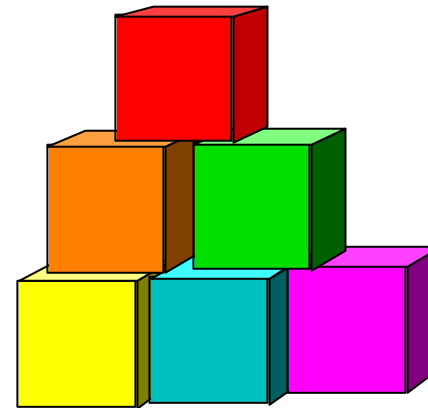


II

- (Entity Type)
- (Relationship)
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- (RI)
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(1)

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 - (Time - series)

 - (Summary)

 - (History)

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 - (Read)

 - (Summary)

 - (Search)

 - (Sort)

(2)

- -
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 - 가 가 () ()
 - (Source) (Real-time)
 - 가 () (Batch)
 -

(1)

(BSD)



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- (Summary)

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- (History)



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- (Batch)

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- 가

- (Real-Time)

(2)

- 가
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 - 가 (Row)
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- 가
- READ
- 3 가 JOIN Sort
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- / 가 Batch .



(Generalization)

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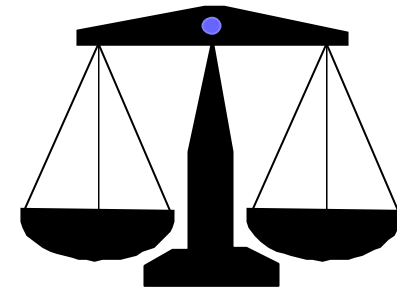
(Specialization)

-

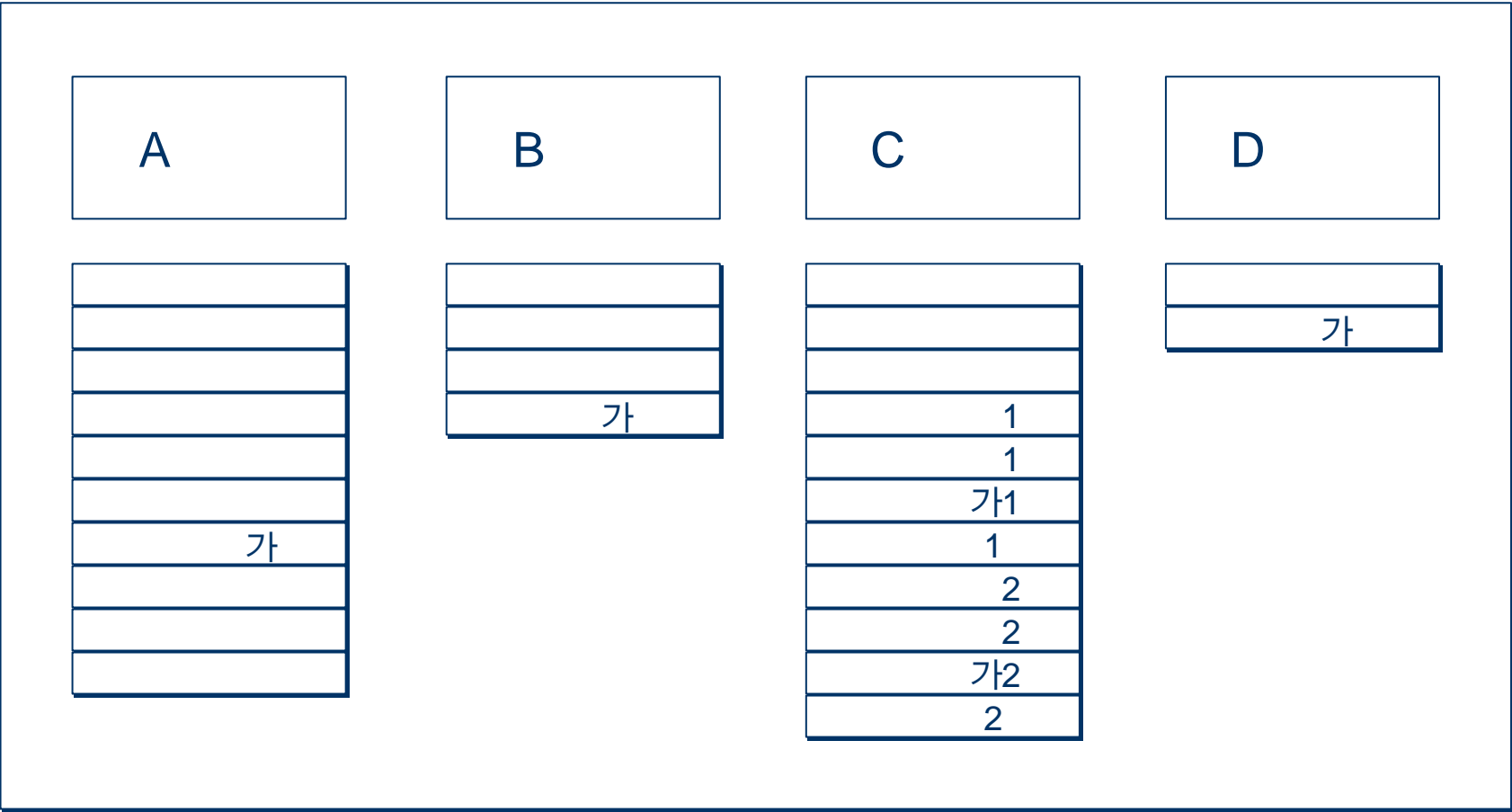
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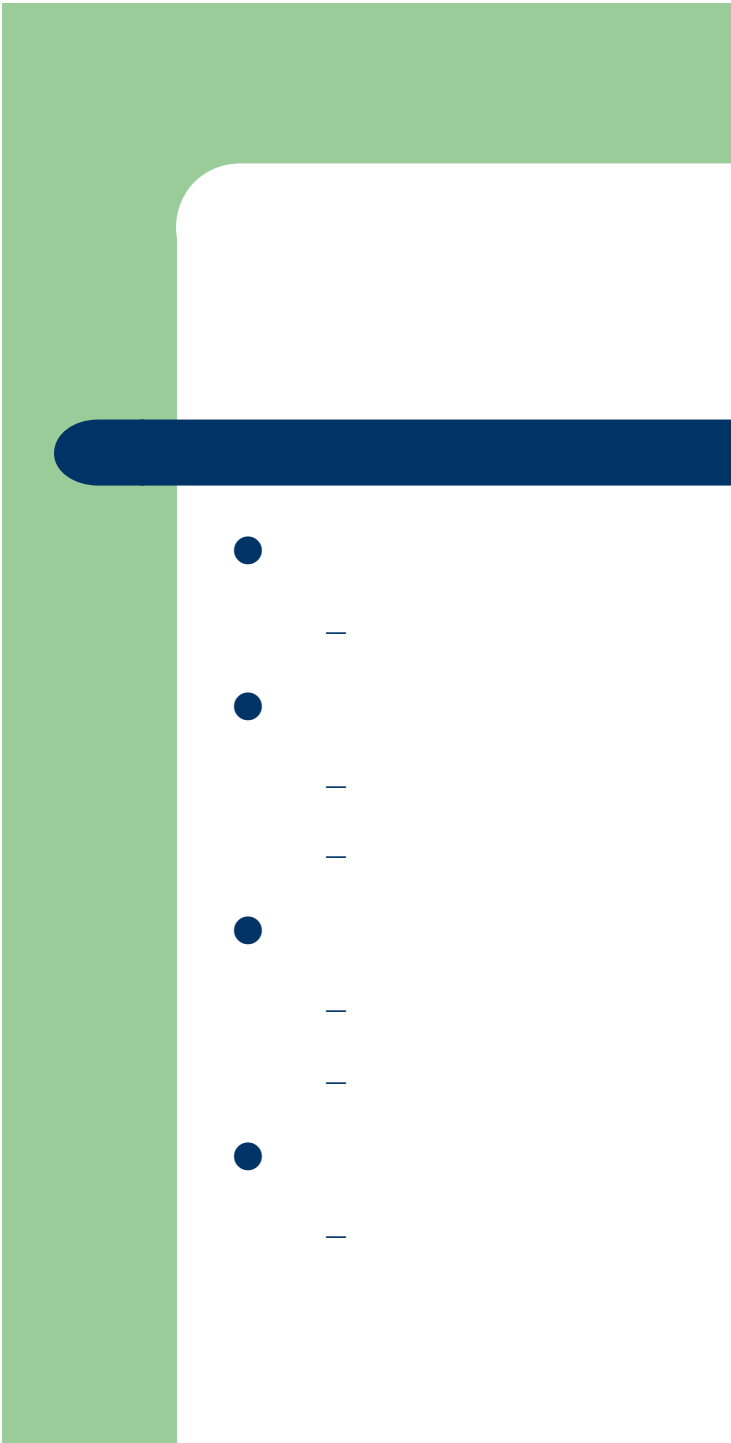
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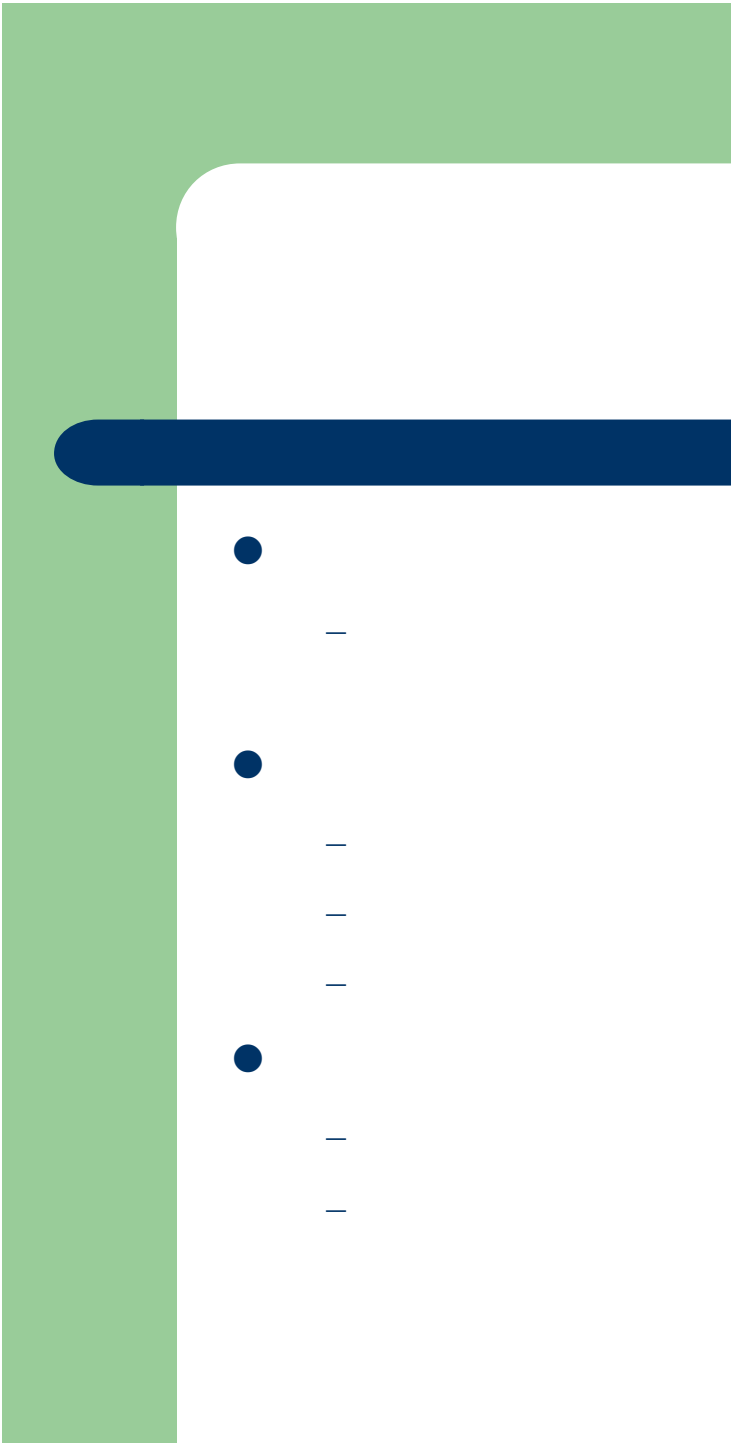
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 - (Entity)

