Oracle8*i* Java Stored Procedures Developer's Guide
Release 2 (8.1.6)
Part Number A81358-01

Drawing the Entity-Relationship Diagram

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

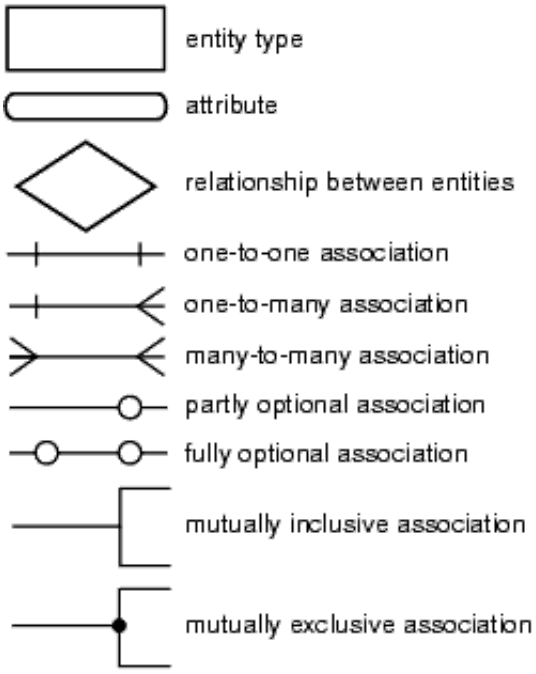
attribute a characteristic of an entity

relationship an association between entities

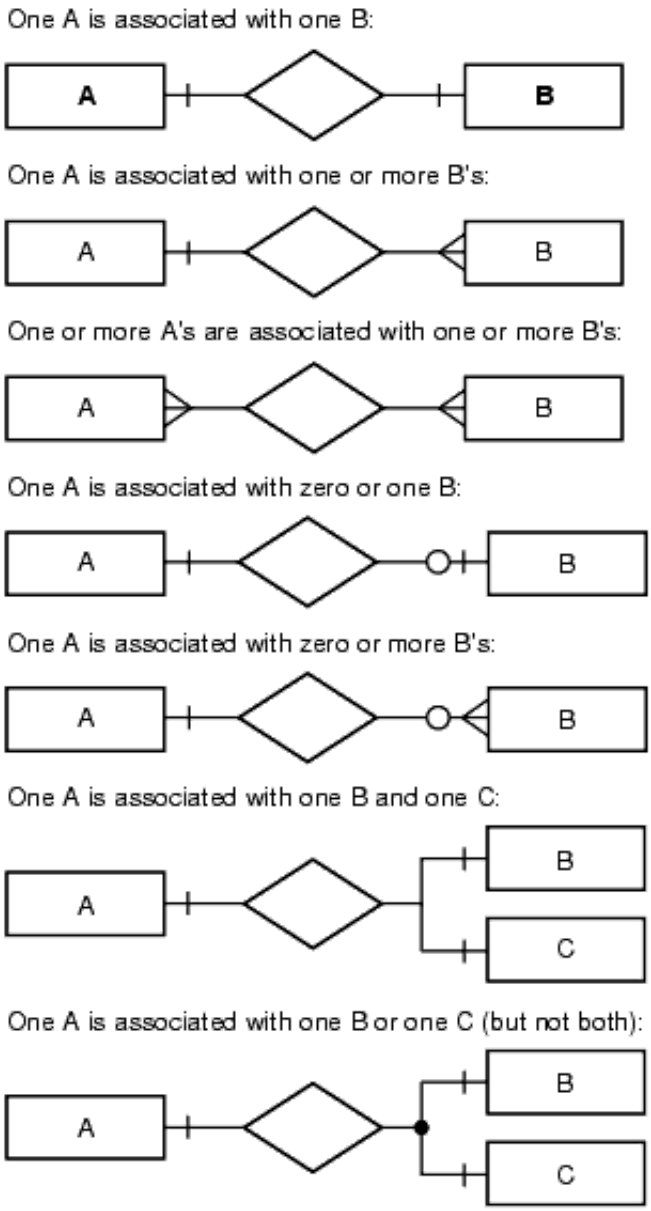
entity type a class of entities that have the same set of attributes

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

Symbols:

