

Sơ lược về: Biểu đồ Luồng dữ liệu & Biểu đồ Thực thể-Liên kết

Tham khảo từ:

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Modern Systems Analysis and Design (8th edition)

Biểu đồ Luồng dữ liệu (DFD)

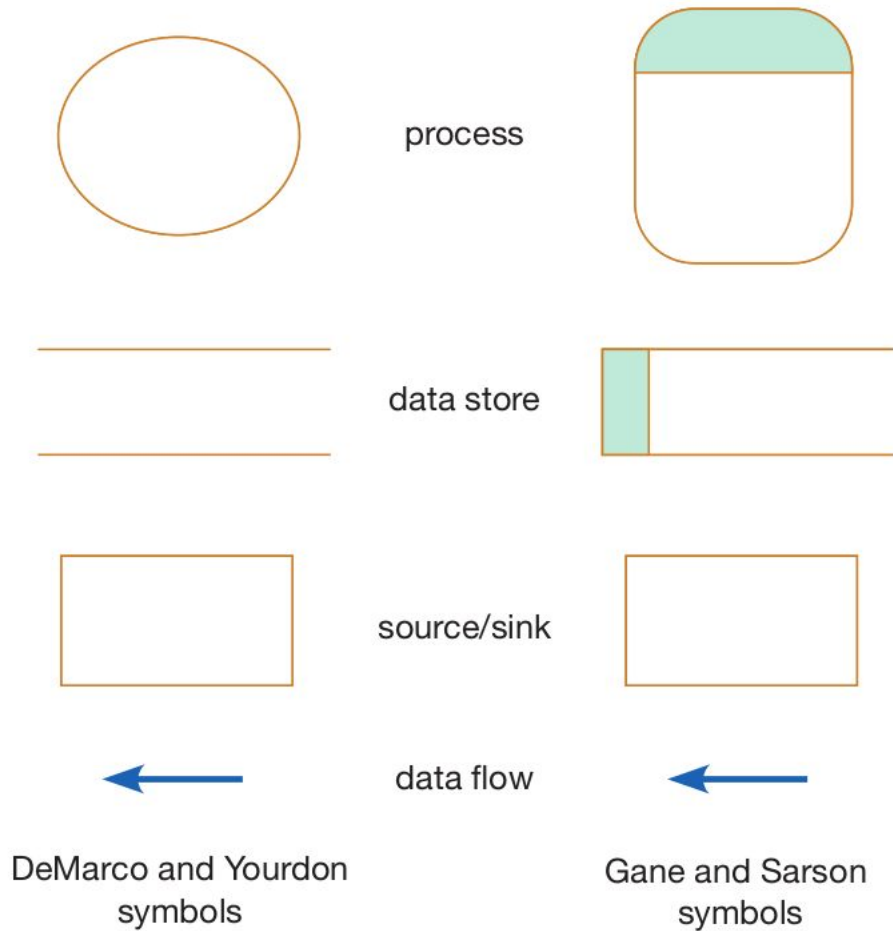
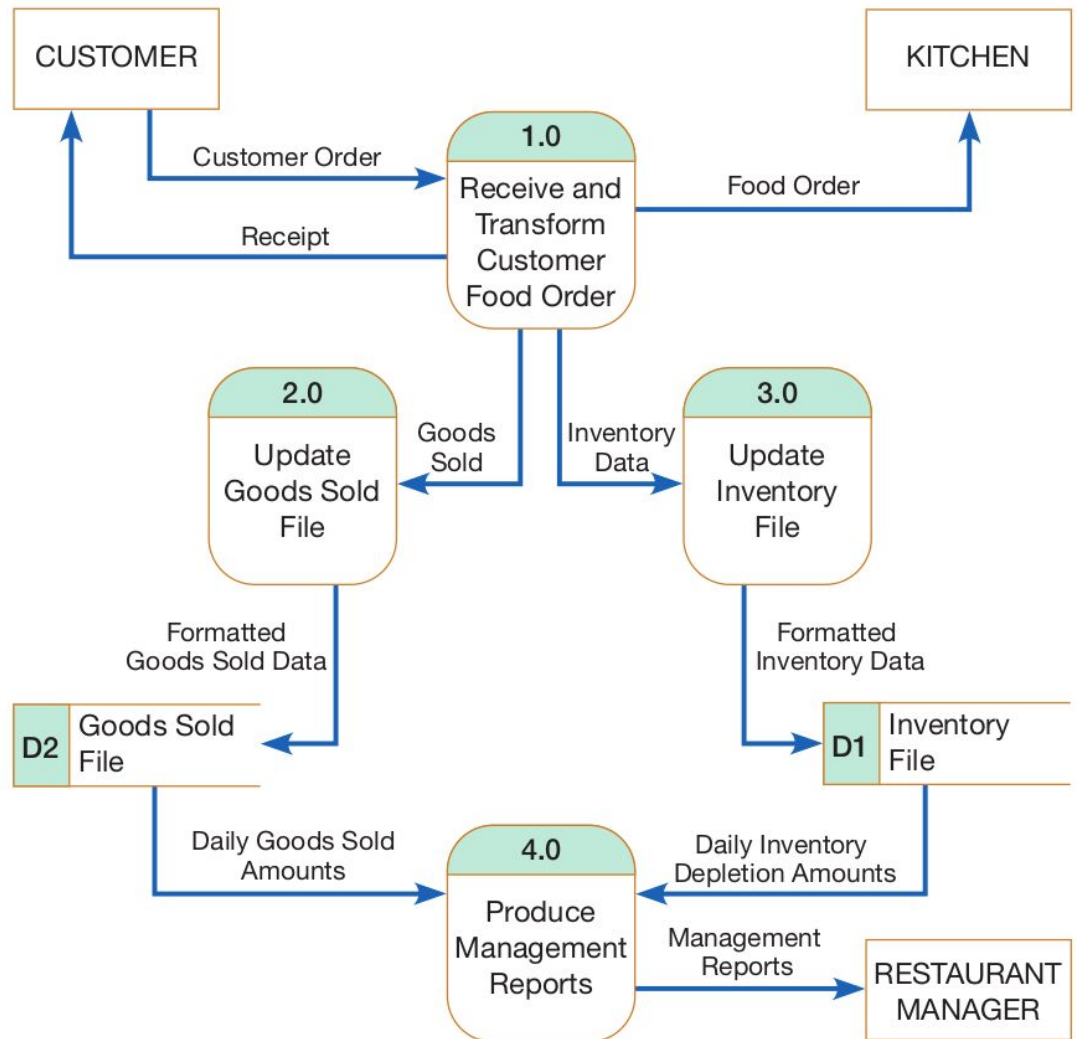