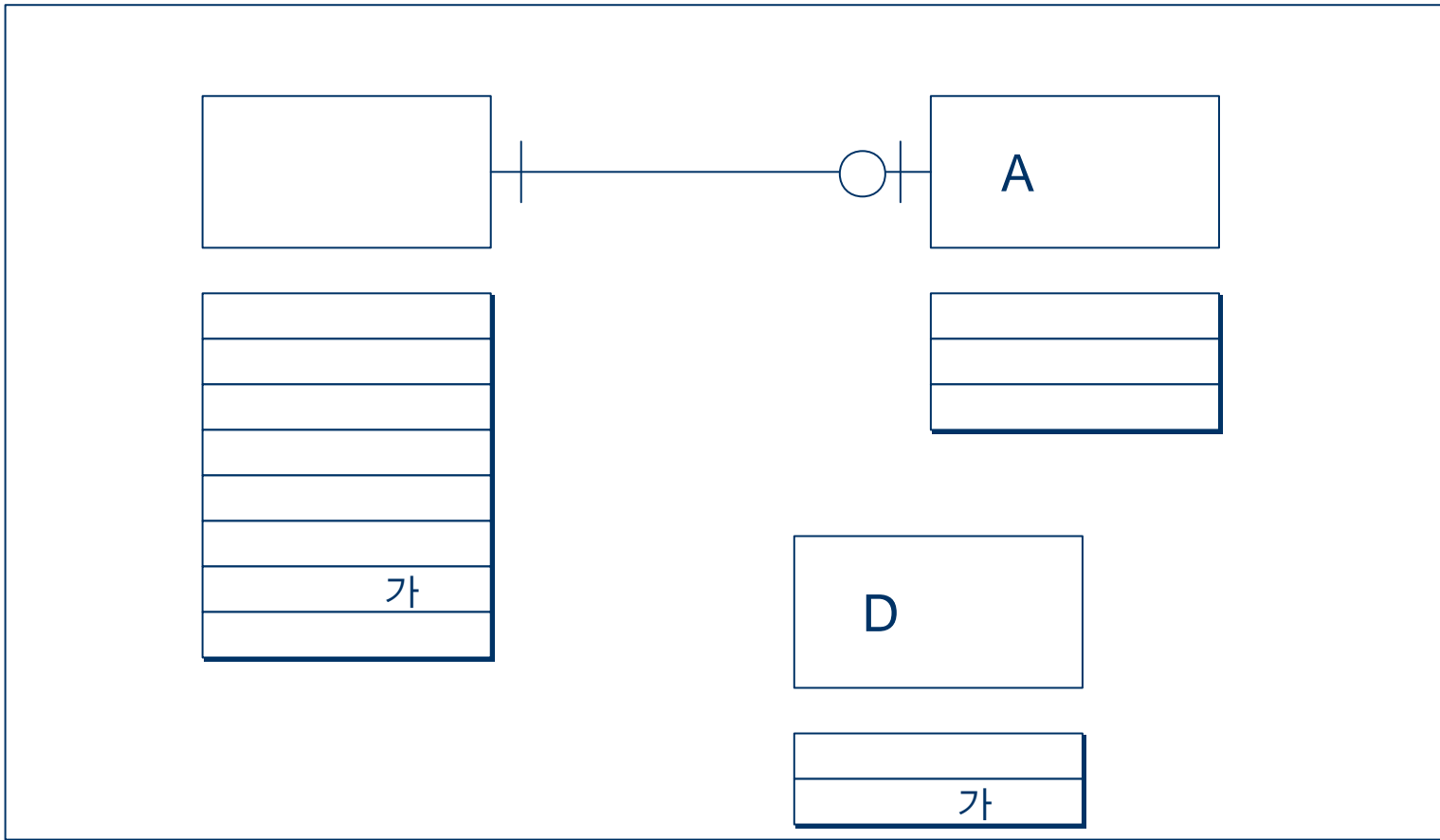
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 - (Attribute)

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- (Involute)

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- (Parallel)

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- (Mutually Exclusive)

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- (Hierarchical)

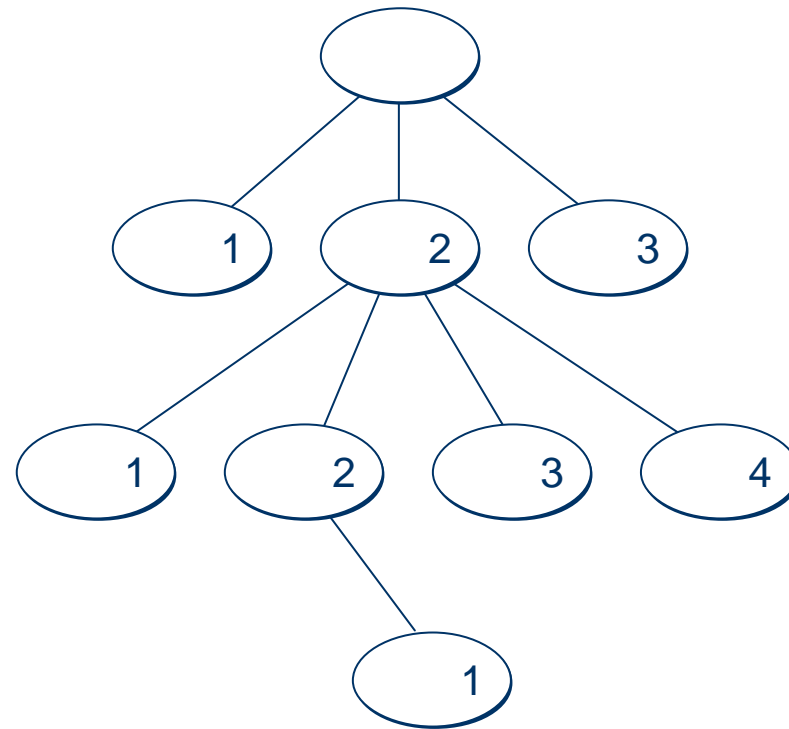
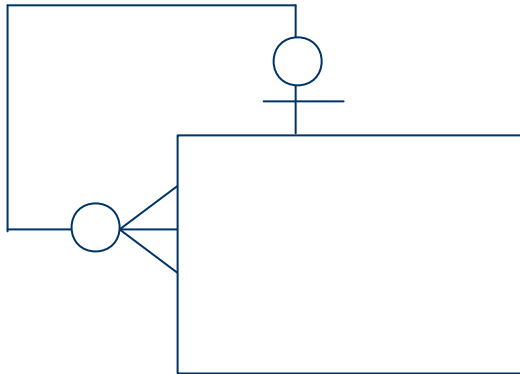
가

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(Involuted)

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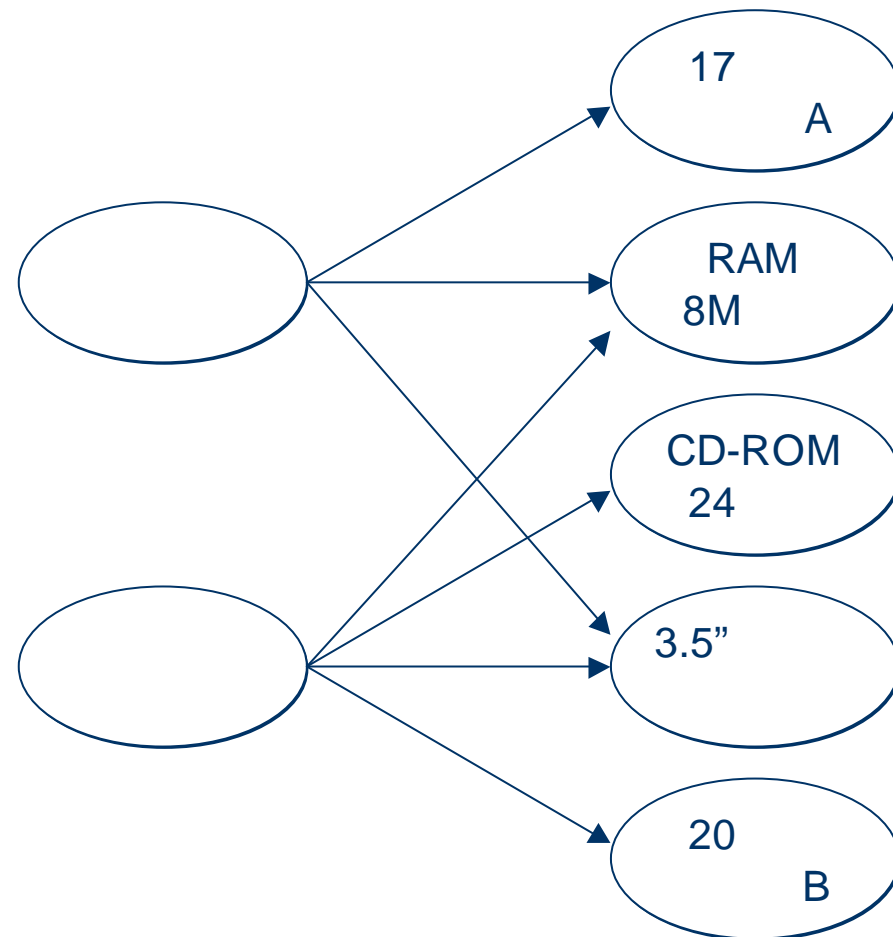
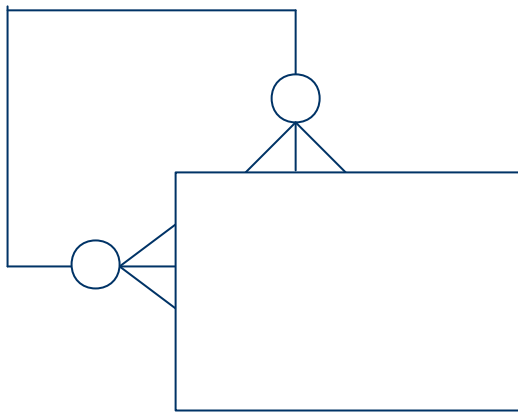
(1:M)



(Involuted)

-

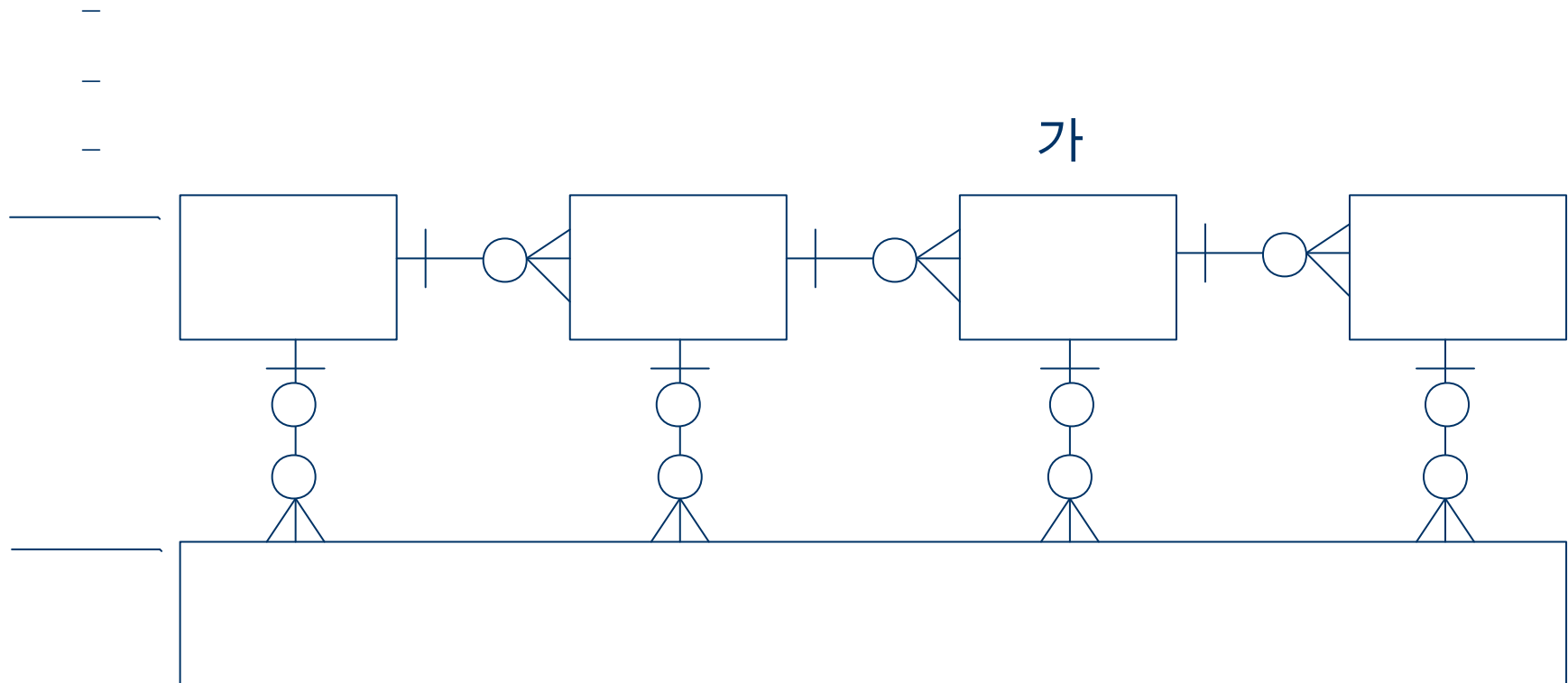
(M:N)



(Involved)

- (1)

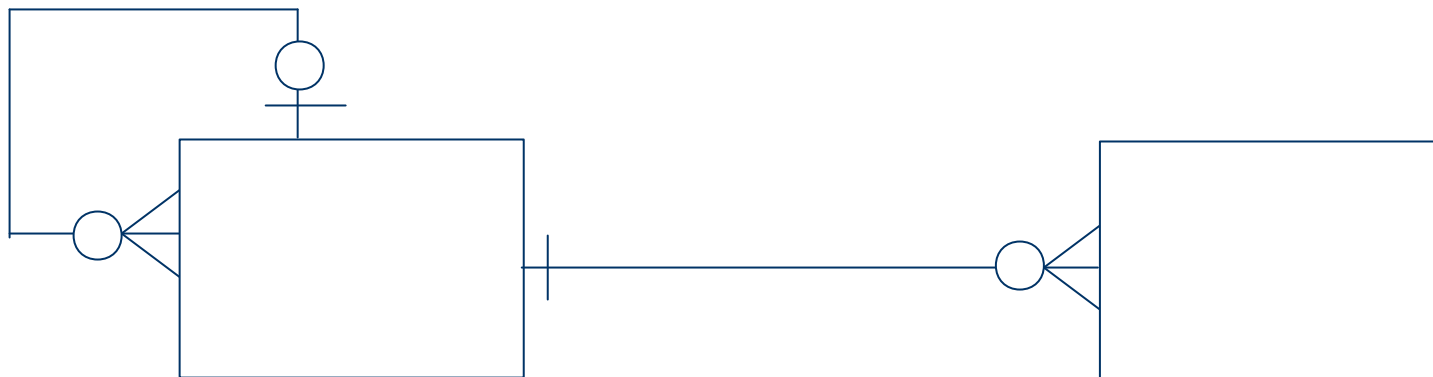
- (Specialization)