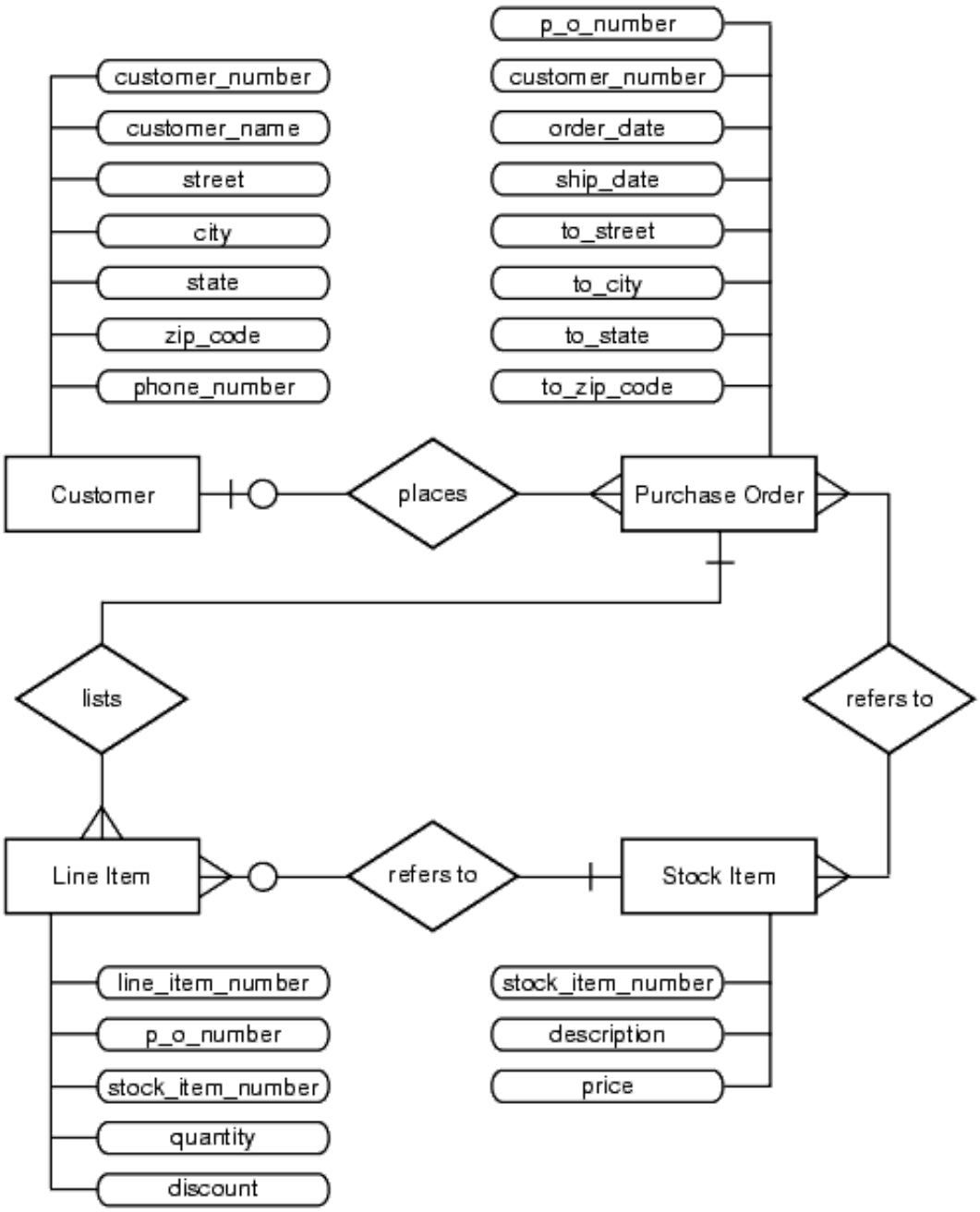


Examples:



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



A `Customer` has a one-to-many relationship with a `Purchase Order` because a customer can place many orders, but a given purchase order can be placed by only one customer. The relationship is optional because zero customers might place a given order (it might be placed by someone not previously defined as a customer).

A `Purchase Order` has a many-to-many relationship with a `Stock Item` because a purchase order can refer to many stock items, and a stock item can be referred to by many purchase orders. However, you do not know which purchase orders refer to which stock items.

Therefore, you introduce the notion of a `Line Item`. A `Purchase Order` has a one-to-many relationship with a `Line Item` because a purchase order can list many line items, but a given line item can be listed by only one purchase order.

A `LineItem` has a many-to-one relationship with a `StockItem` because a line item can refer to only one stock item, but a given stock item can be referred to by many line items. The relationship is optional because zero line items might refer to a given stock item.

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