FIGURE 7-2

Comparison of DeMarco and Yourdon and Gane and Sarson DFD symbol sets

FIGURE 7-5

Level-0 DFD of Hoosier Burger's food-ordering system

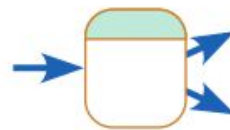


Rule

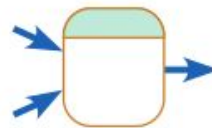
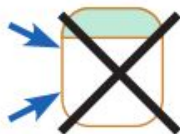
Incorrect

Correct

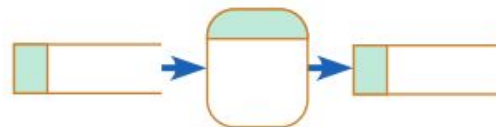
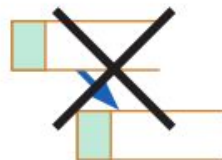
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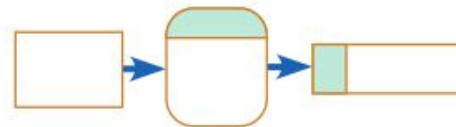
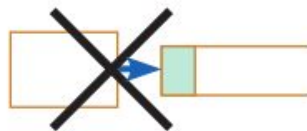
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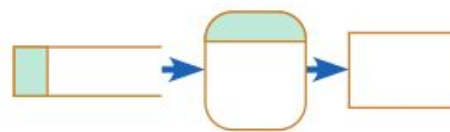
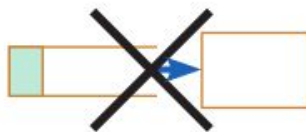
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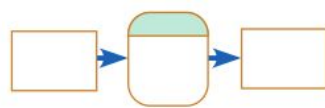
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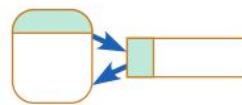
F.



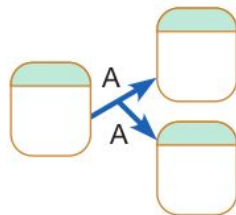
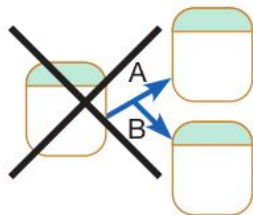
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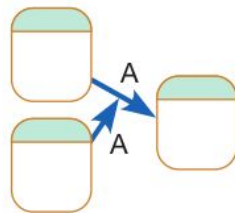
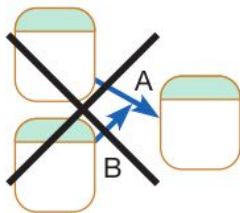
J.



K.



L.



M.

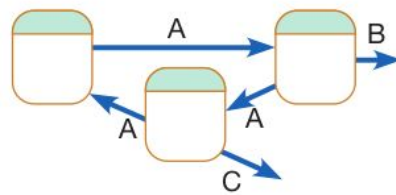
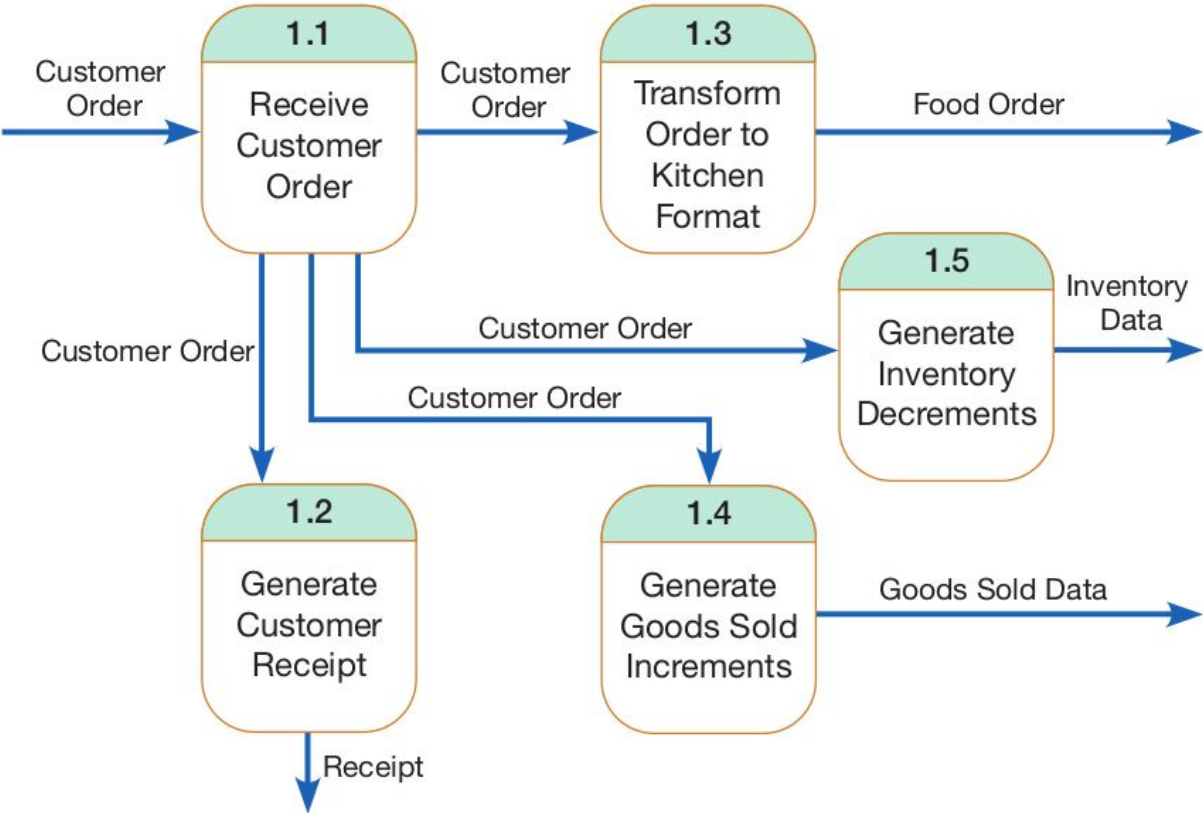


FIGURE 7-7

Level-1 diagram showing the decomposition of Process 1.0 from the level-0 diagram for Hoosier Burger's food-ordering system