(Involuted) - (2)

- (Generalization)

- 가
- ,
- ()



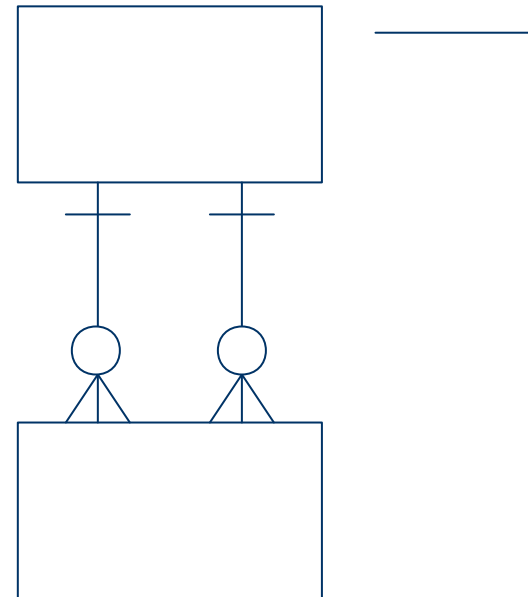
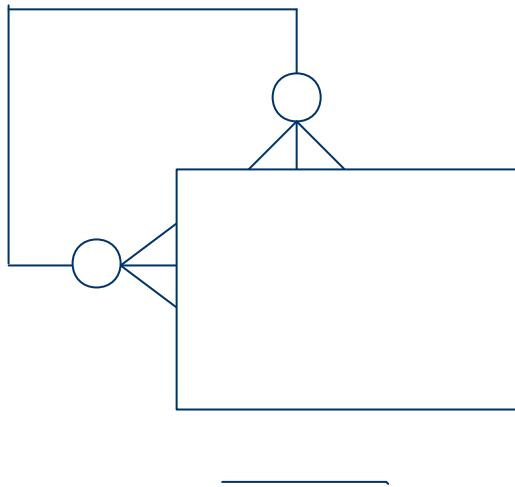
(Involved)

- (3)

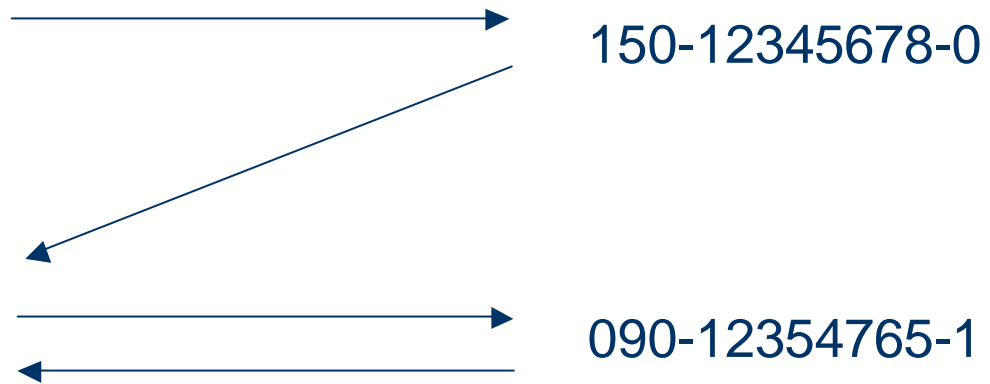
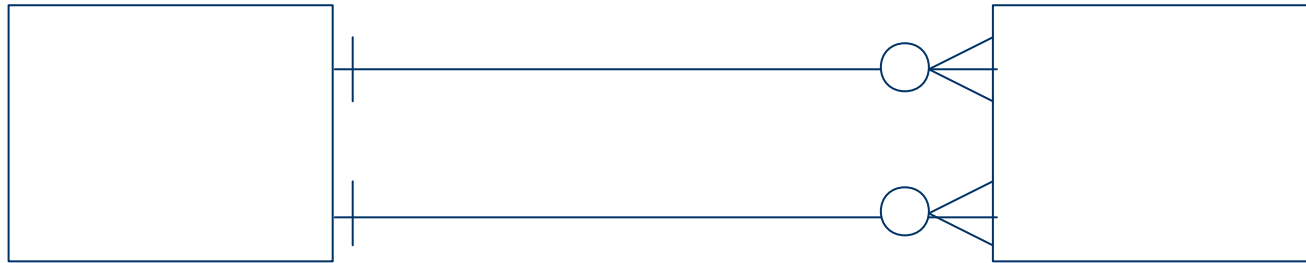
- (Generalization)

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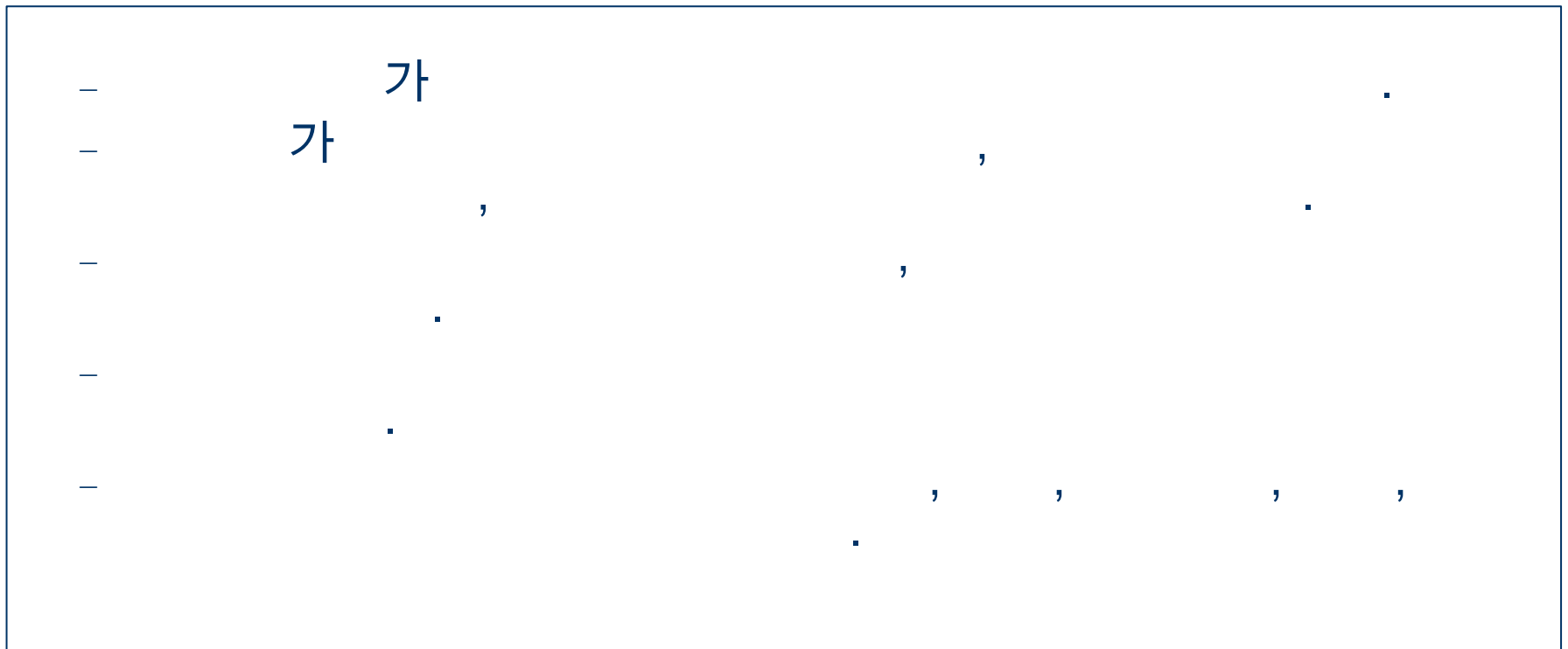
(Parallel) - (1)



(Parallel)

- (2-1)

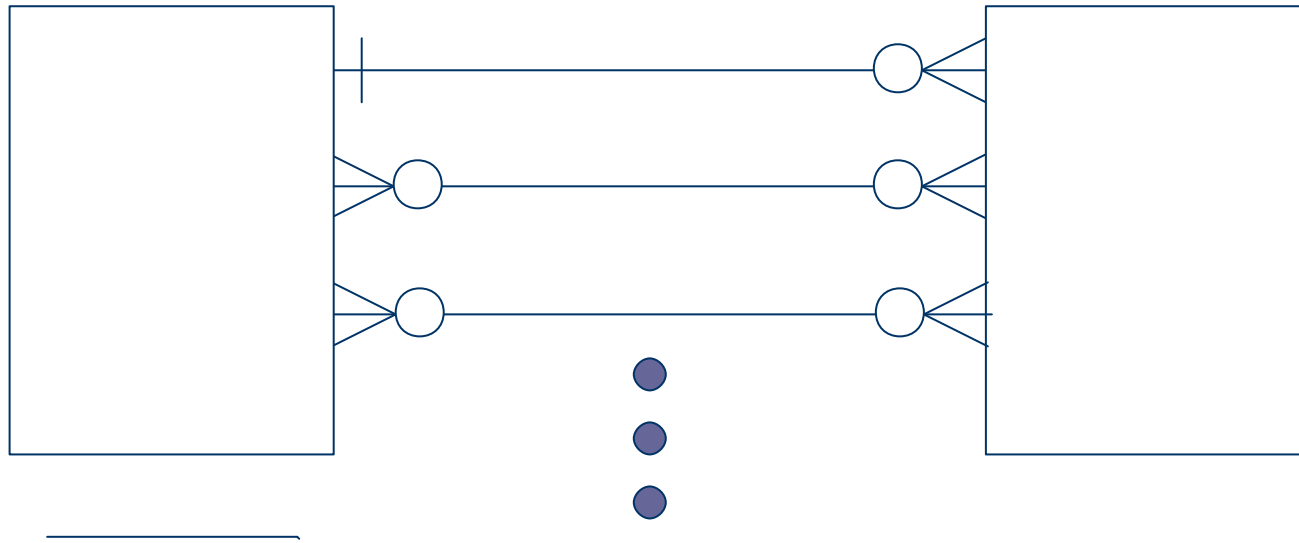
- K



(Parallel)

-

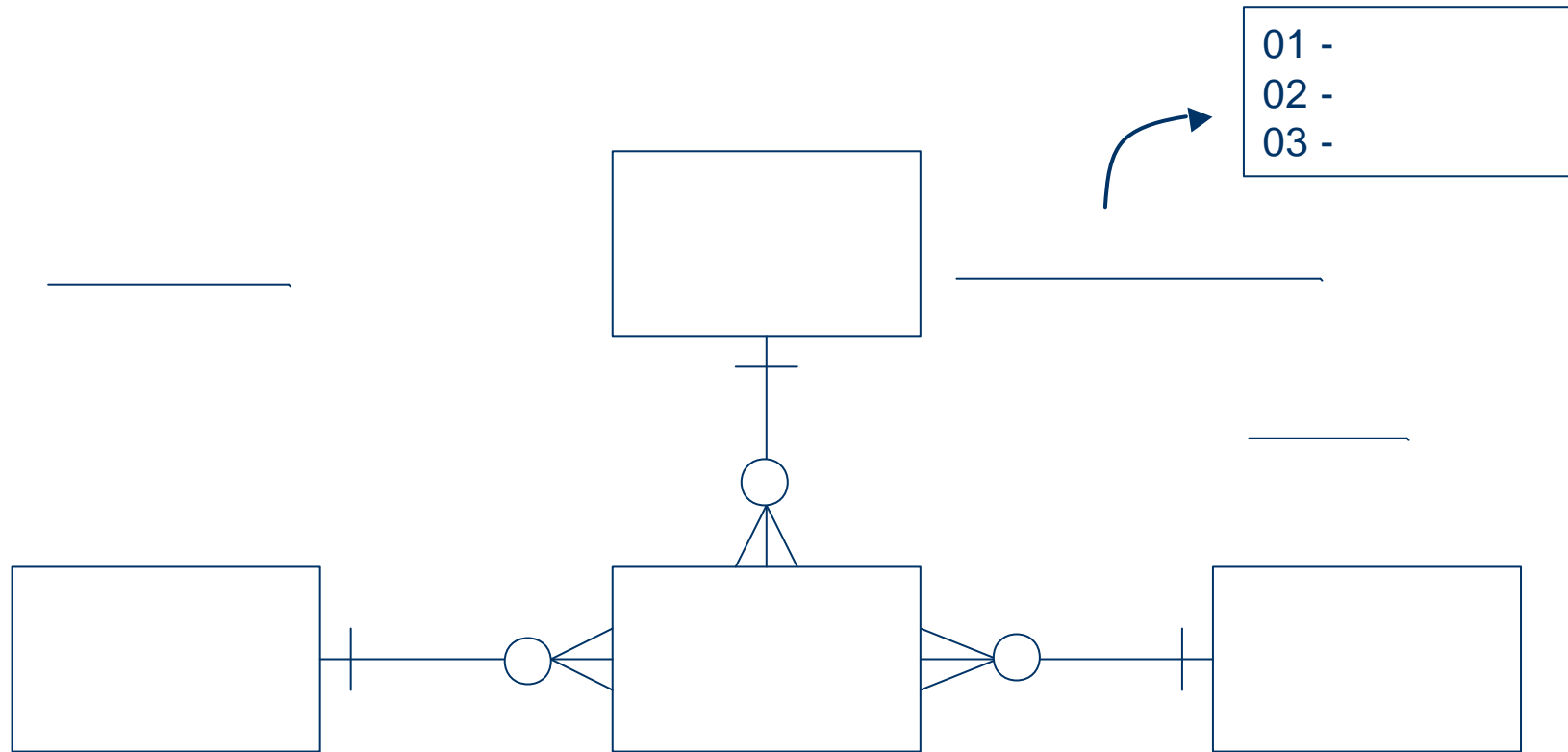
(2-2)



