Example: Let the following records with no and name for each one

1- Customer

Cust-no : number

Cust-name : string

2- Account
Acc-no : integer
Acc-name : char

3- Employee
emp-no : number
emp-name : string

At the physical level: Each record: Customer, Account and Employee can describe as block of consecutive storage (for example byte, words) .

At the conceptual level: Each record Customer, Account and Employee is described by a type definition, illustrated above and the interrelationship among these record types

At the View level : Several view of the data base are defined

1- *The Entity Relationship model*
> ### *There are three entity:*

1- Employees : E#,ENAME, ADDRESS

2- Departments : D#,DNAME

3- Projects : P NAME
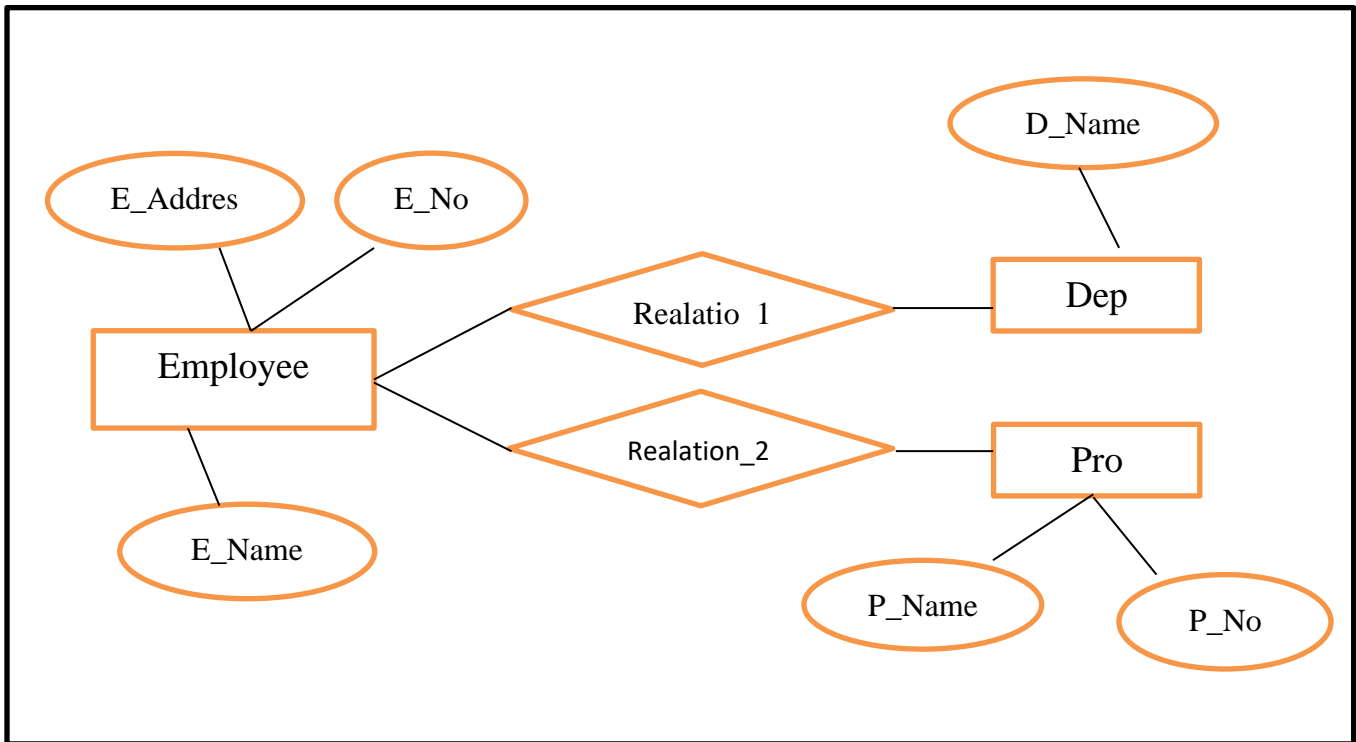
There are two relations that connect the three entities

Figure (5): ER example

The Relational model :-

Relational model is important model which is represents data relationships among data by a collection of tables each of them has number of columns and rows with unique table names. Columns represent the fields or the attributes in the table and rows represents the records or entities in the table

Employee No.	Employee Name	Sex Code	Certification Code	Department No.	Tel No.

Certification Code	Certification name

Department No	Department Name

Figure (6) Relation Table

Object Based data model :-

An object database (also object-oriented database) is a database model in which information is represented in the form of objects as used in object-oriented programming

Today's trend in programming languages is to utilize objects, thereby making OODBMS ideal for OO programmers because they can develop the product, store them as objects, and can replicate or modify existing objects to make new objects within the OODBMS

Hierarchical and Network data model :-

A hierarchical database model is a data model in which the data is organized into a tree-like structure. The structure allows representing information using parent/child relationships: each parent can have many children, but each child has only one parent (also known as a 1-to-many relationship). All attributes of a specific record are listed under an entity type.

In network databases, data is organized as a graph, a record type can have multiple owners. In the hierarchical model, each record having one parent record and many children, the network model allows each record to have multiple parent and child records, forming a generalized graph structure. In the example below, orders are owned by both customers and products, reflecting their natural relationship in business.
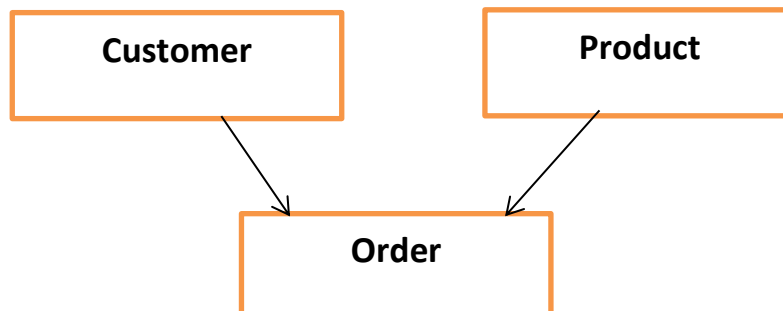

Figure (7) the *customer* relation.