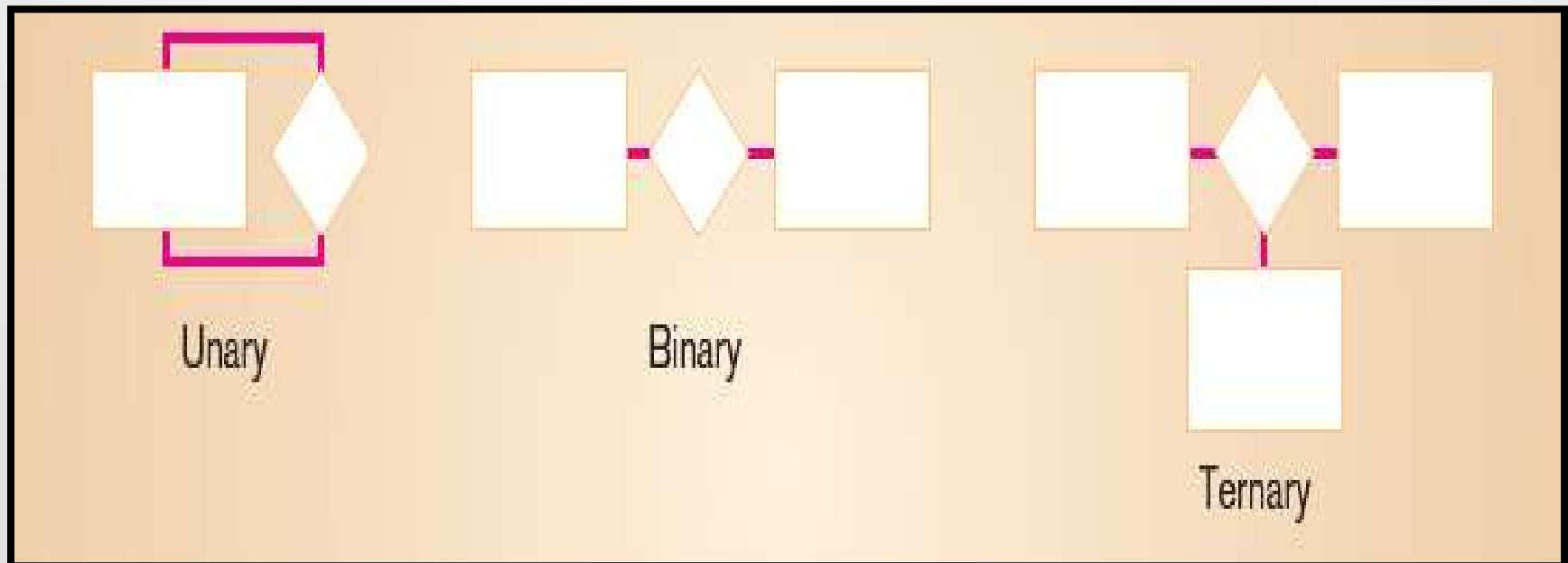


Degree of relationships

A relationship degree indicates the number of entities or participants associated with a relationship. A unary relationship exists when an association is maintained within a single entity. A binary relationship exists when two entities are associated. A ternary relationship exists when three entities are associated.

