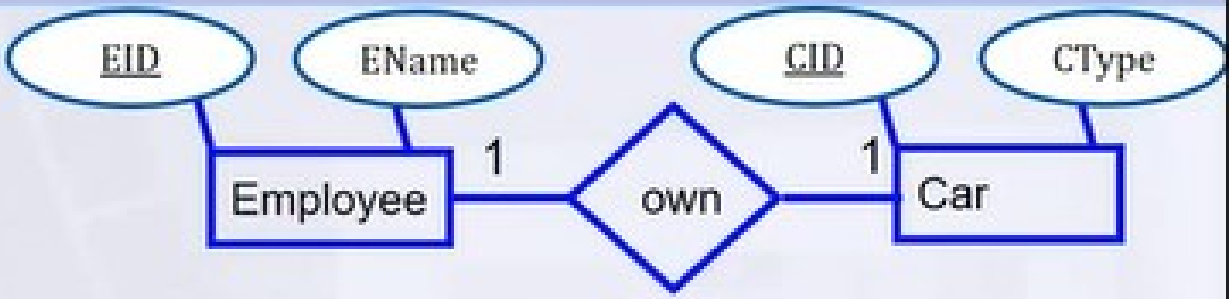
Employee(EID, Ename)

Computer(CID, Cname, EID_FK)

2 Optional

One-to-One

2 Optional



3 tables

tbl_x (PKx,....,.....)

tbl_y (PKy,....,.....)

tbl_xy (PKxy,....,...,FKxy,.....)

PKxy = PKx or PKy

Employee(EID, Ename)

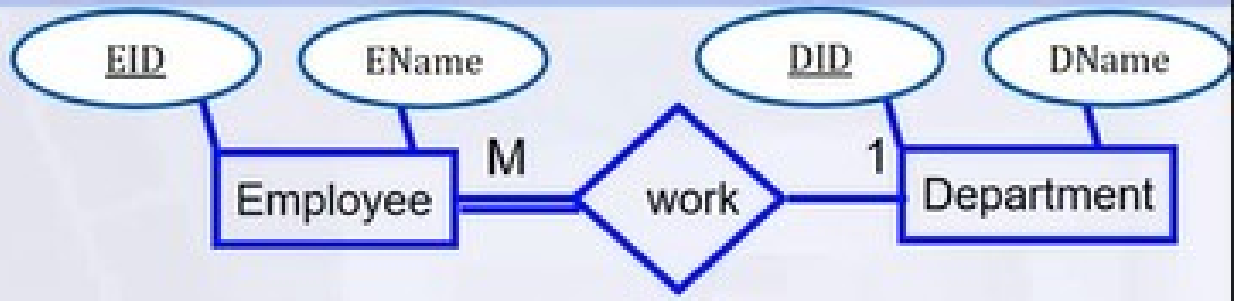
Car(CID, CType)

Emp_Car(EID, CID_FK)

Many is Mandatory

One-to-Many

X whatever– Y mandatory



2 tables

tbl_x (PKx,….,……..)

tbl_y (PKy,….,….,FKy….)

FKy= PKx

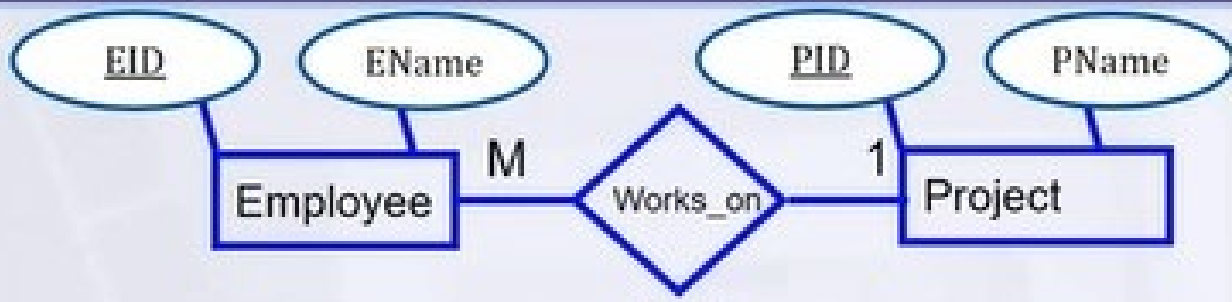
Department(DID, Dname)

Employee(EID, Ename,DID)

Many is Optional

One-to-Many

X whatever– Y Optional



3 tables

tbl_x (PKx,....,.....)

tbl_y (PKy,....,.....)

tbl_xy (PKxy,....,.....)