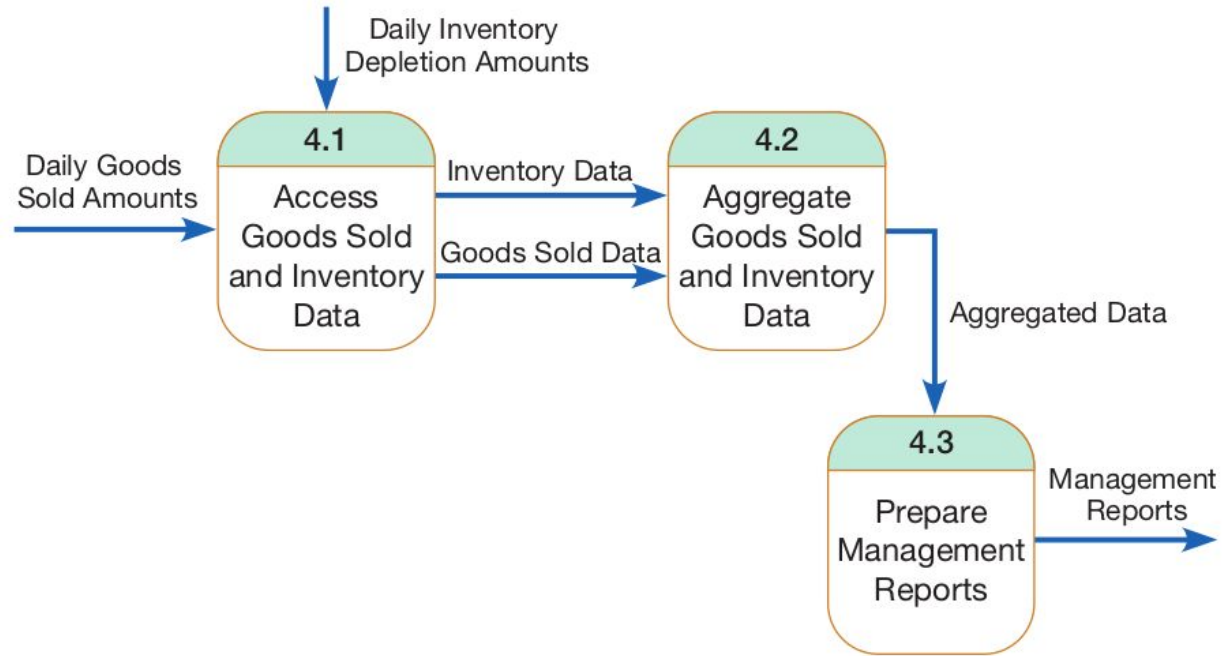


FIGURE 7-8

Level-1 diagram showing the decomposition of Process 4.0 from the level-0 diagram for Hoosier Burger's food-ordering system

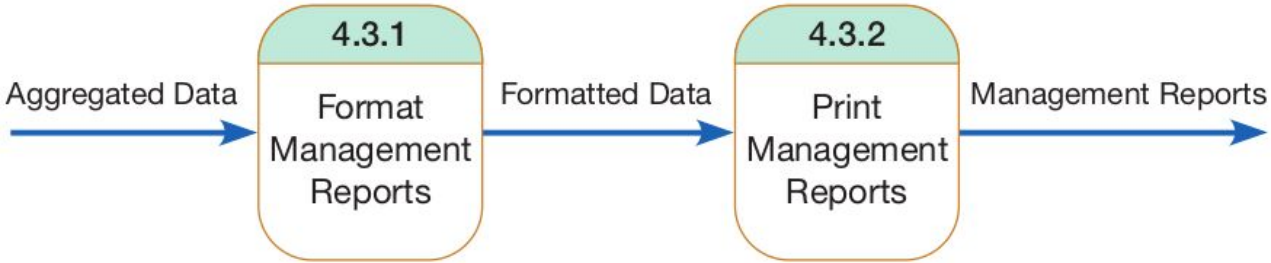


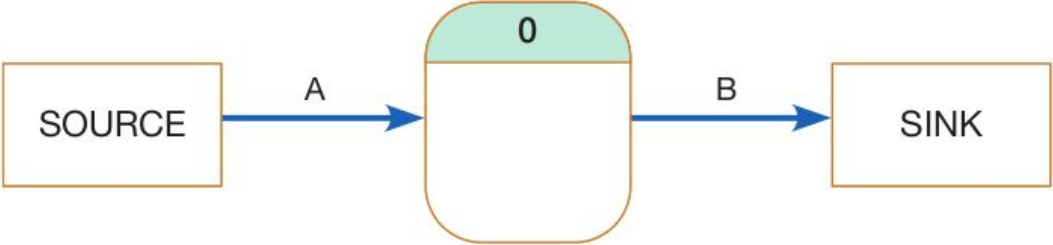
FIGURE 7-9

Level-2 diagram showing the decomposition of Process 4.3 from the level-1 diagram for Process 4.0 for Hoosier Burger's food-ordering system

DFD: Một số quy tắc nâng cao

FIGURE 7-10

An unbalanced set of DFDs
(a) Context diagram



(b) Level-0 diagram

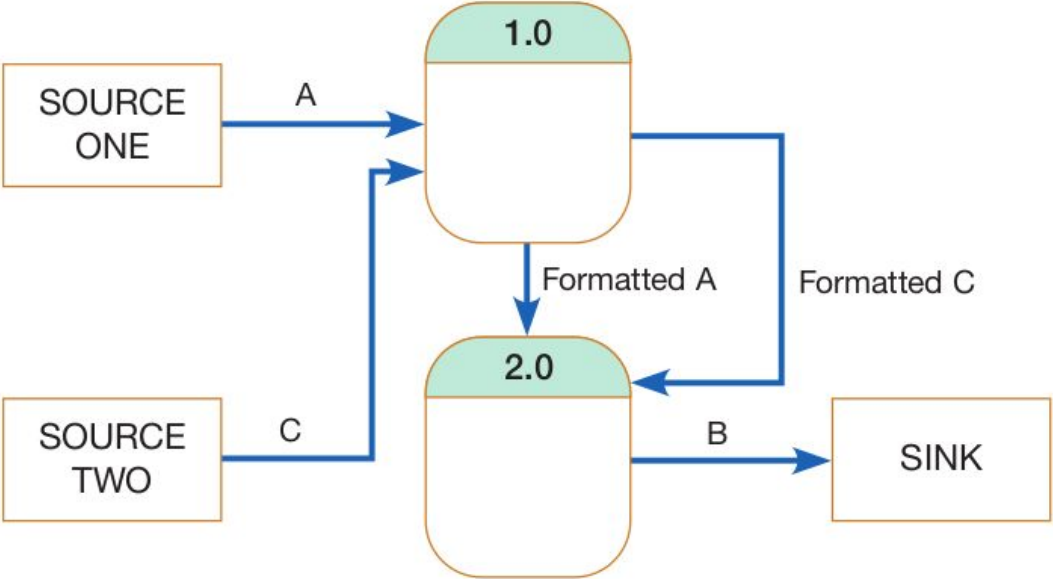
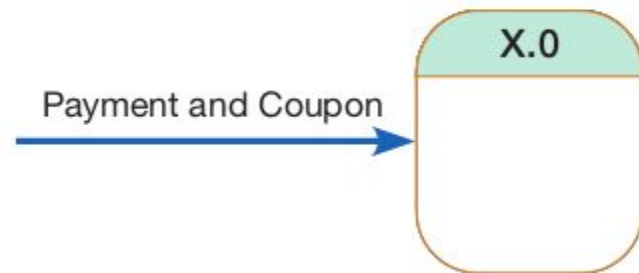