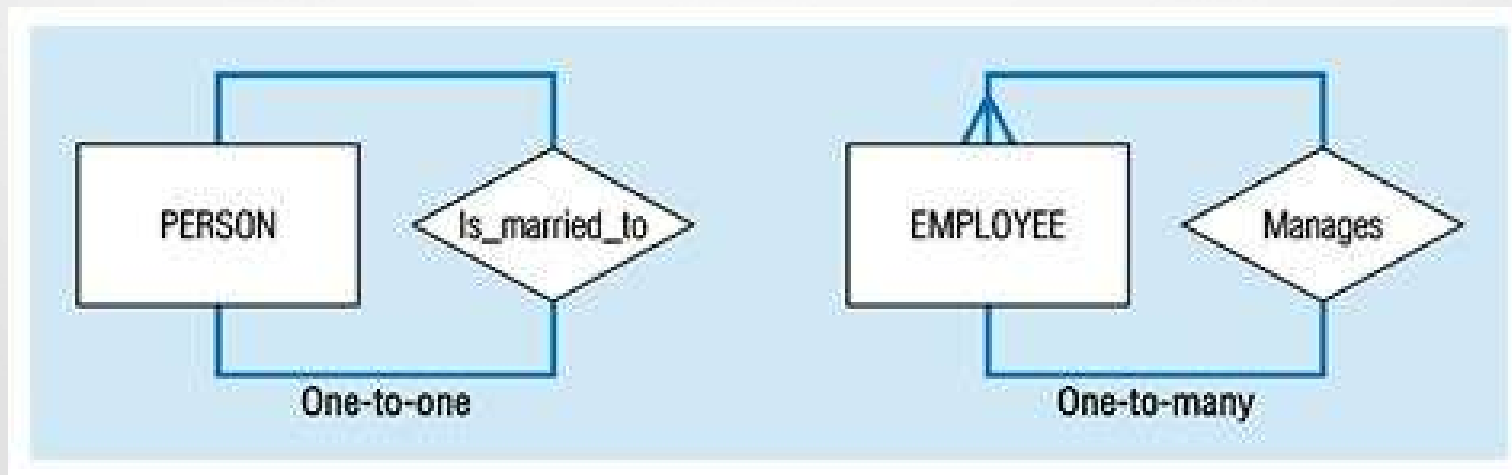
Degree of Relationships

- A relationship degree indicates the number of entities or participants associated with a relationship. Three cases
 - **Unary:** A unary relationship exists when an association is maintained within a single entity
 - **Binary:** A binary relationship exists when two entities are associated in a relationship
 - **Ternary:** A ternary relationship implies an association among three different entities.



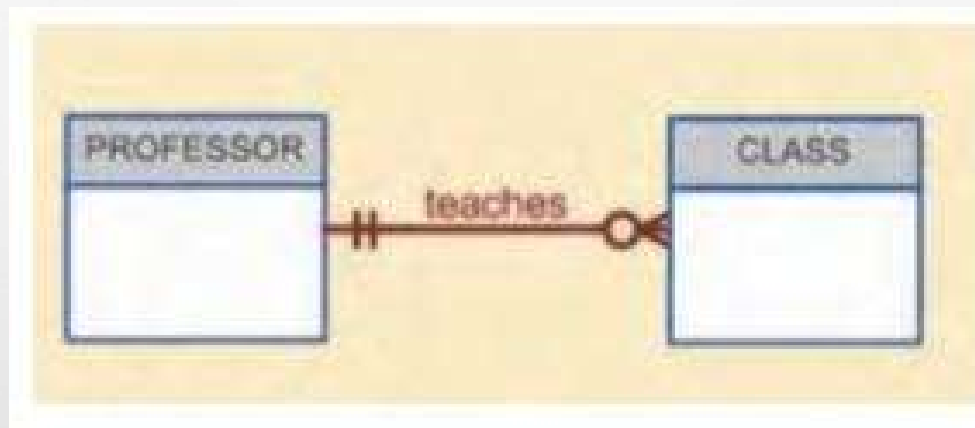
Unary Relationships

In the case of the unary relationship shown in the following Figure an employee within the EMPLOYEE entity is the manager for one or more employees within that entity. In this case, the existence of the “manages” relationship means that EMPLOYEE requires another EMPLOYEE to be the manager—that is, EMPLOYEE has a relationship with itself. Such a relationship is known as a recursive relationship



Binary Relationships

A binary relationship exists when two entities are associated in a relationship. Binary relationships are most common. In fact, to simplify the conceptual design, whenever possible, most higher-order (ternary and higher) relationships are decomposed into appropriate equivalent binary relationships. For example the relationship “a PROFESSOR teaches one or more CLASSES” represents a binary relationship.