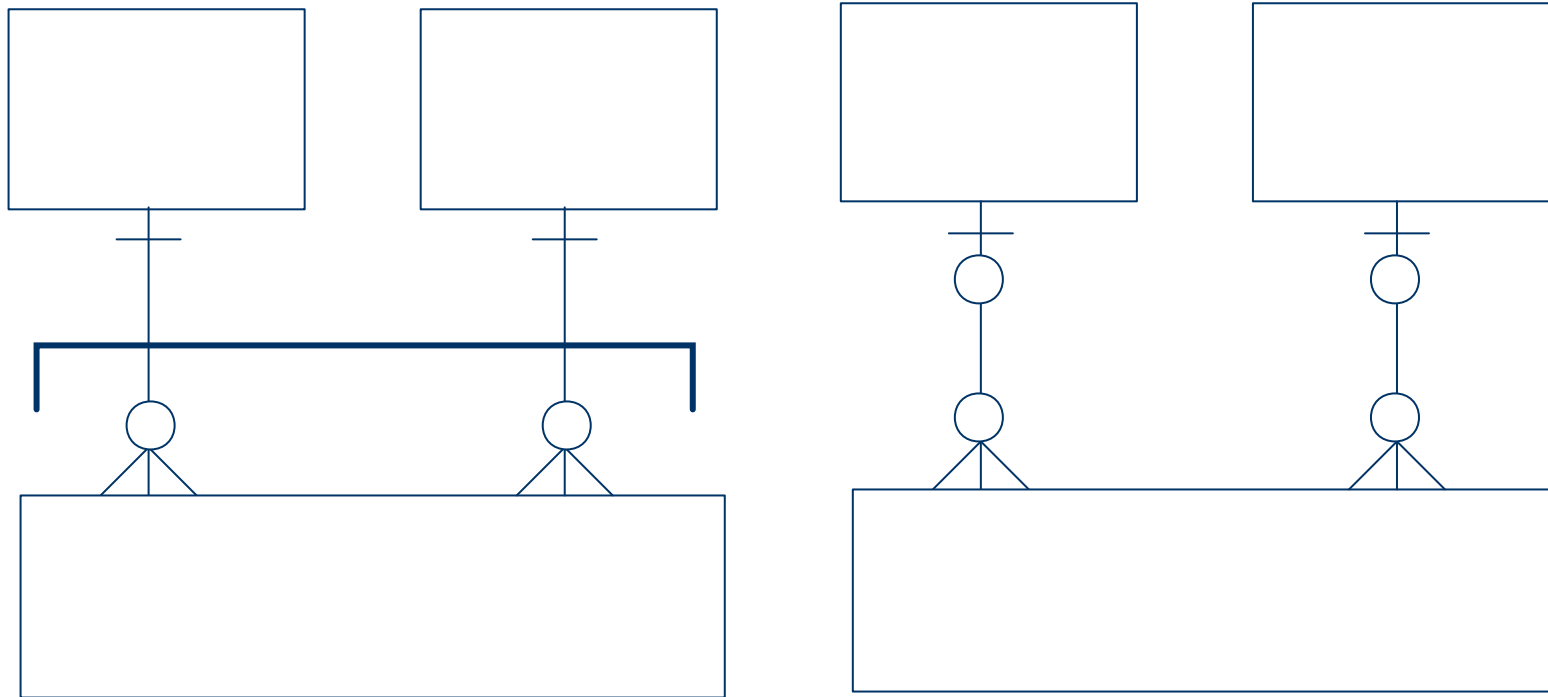
(Parallel)

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(2-3)



(Mutually Exclusive)



- (1)

- K

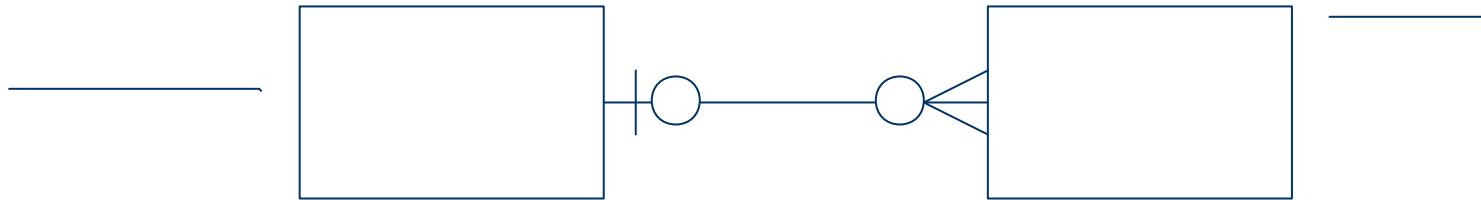
- K

10 가

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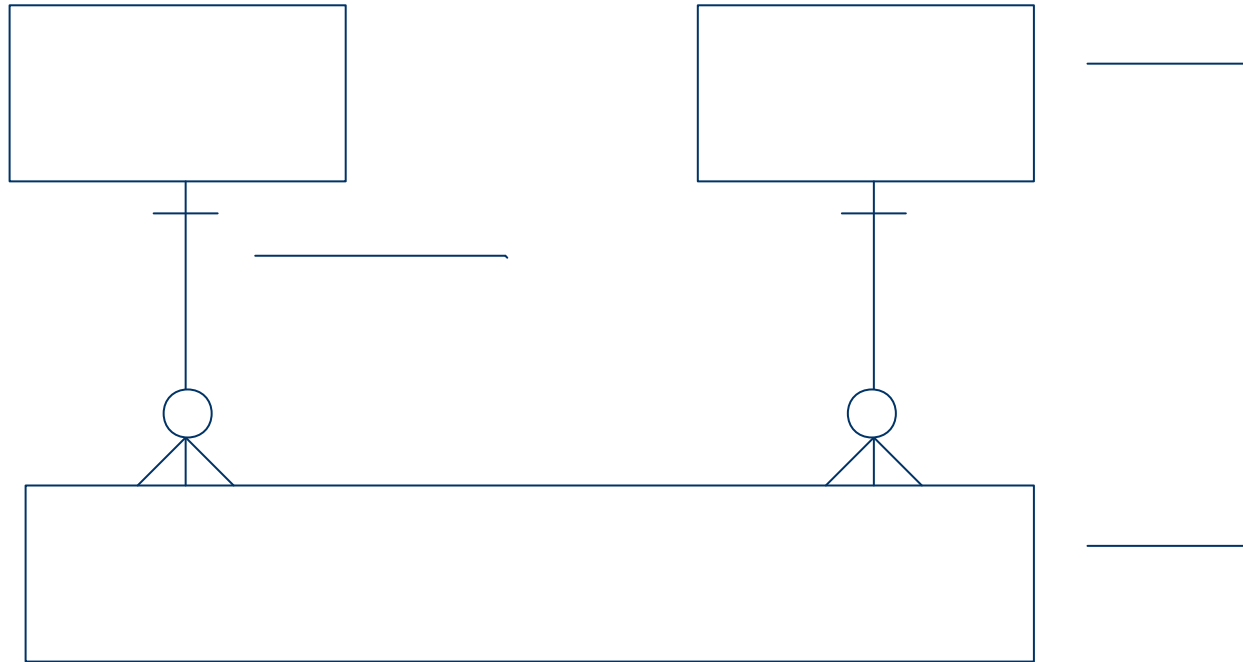
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- (2)

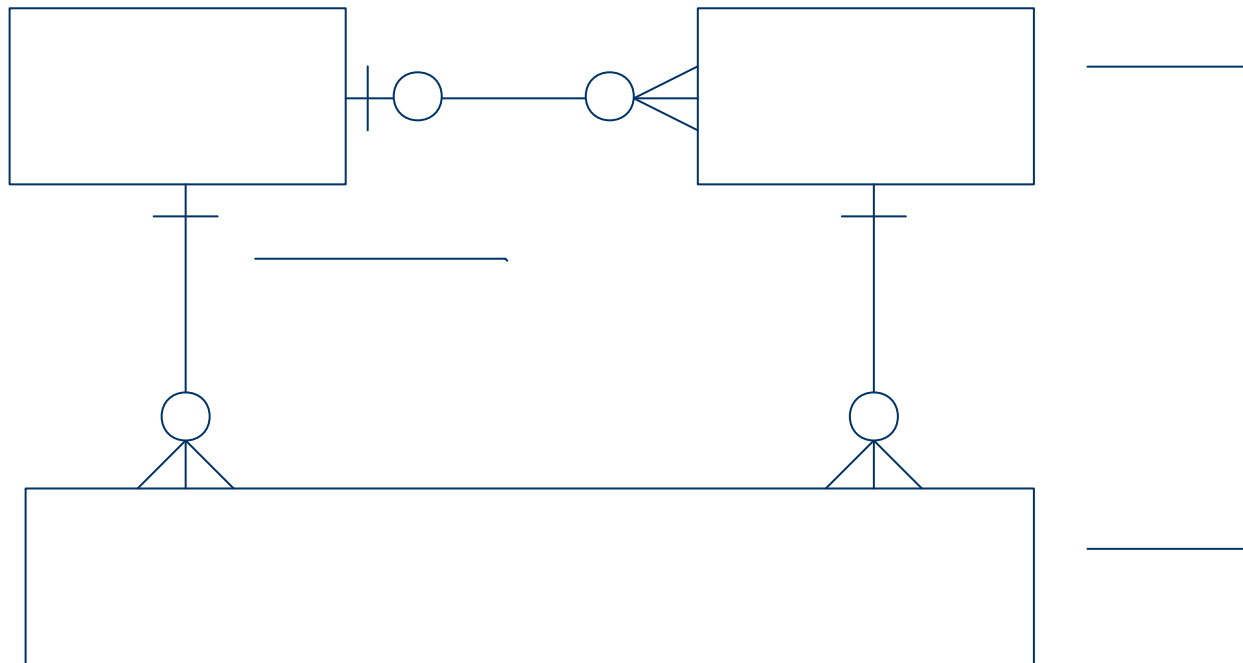
가

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- (3)

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(1:M)

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(1:1)

(1:M)

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(1:M)

(M:N)



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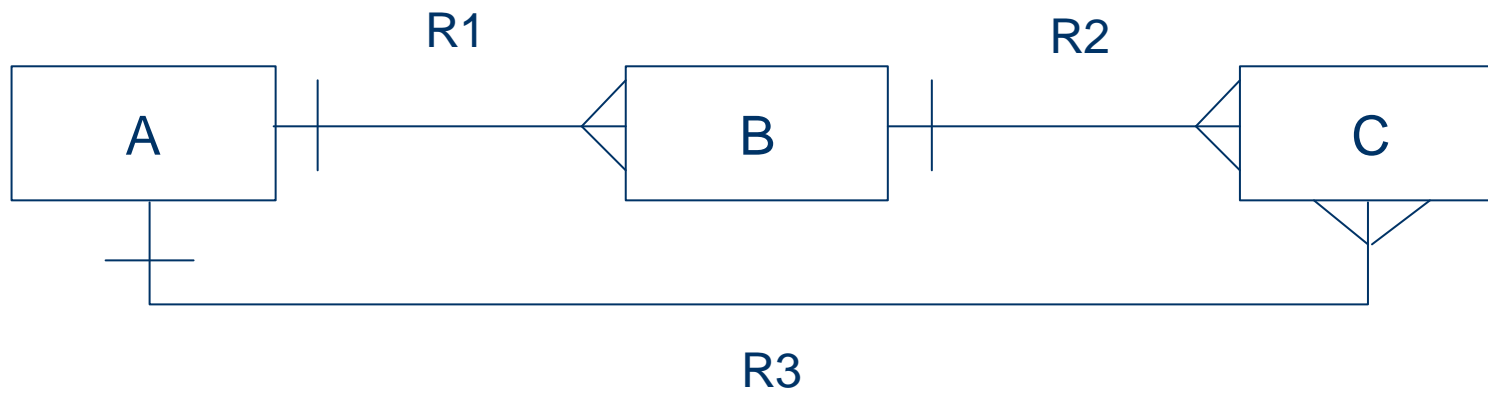


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(Duplicated)