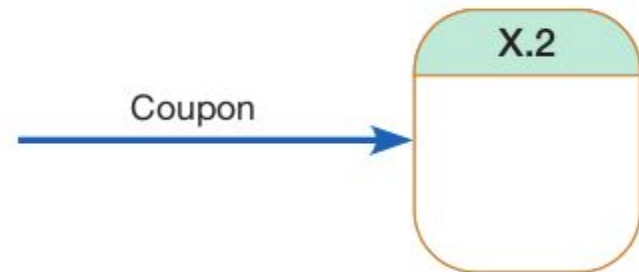
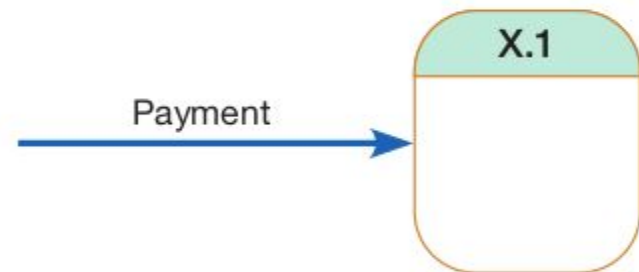
FIGURE 7-11

Example of data flow splitting

(a) Composite data flow



(b) Disaggregated data flows



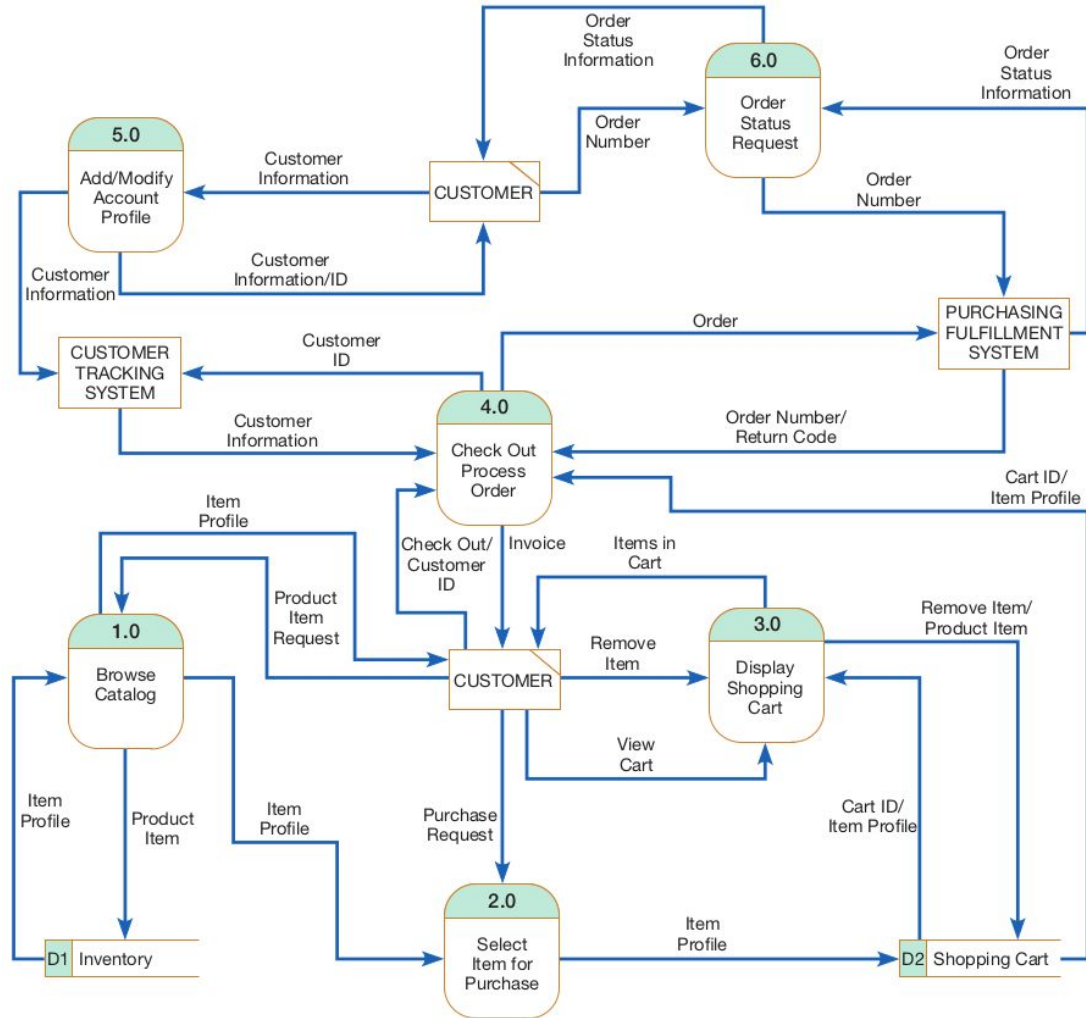


FIGURE 7-22
Level-0 DFD for the WebStore

Biểu đồ Thực thể-Liên kết (E-R)