Ternary and Higher-Degree Relationships

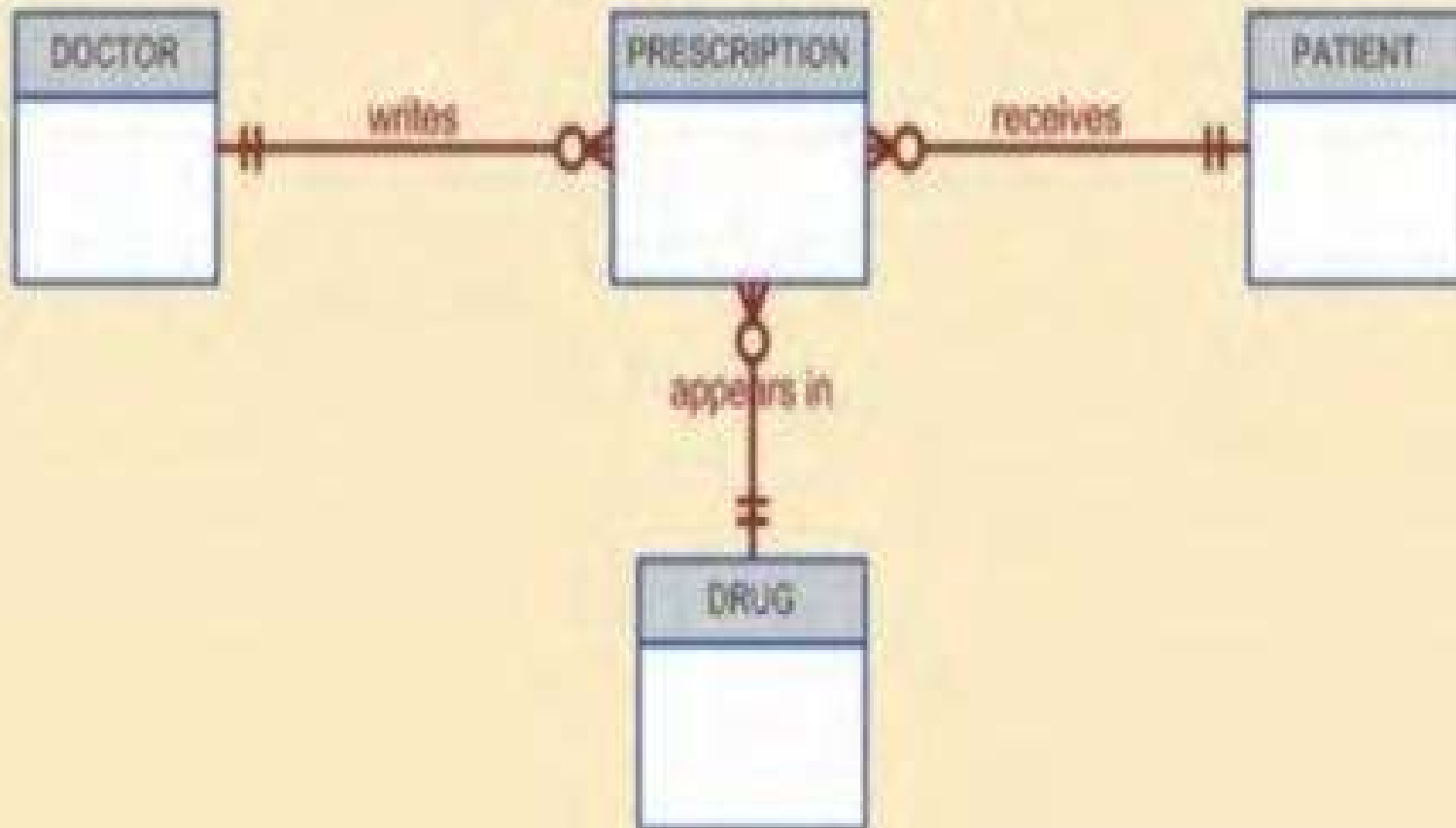
most relationships are binary, the use of ternary and higher-order relationships does allow the designer some latitude regarding the semantics of a problem. A ternary relationship implies an association among three different entities. For example, note the relationships (and their consequences) in the following Figure which are represented by the following business rules:

A DOCTOR writes one or more PRESCRIPTIONs.

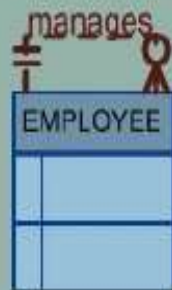
A PATIENT may receive one or more PRESCRIPTIONs.

A DRUG may appear in one or more PRESCRIPTIONs. (To simplify this example, assume that the business rule states that each prescription contains only one drug. In short, if a doctor prescribes more than one drug, a separate prescription must be written for each drug.)

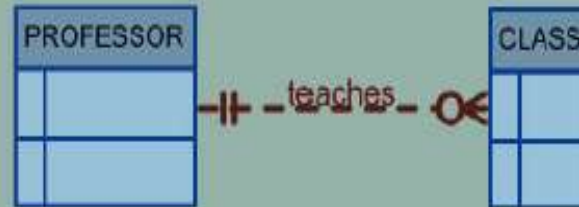
Ternary relationship (Logical)



Unary relationship



Binary relationship



Ternary relationship