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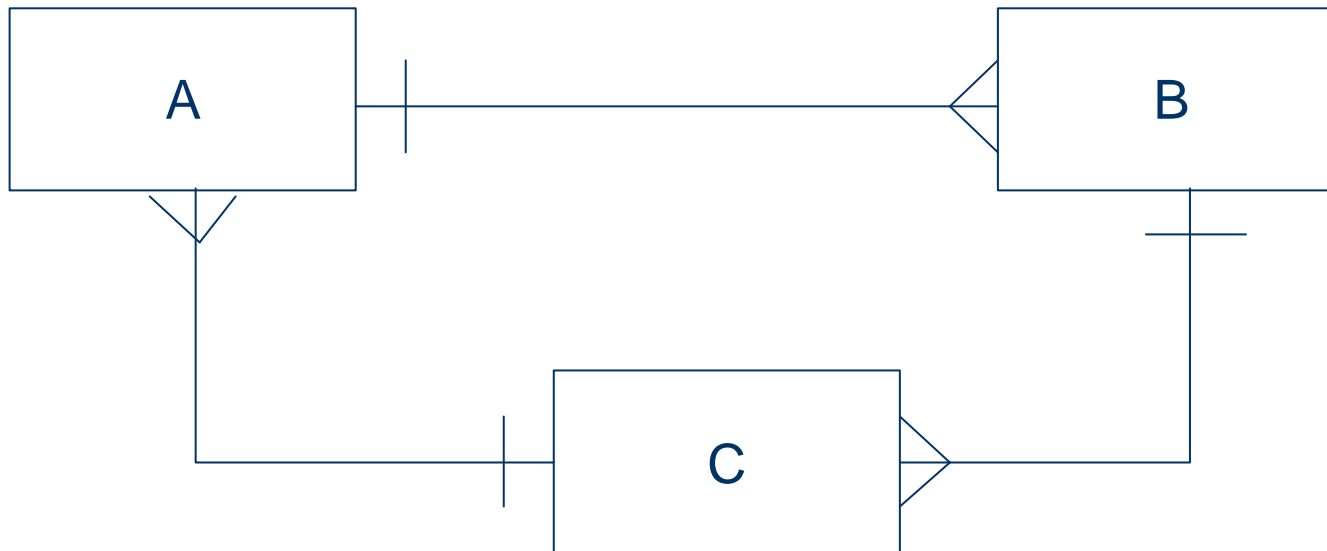
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Logical Horizon

(Loop)

- 3-4



(1:1)



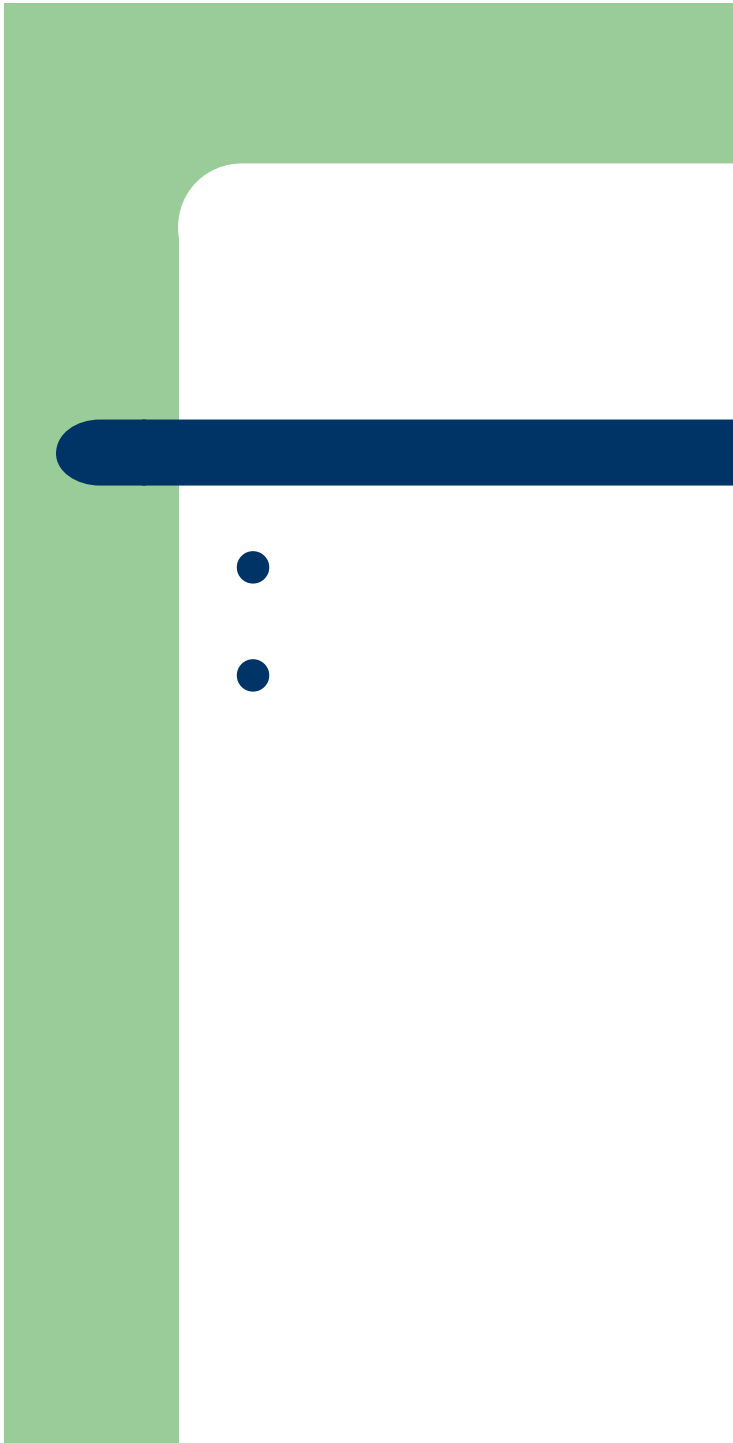
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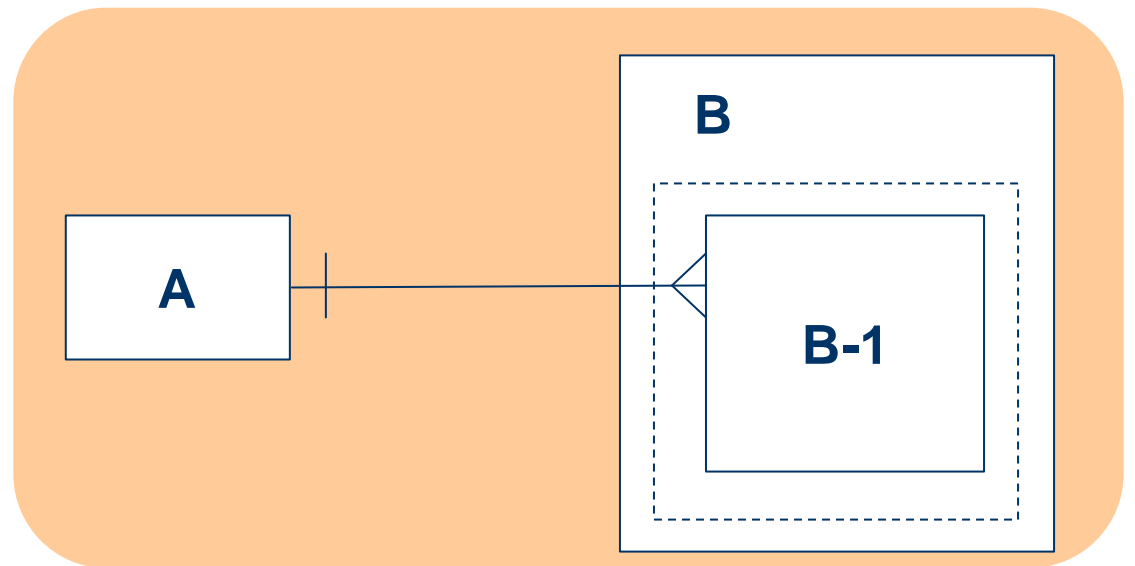
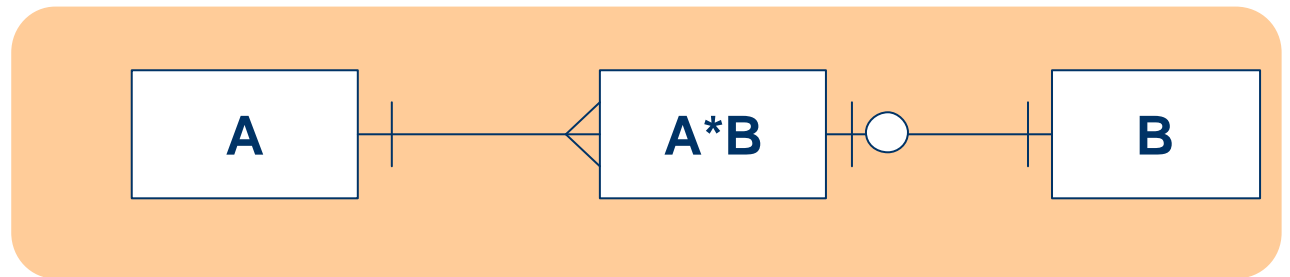
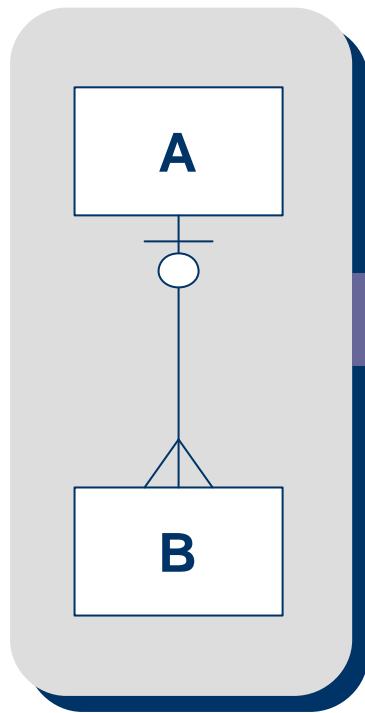




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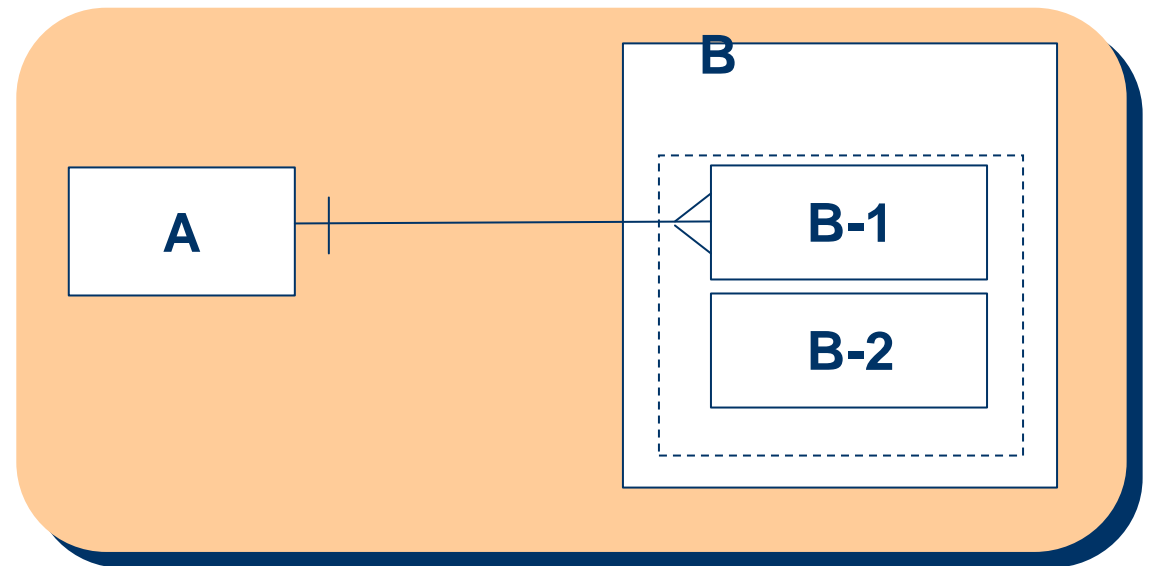
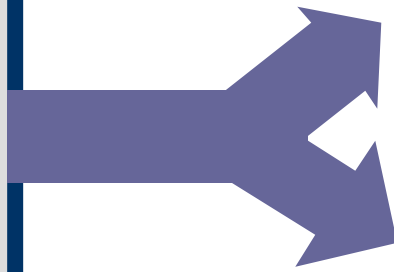
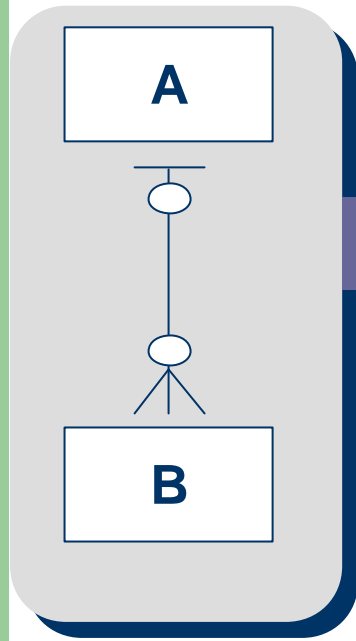
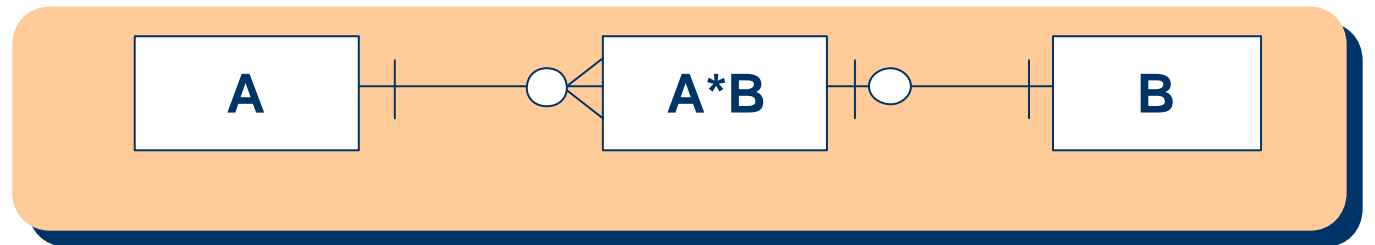
(1:M)