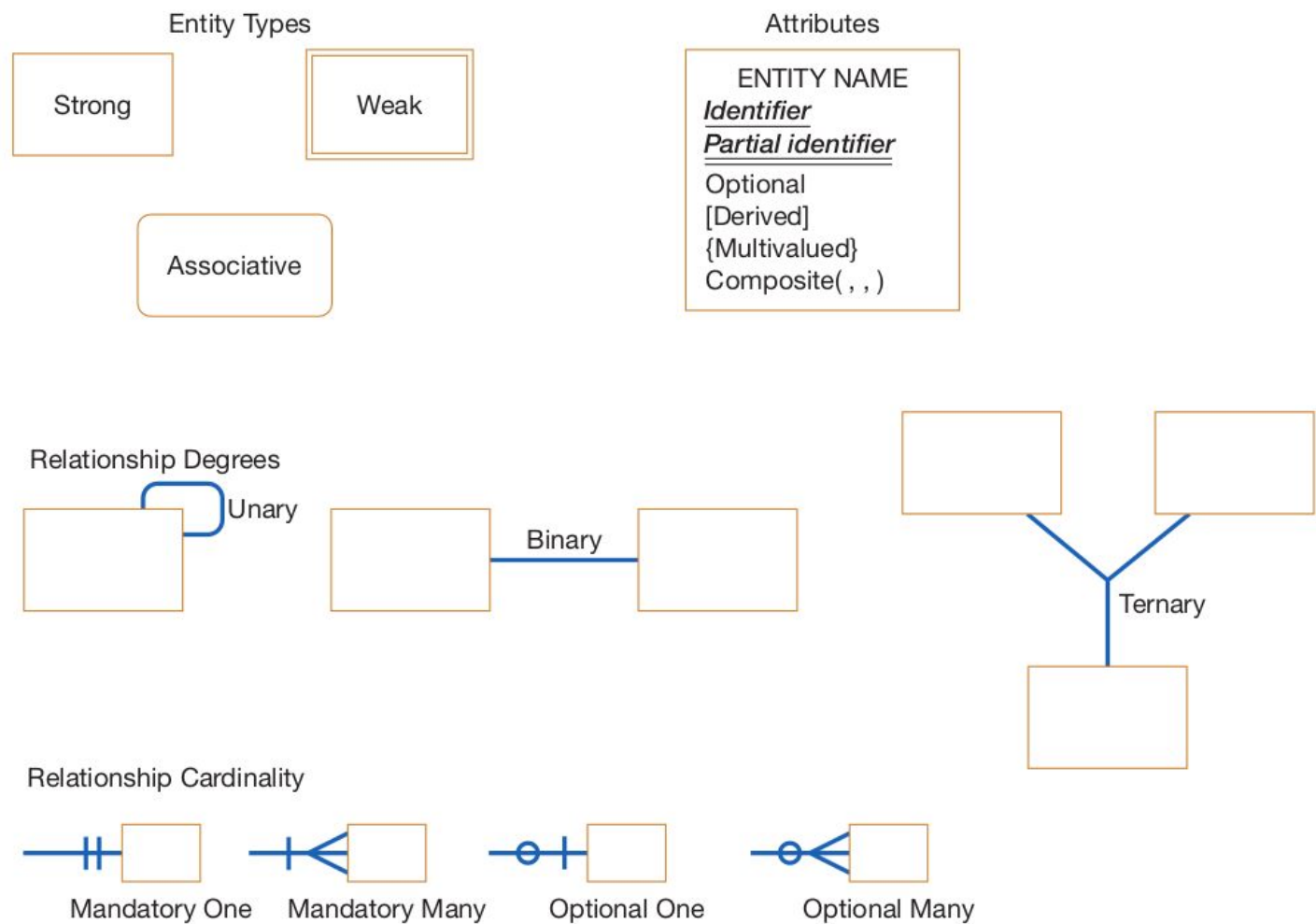
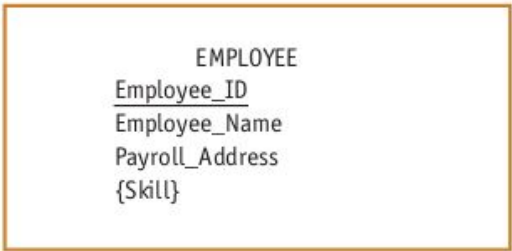


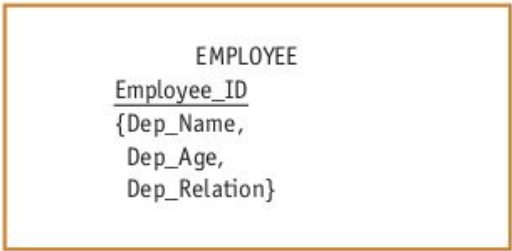
FIGURE 8-5
Basic E-R notation

FIGURE 8-8

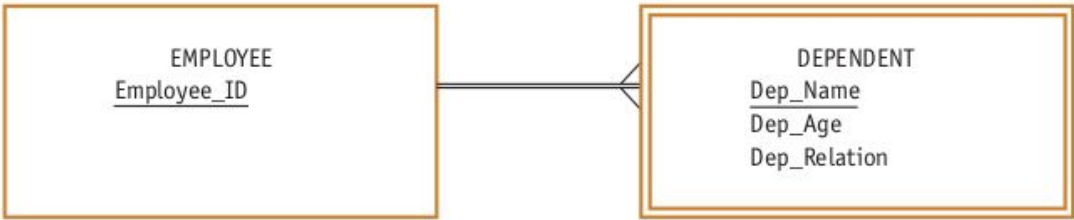
Multivalued attributes and repeating groups



(a) Multivalued attribute skill



(b) Repeating group of dependent data

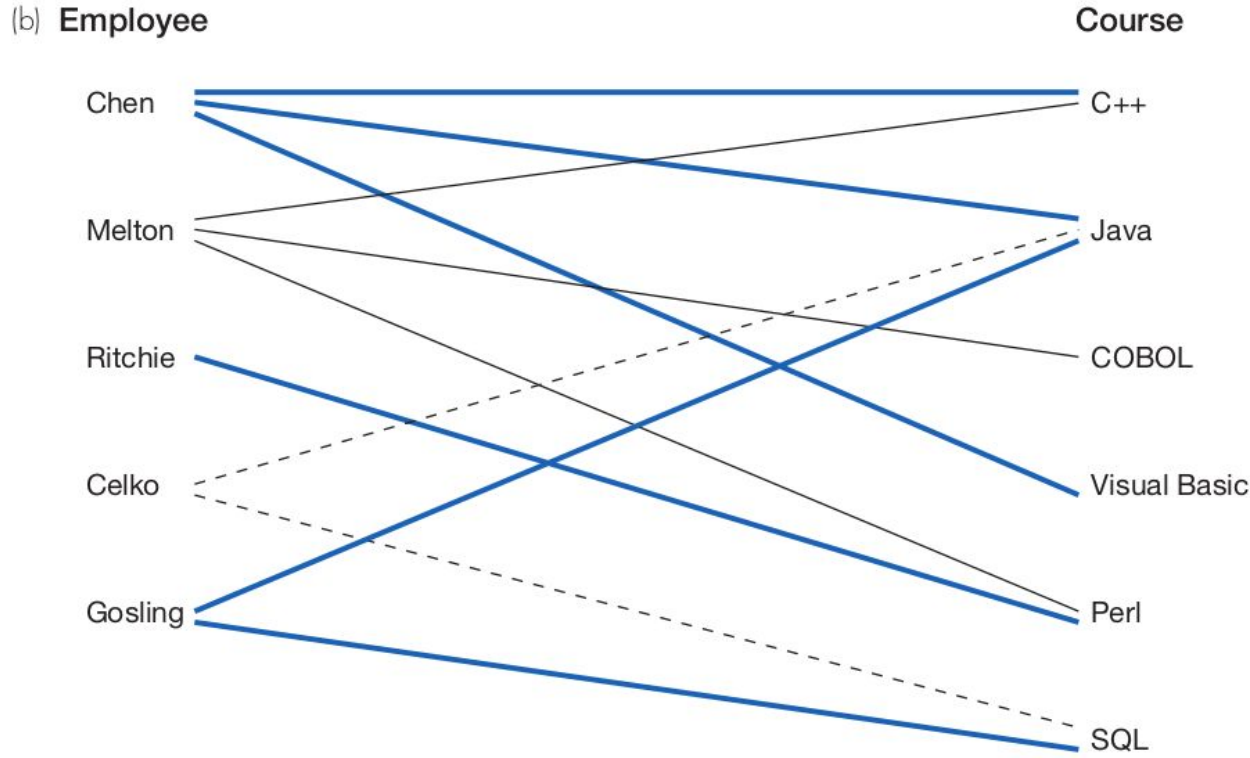


(c) Weak entity for dependent data



FIGURE 8-10

Relationship type and instances
(a) Relationship type (Completes)
(b) Relationship instances