PKxy = PKy

Project(PID, Pname)

Employee(EID, Ename)

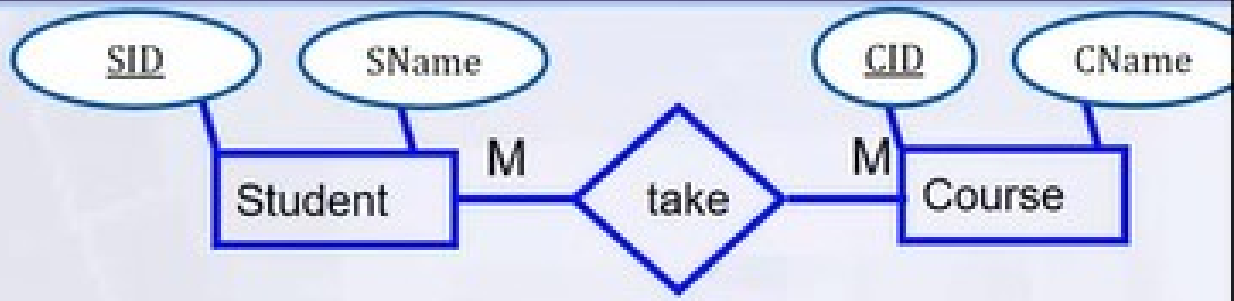
Proj_Emp(EID,PID_FK)

many ال ناحيه

M:N

Many-to-Many

X whatever– Y whatever



3 tables

tbl_x (PKx,….,……..)

tbl_y (PKy,….,……..)

tbl_xy (PKx ,PKy, ….,……..)

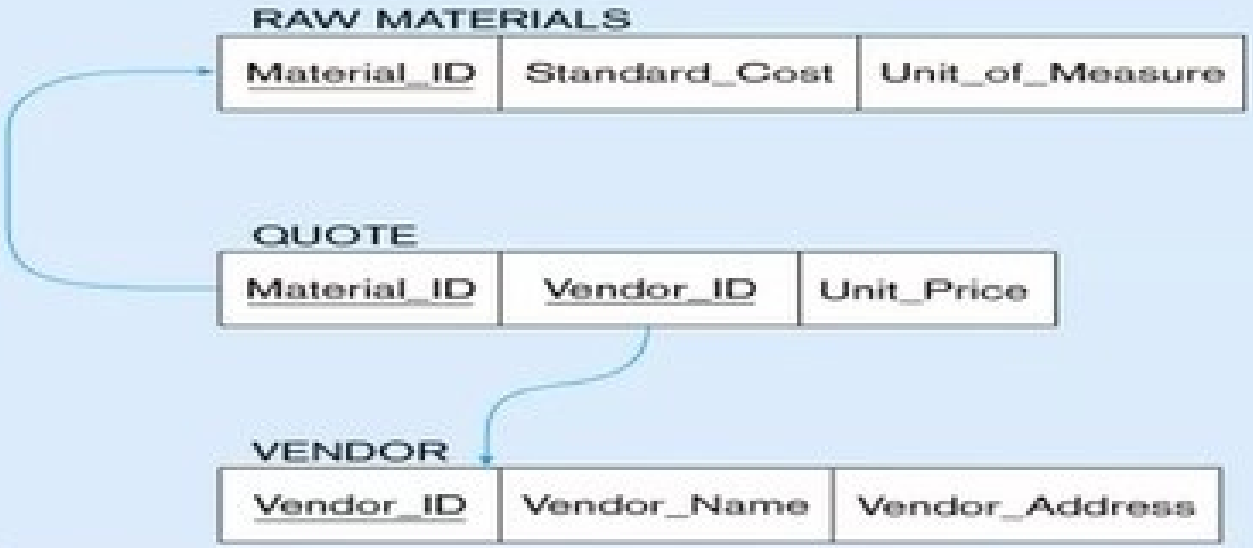
PKxy=_PKx+PKy

Student(SID, Sname)