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(1:M)

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(RI)

- (RI, Referential Integrity)
 - (Pairing)
RDBMS
 - :
 -
- RI
 - (Insert) RI
 - (Update) RI
 - (Delete) RI

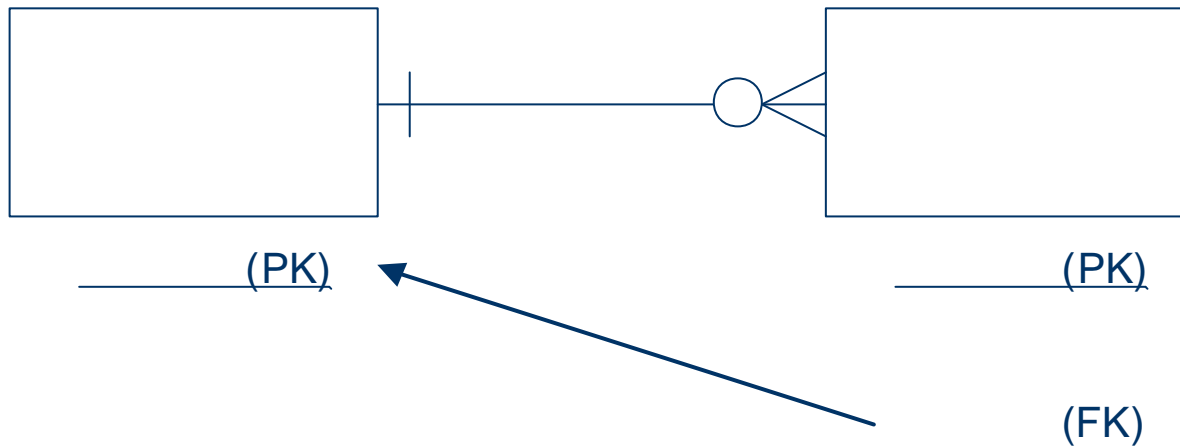
(Insert) RI

- 가 가 가 (Foreign Key)

-

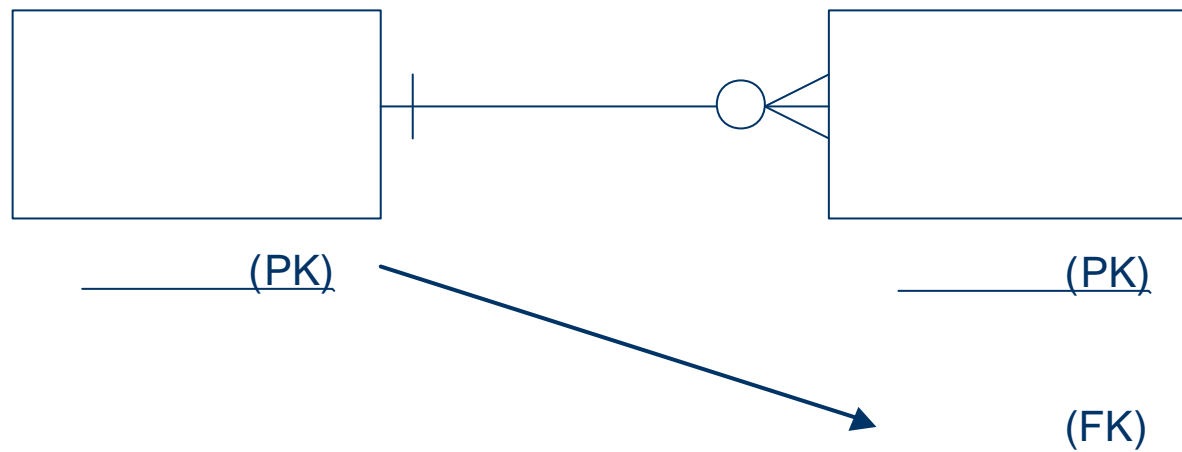
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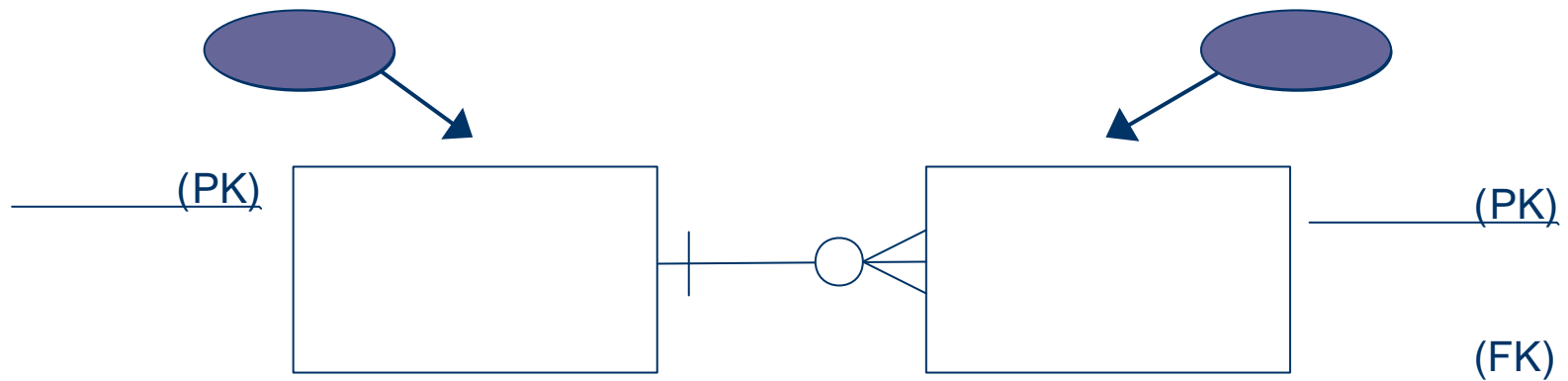
(Update) RI

- Primary Key ,
 - (Update) RI
 - RDBMS
 - Primary Key



(Delete) RI

- 가 ,
- (Parent)
 - (Child) 가?
- (Child)
 - (Parent) 가?

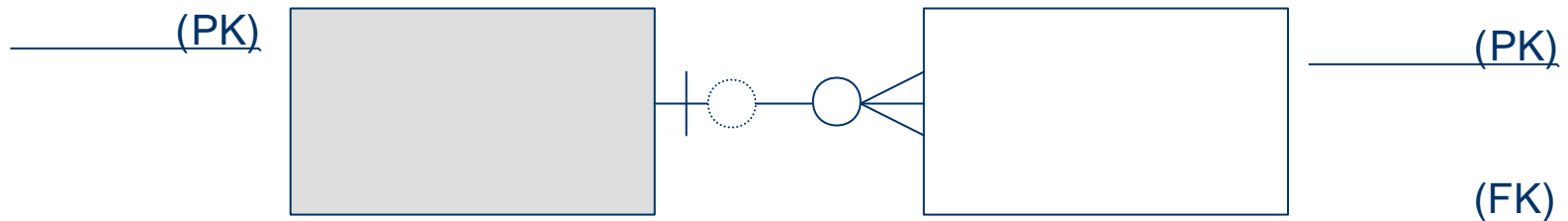


(Parent)

- Cascade Delete
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- Nullify Delete (Set Null)
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 -
- Restricted Delete
 -

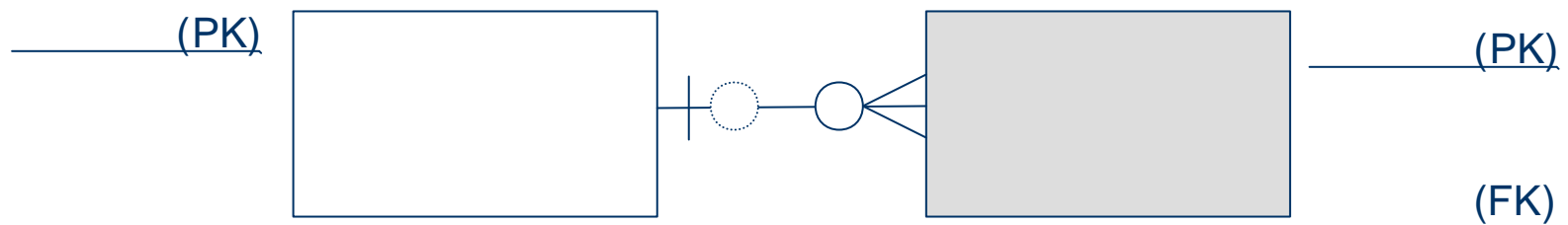
NULL

가



(Child)

- Pendent Delete
 - ,
- Disassociate
 -
- Restricted Delete
 - 가



(Relationship) -

(1)

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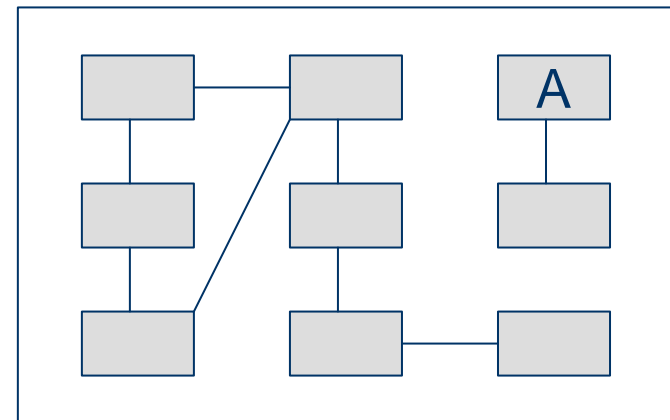
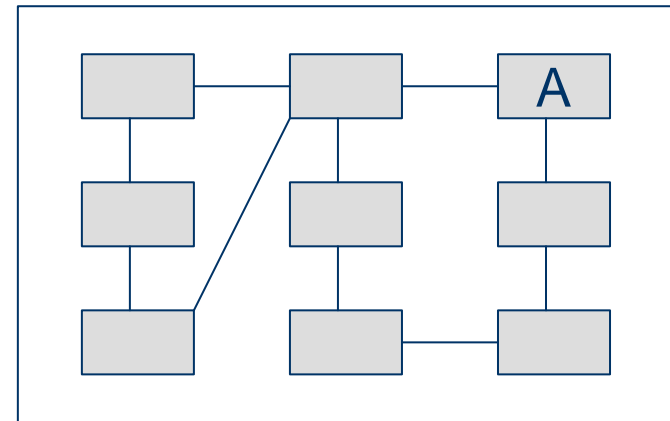
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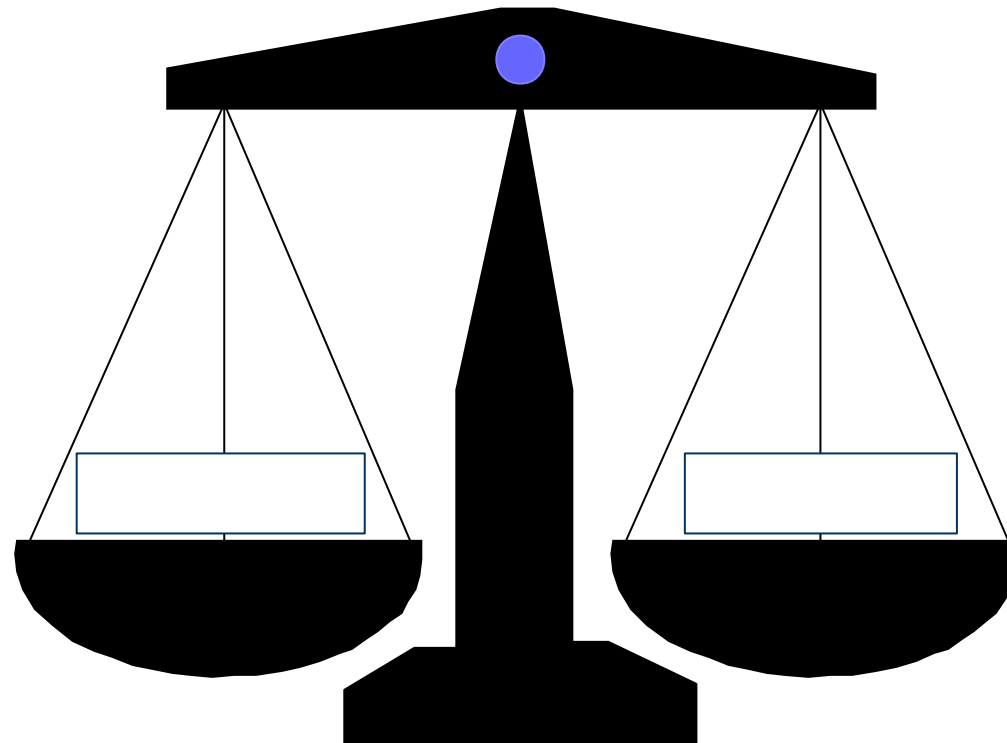
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(Relationship) - (2)