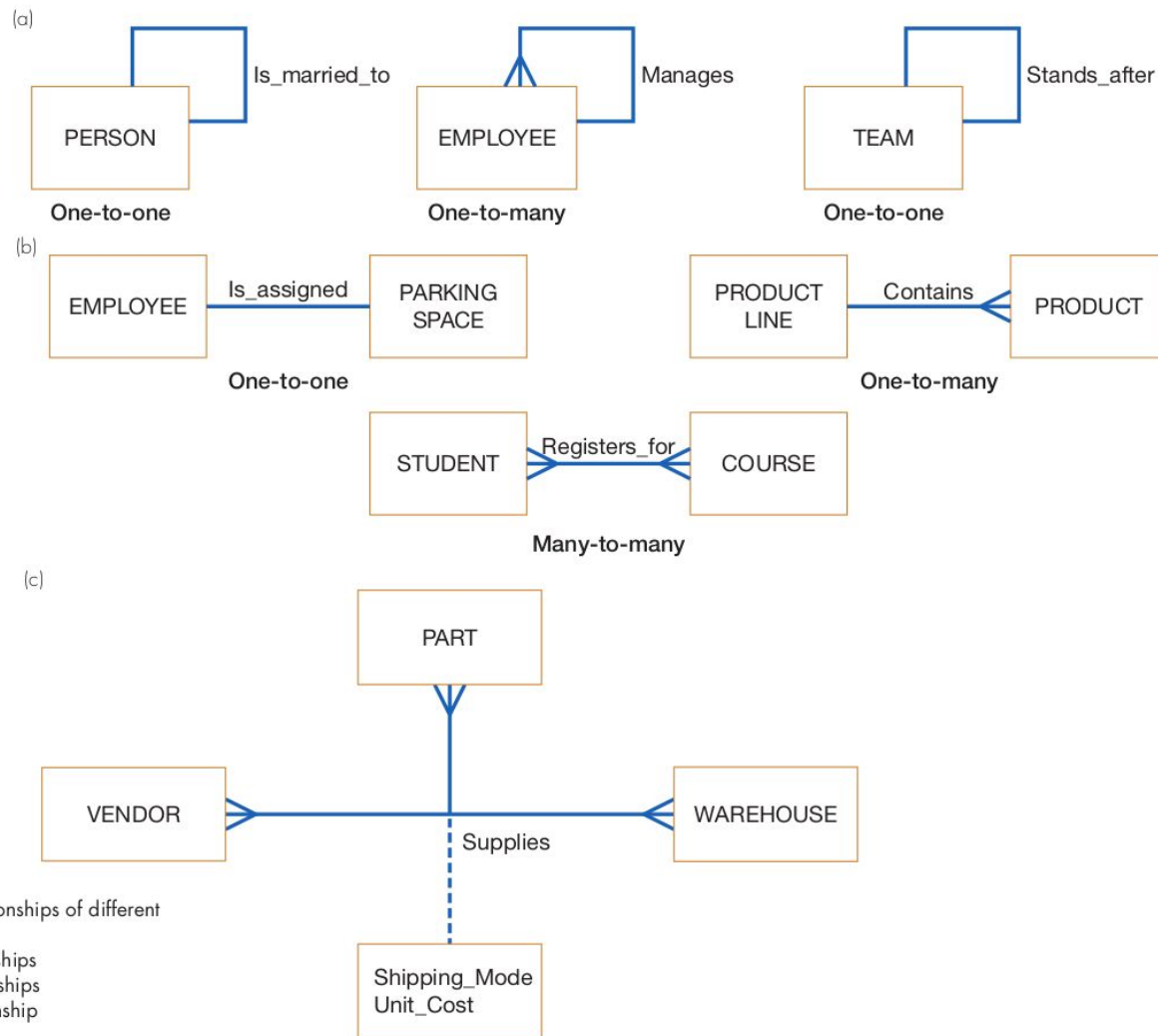


FIGURE 8-11

Examples of relationships of different degrees

- (a) Unary relationships
- (b) Binary relationships
- (c) Ternary relationship

FIGURE 8-12

Representing a bill-of-materials structure
(a) Many-to-many relationship
(b) Two ITEM bill-of-materials structure instances