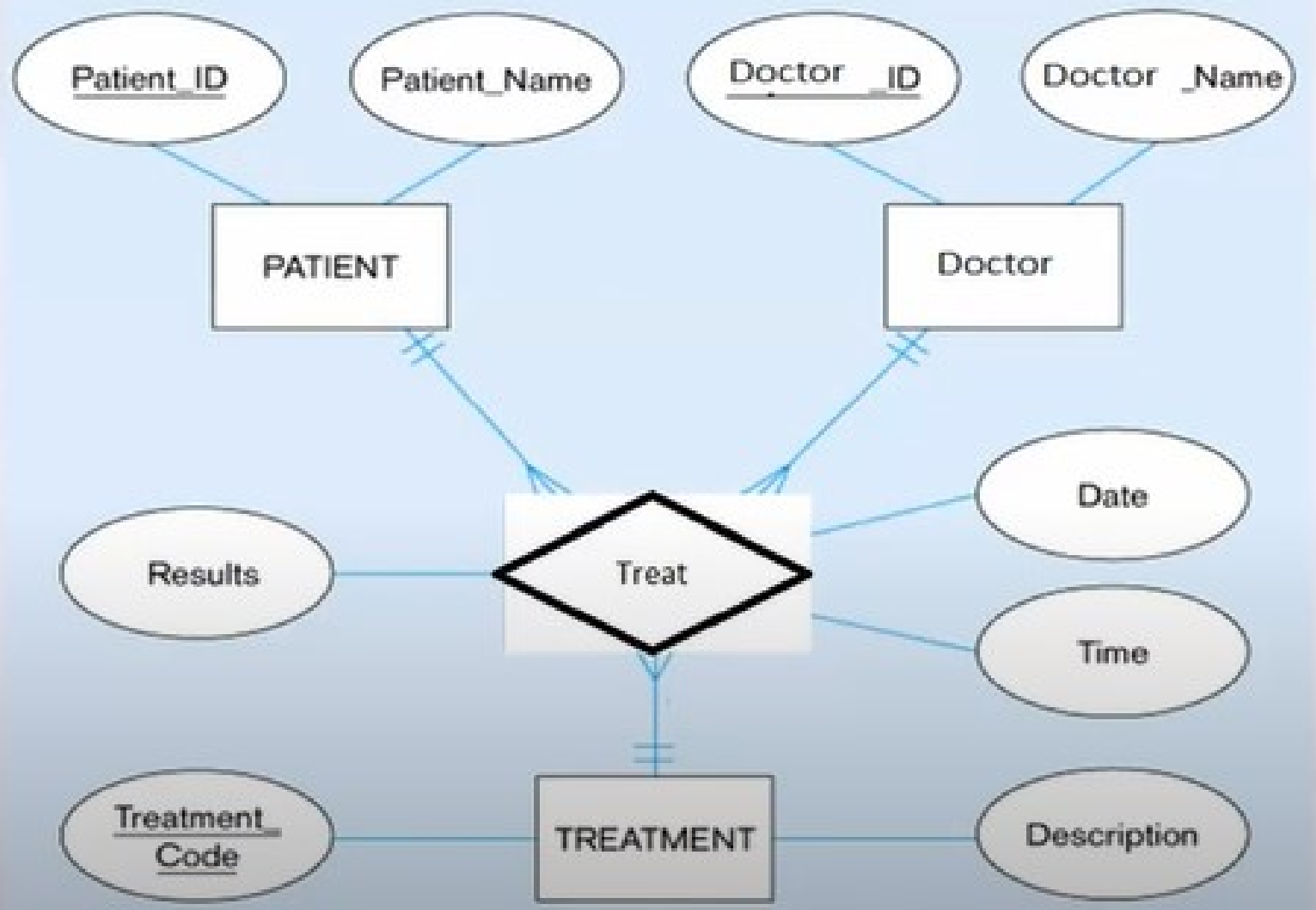
Course(CID, Cname)

Stud_Course(SID, CID)

