ERD Rules

The objective is to develop a simple system for managing customer purchase orders. First, you must identify the business entities involved and their relationships. To do that, you draw an entity-relationship (E-R) diagram by following the rules and examples given in Figure 5-1

Figure 5-1 Rules for Drawing an E-R Diagram

Definitions:

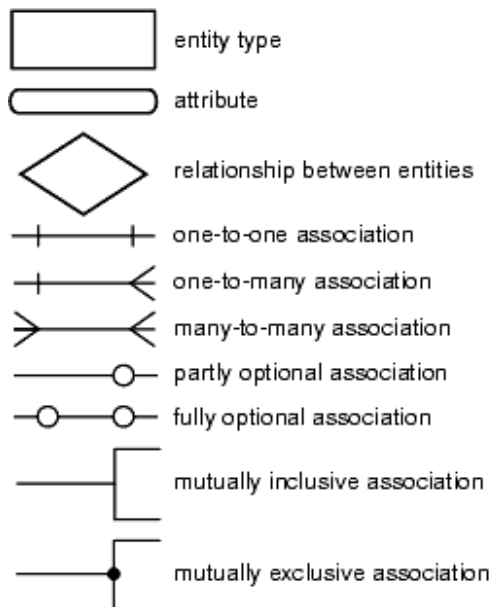**entity** something about which data is collected, stored, and maintained

attribute a characteristic of an entity

relationship an association between entities

entity type a class of entities that have the same set of attributes

record an ordered set of attribute values that describe an instance of an entity type

Symbols:

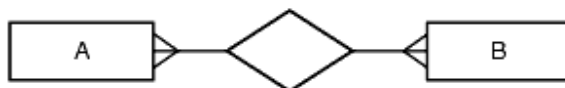|	
▭	entity type
⬭	attribute
◇	relationship between entities
—╫—	one-to-one association
—╢<	one-to-many association
>—<	many-to-many association
—O—	partly optional association
—O—O—	fully optional association
⊏	mutually inclusive association
⊏•	mutually exclusive association

Examples:

One A is associated with one B:

One A is associated with one or more B's:

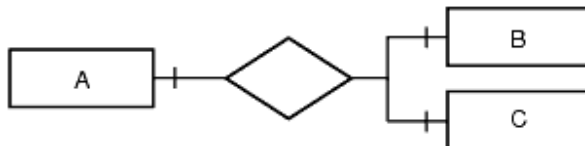One or more A's are associated with one or more B's:

One A is associated with zero or one B:
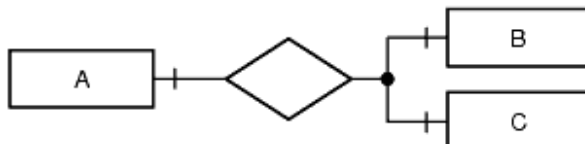

One A is associated with zero or more B's:

One A is associated with one B and one C:

One A is associated with one B or one C (but not both):

As Figure 5-2 illustrates, the basic entities in this example are customers, purchase orders, line items, and stock items.

Figure 5-2 E-R Diagram for Purchase Order Application