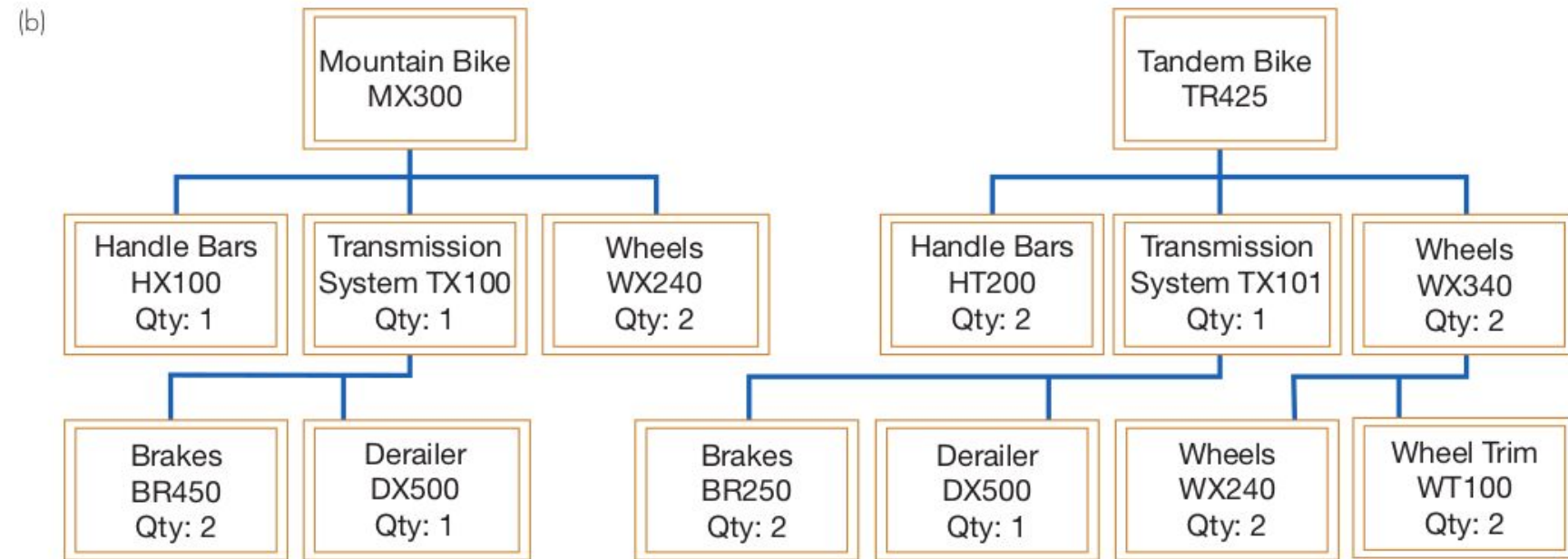




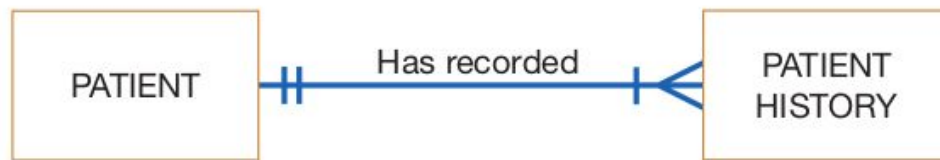
FIGURE 8-13

Introducing cardinality constraints

(a) Basic relationship

(b) Relationship with cardinality constraints

(a)



Mark — Visit 1

Sarah — Visit 1
— Visit 2

(b)



Elsie — Visit 1

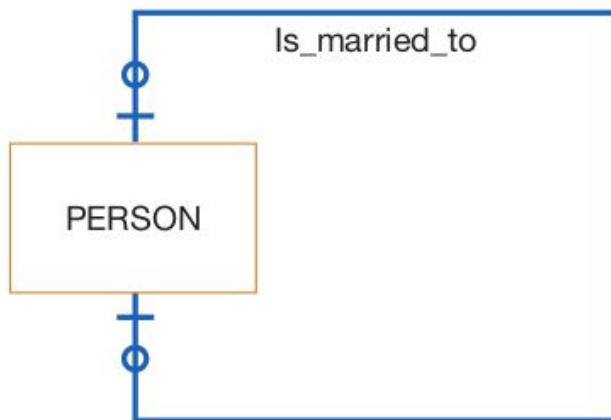
Rose — BPR
Pete — TQM
Debbie — OO
Tom — CR
Heidi —

FIGURE 8-14

Examples of cardinality constraints
(a) Mandatory cardinalities

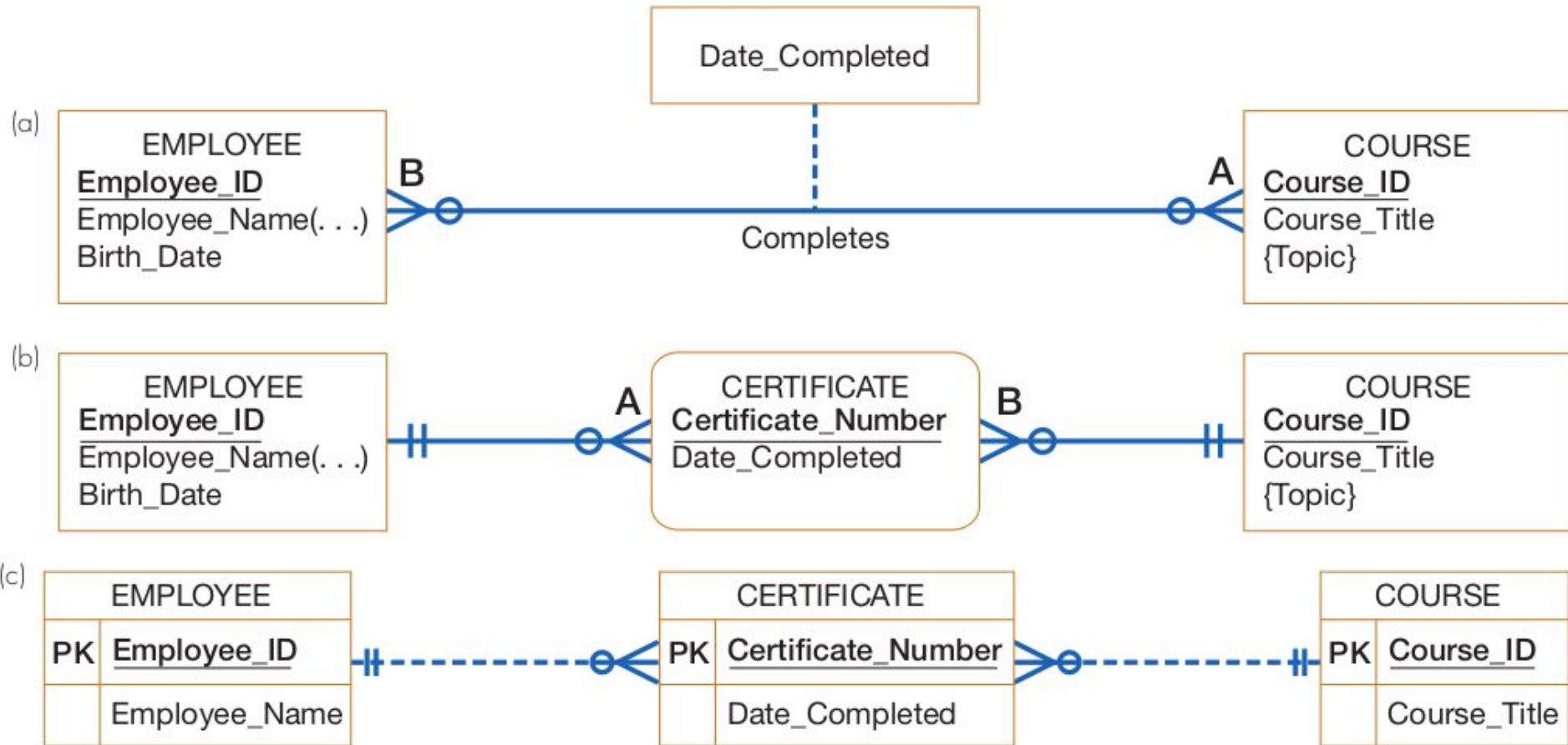
(b) One optional, one mandatory cardinality

(c)



Shirley —
Mack —
Dawn —
Kathy —
Ellis —
Fred —

(c) Optional cardinalities



Business Rules

- 1 Each vendor can supply many parts to any number of warehouses, but need not supply any parts.
- 2 Each part can be supplied by any number of vendors to more than one warehouse, but each part must be supplied by at least one vendor to a warehouse.
- 3 Each warehouse can be supplied with any number of parts from more than one vendor, but each warehouse must be supplied with at least one part.