(Code)



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- - :

- - (A, B, C)



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- (2)

- - 가 10 ,
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- - “ ” “ ”
 - “ ” “ ” (가)
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: “ (0,1,2,3,4,5,6,7,8,9) , (01, 02, 03,....., 15) ”



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(Data Conversion)

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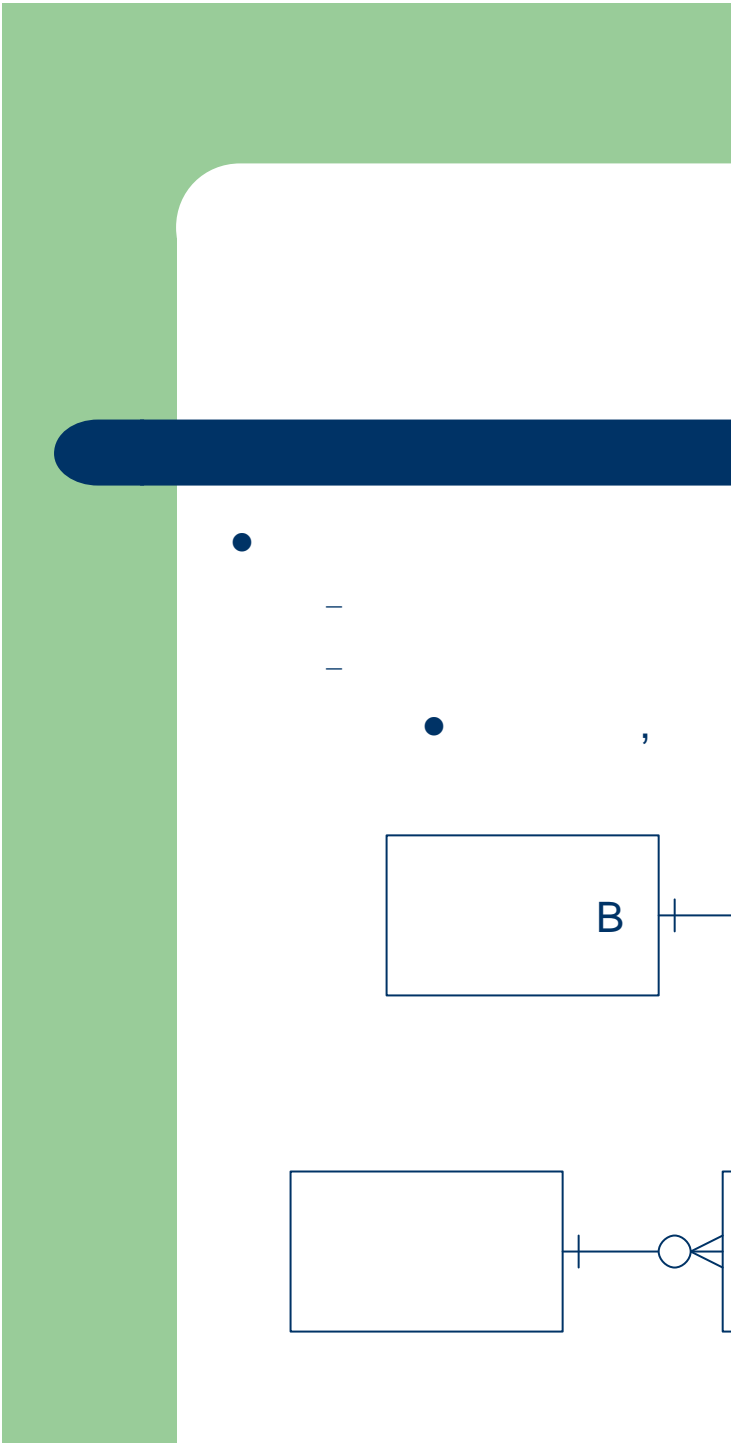
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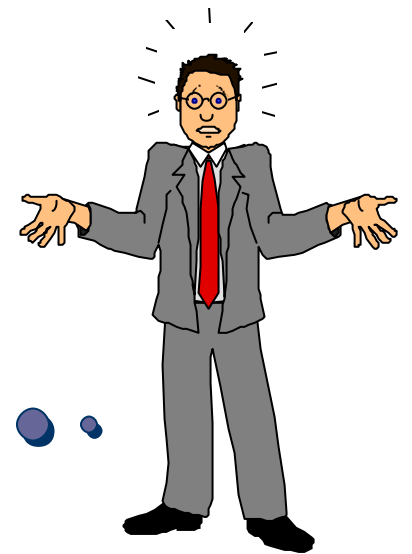
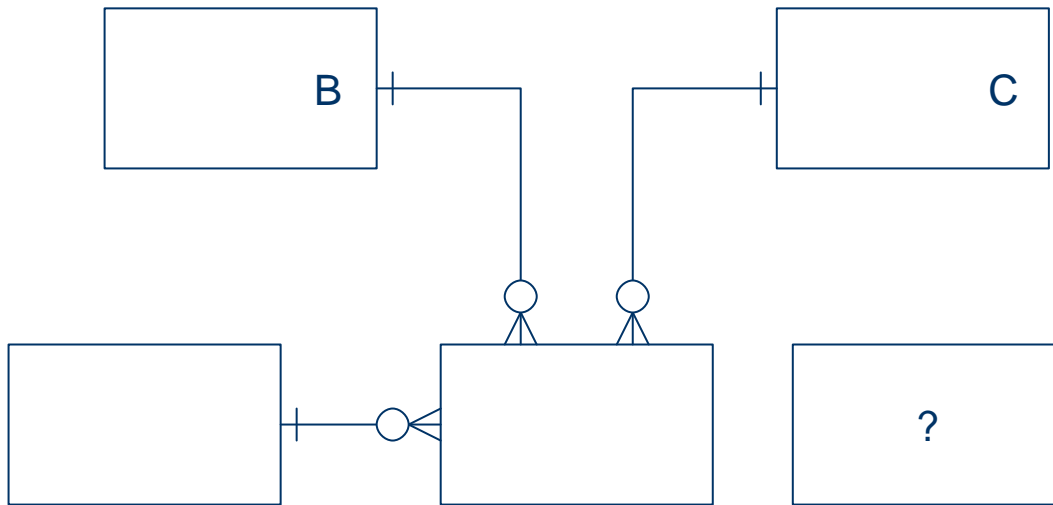
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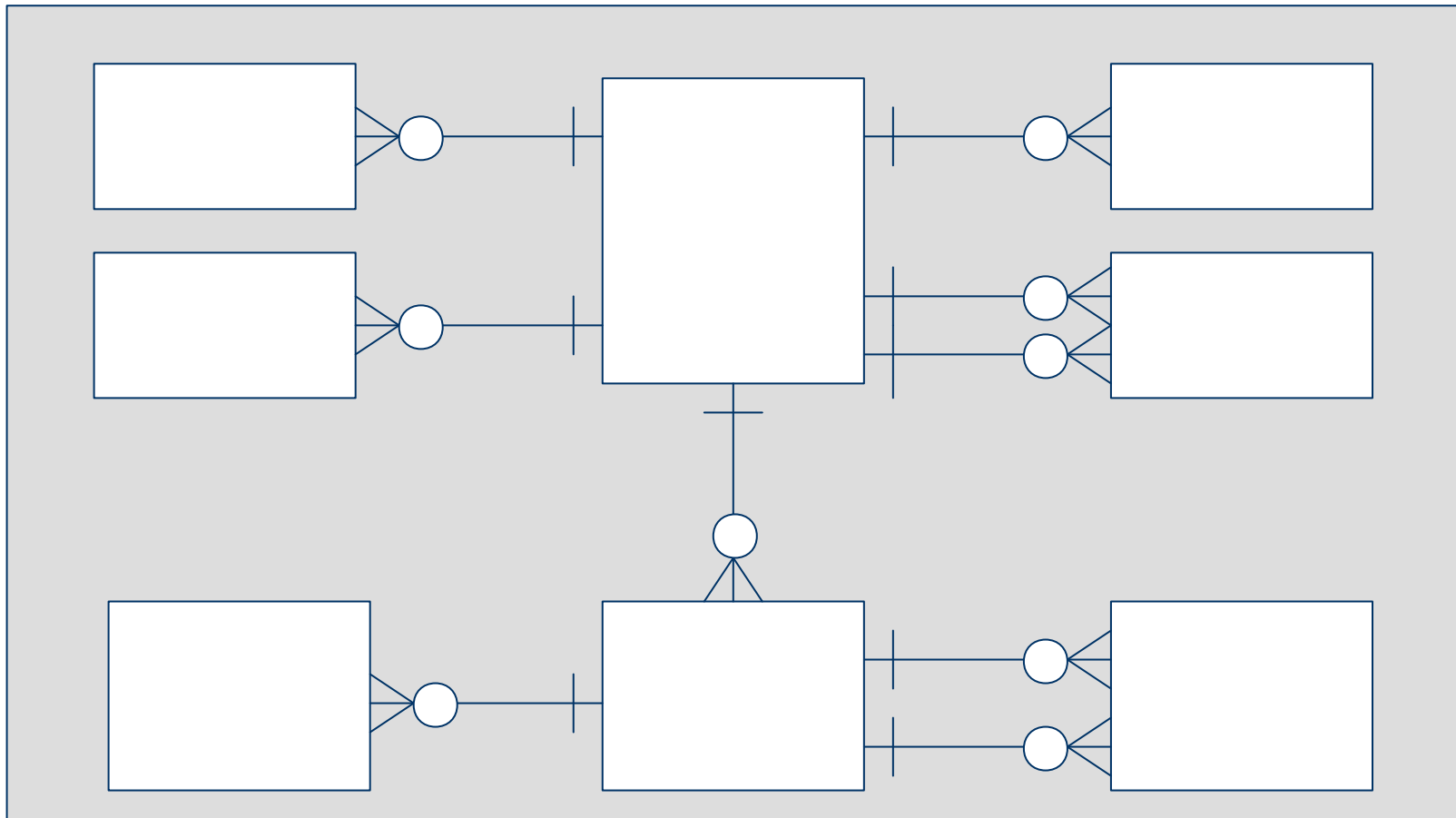
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- 4(Code Meta Model)

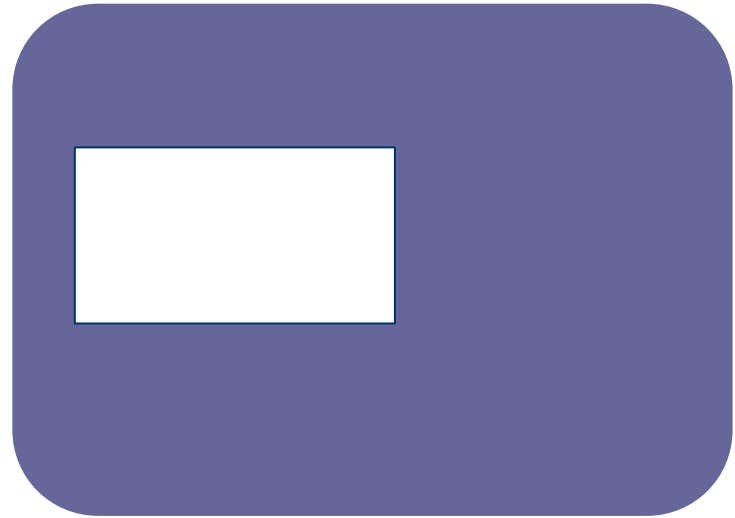
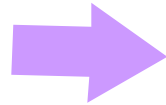
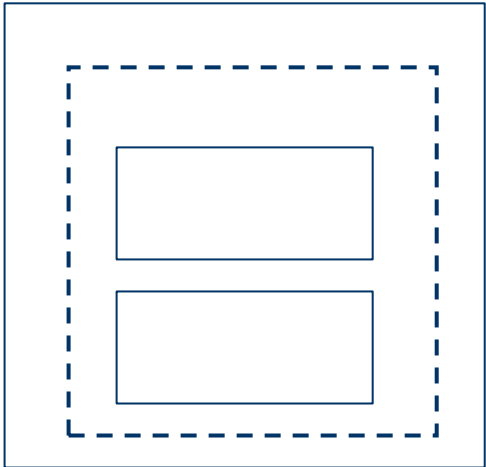


(Promotion)