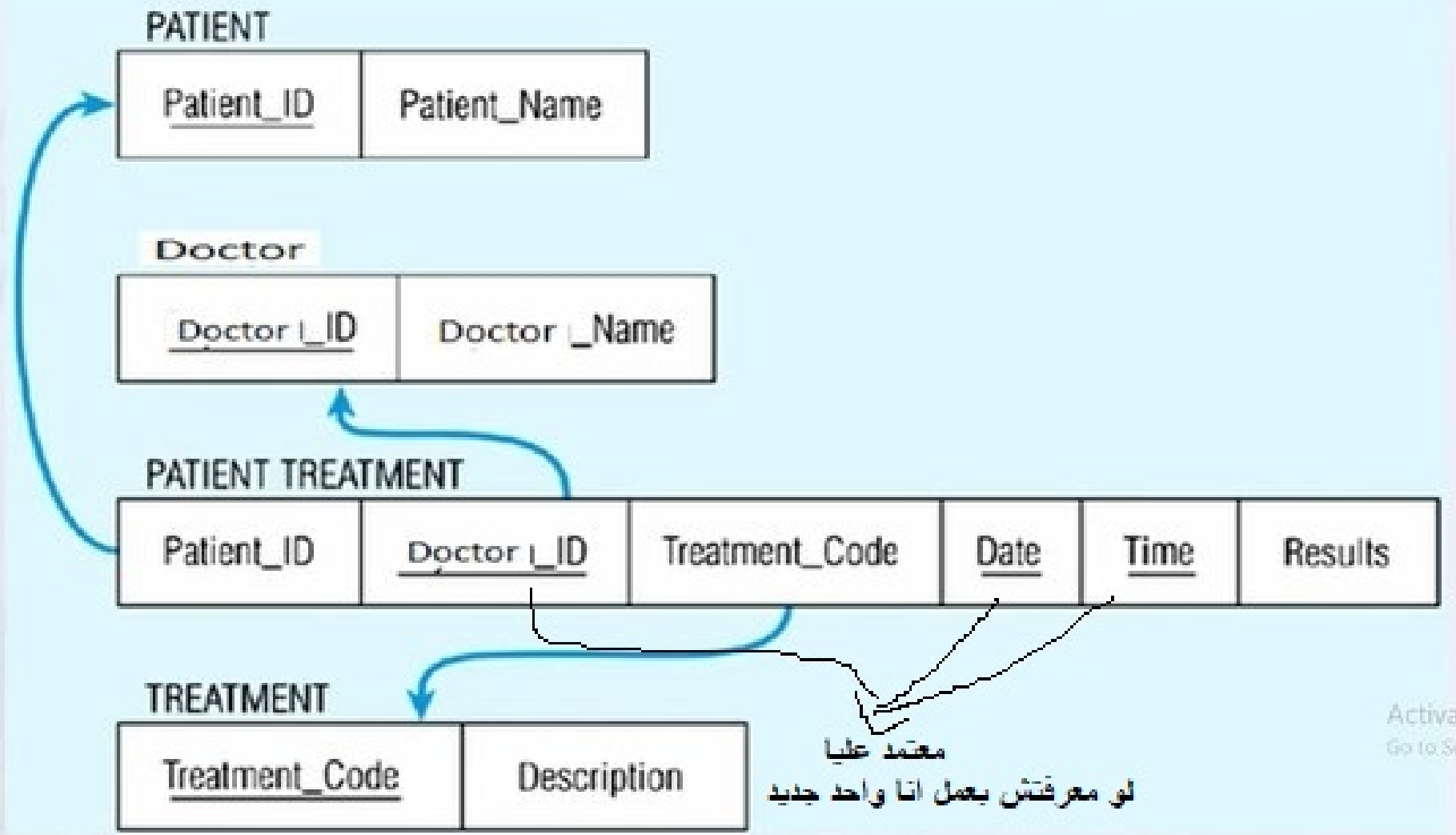
M:N with attribute



Step 6: Mapping of N-ary Relationship Types.