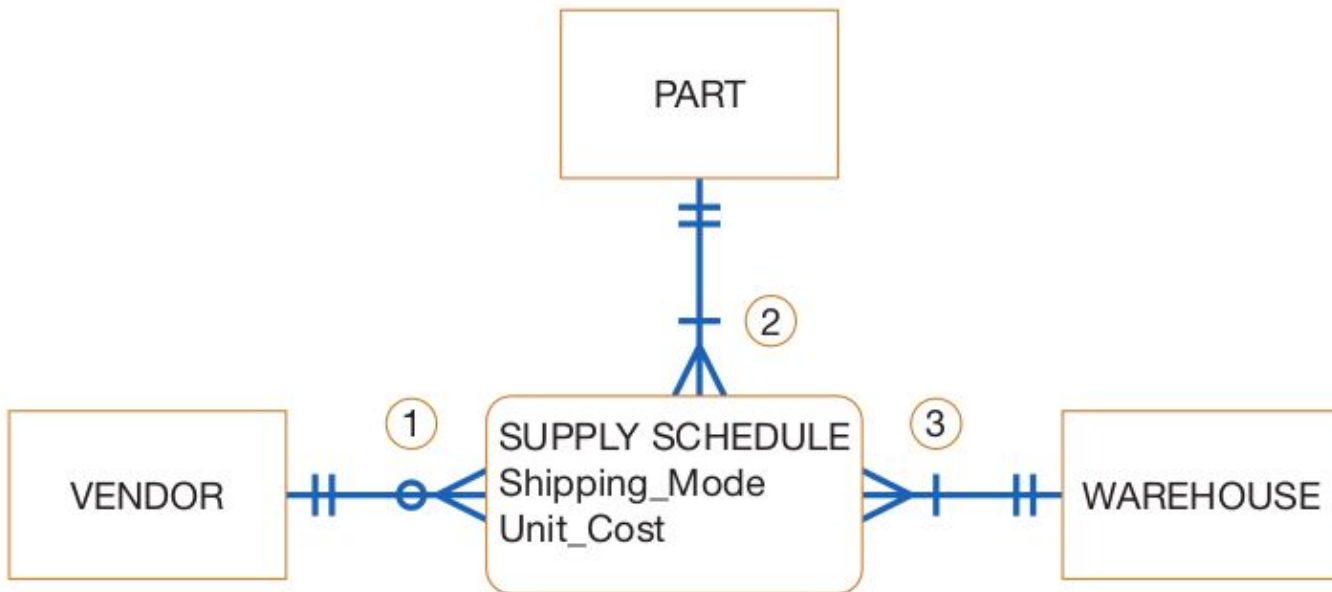


FIGURE 8-16

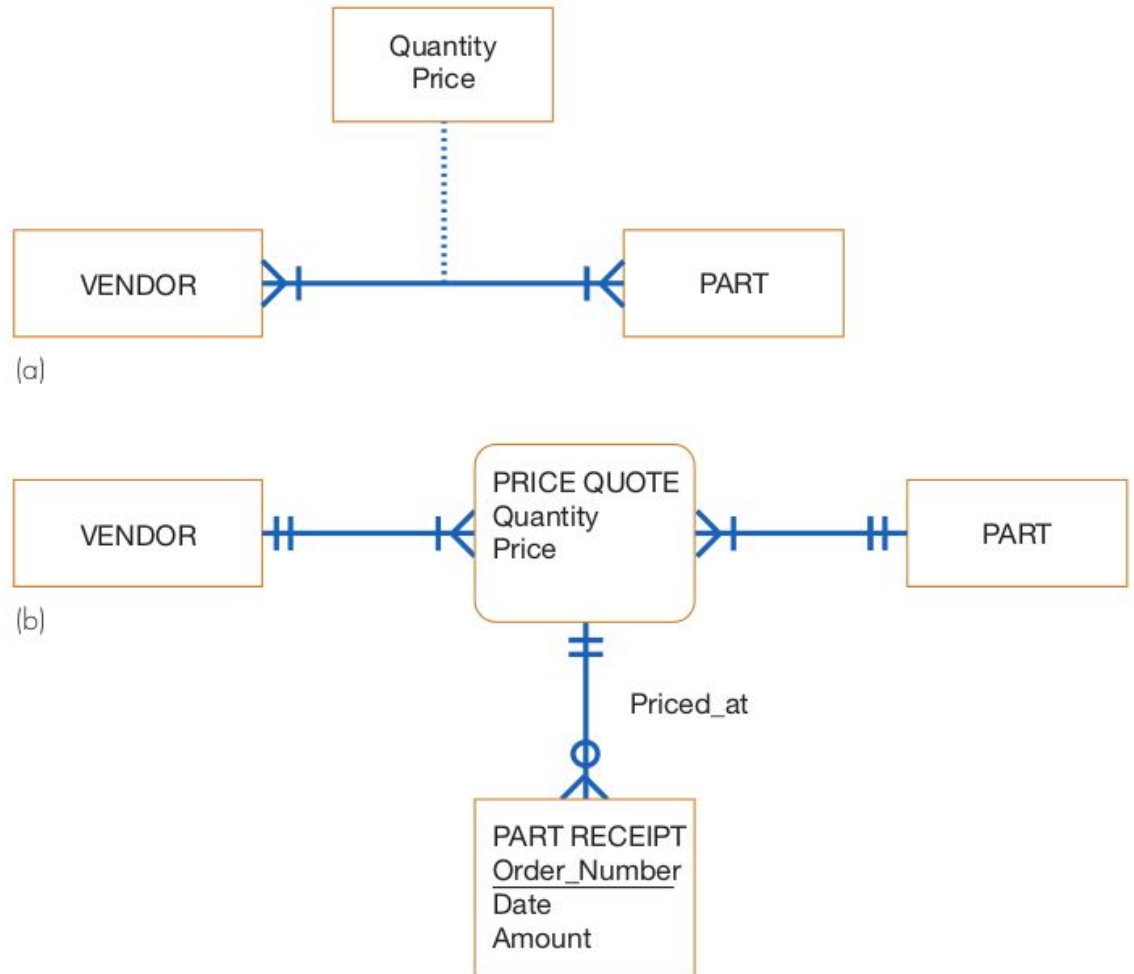
Cardinality constraints in a ternary relationship

FIGURE 8-17

Situation requiring an associative entity

(a) Many-to-many relationship with attributes

(b) Associative entity with separate relationship



Tổng kết

- Biểu đồ Luồng dữ liệu: Mô hình chức năng
- Biểu đồ Thực thể-Liên kết: Mô hình dữ liệu