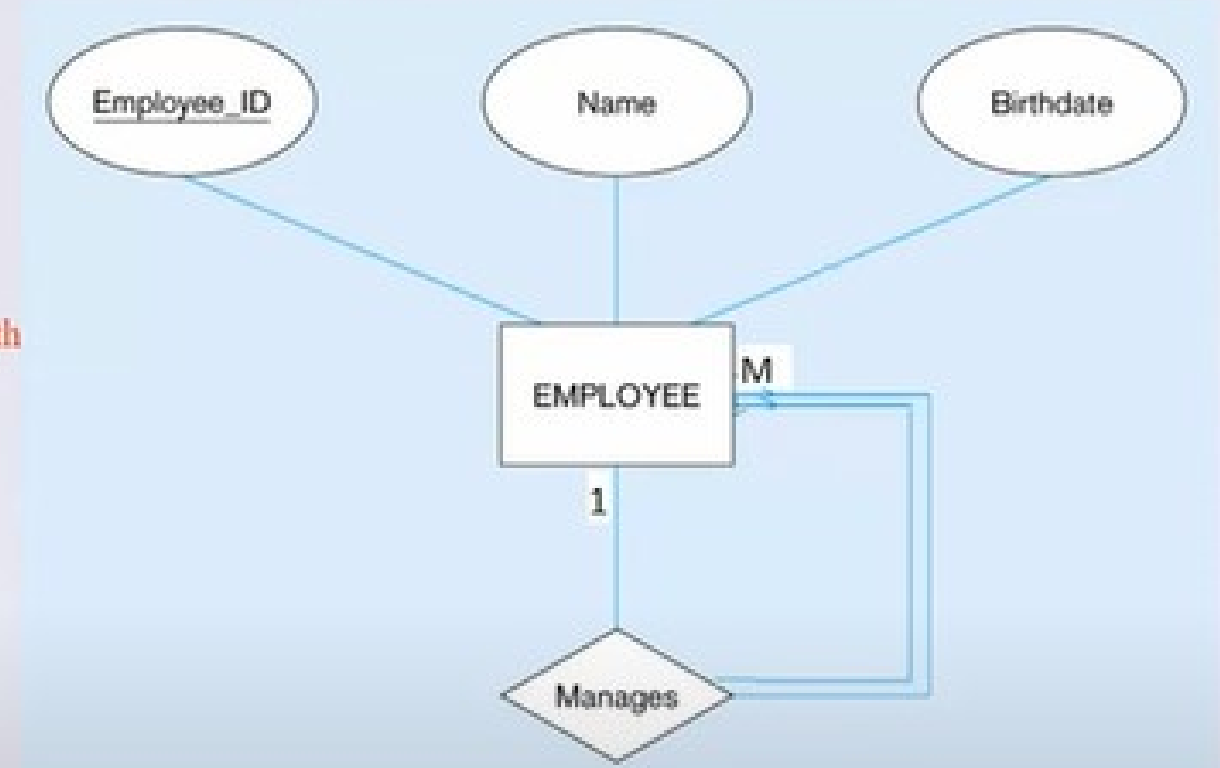


Step 6: Mapping of N-ary Relationship Types.



Step 7:Mapping Unary Relationship

(a) EMPLOYEE entity with Manages relationship

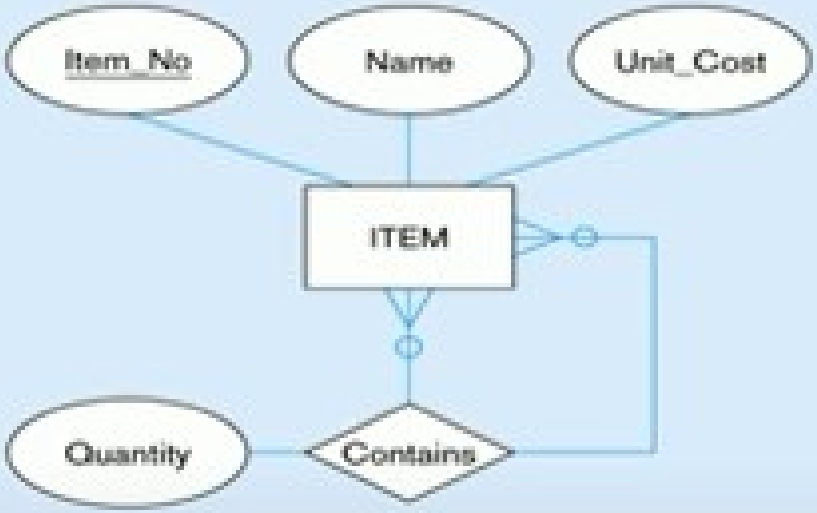


(b) EMPLOYEE relation with recursive foreign key

EMPLOYEE

Employee_ID	Name	Birthdate	Manager_ID

Mapping a unary M:N relationship



(a) Bill-of-materials relationships (M:N)

(b) ITEM and COMPONENT relations