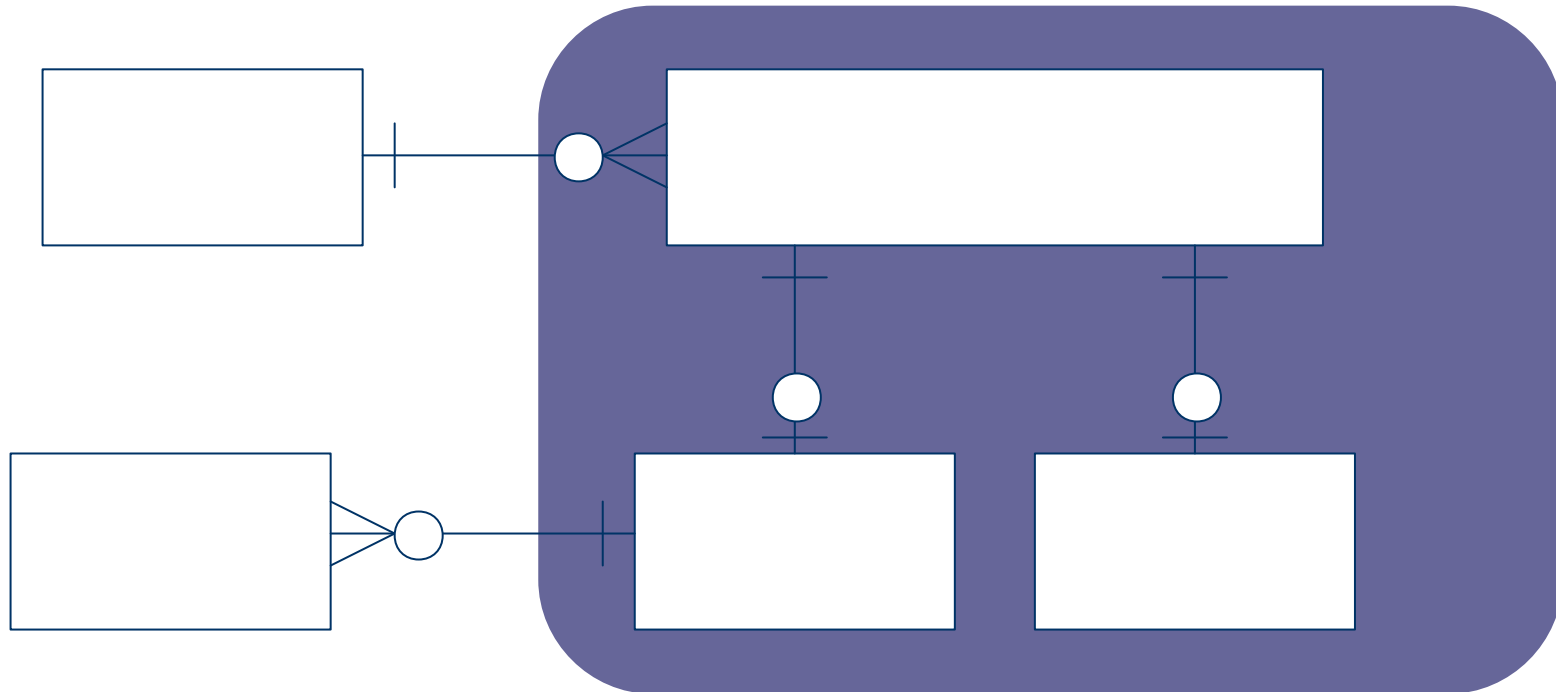
- -
 - Promotion:
 - 가
- - 1:
 - 2: Promotion
 - 3:
 - 4: Promotion
- - 가
 - and/or
 - 가

- 1

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-

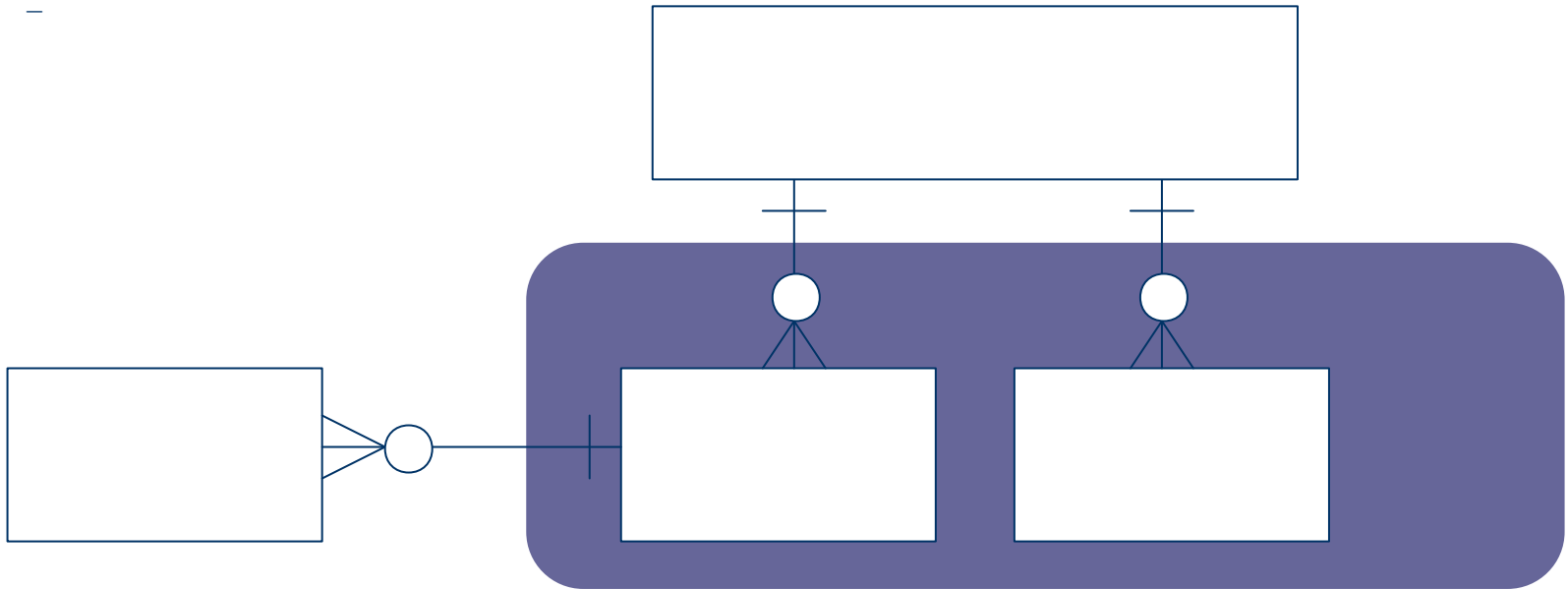


- (JOIN)
- ,



- 3

- - ()
- : ,
- -



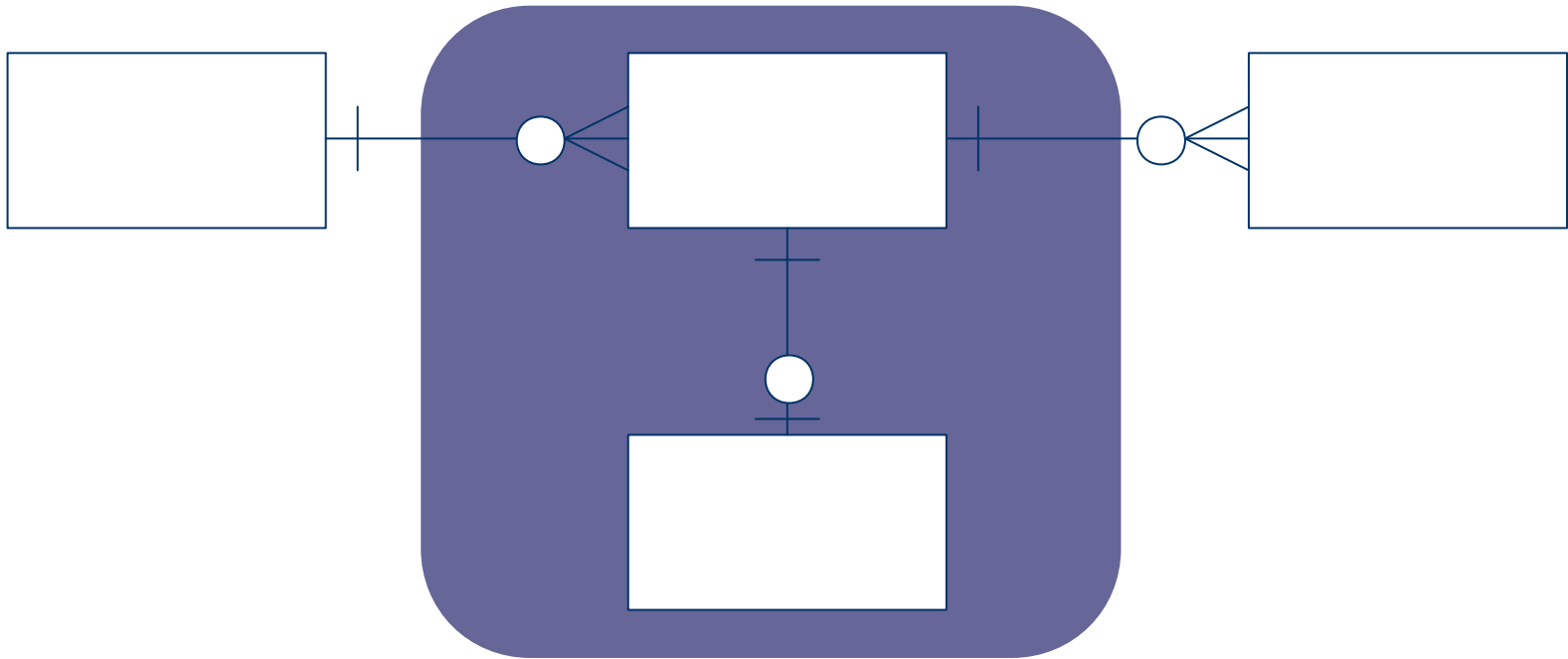
- 가

-

- 가 :

가

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- (1) () () , (M)

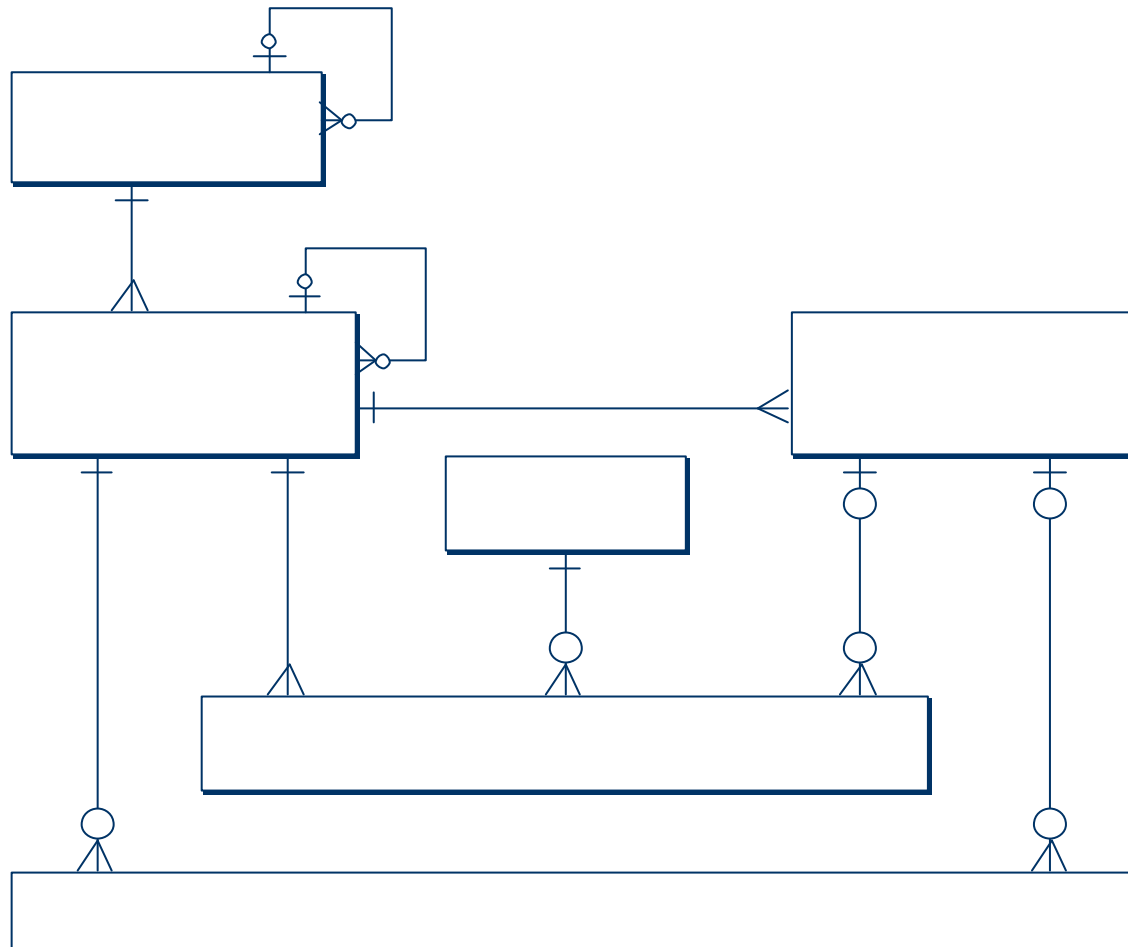


- , 가



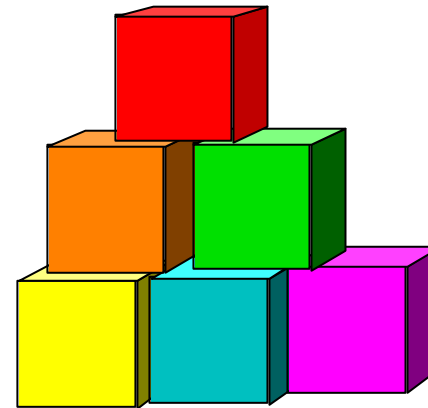
, 가 .

ERD



ERD

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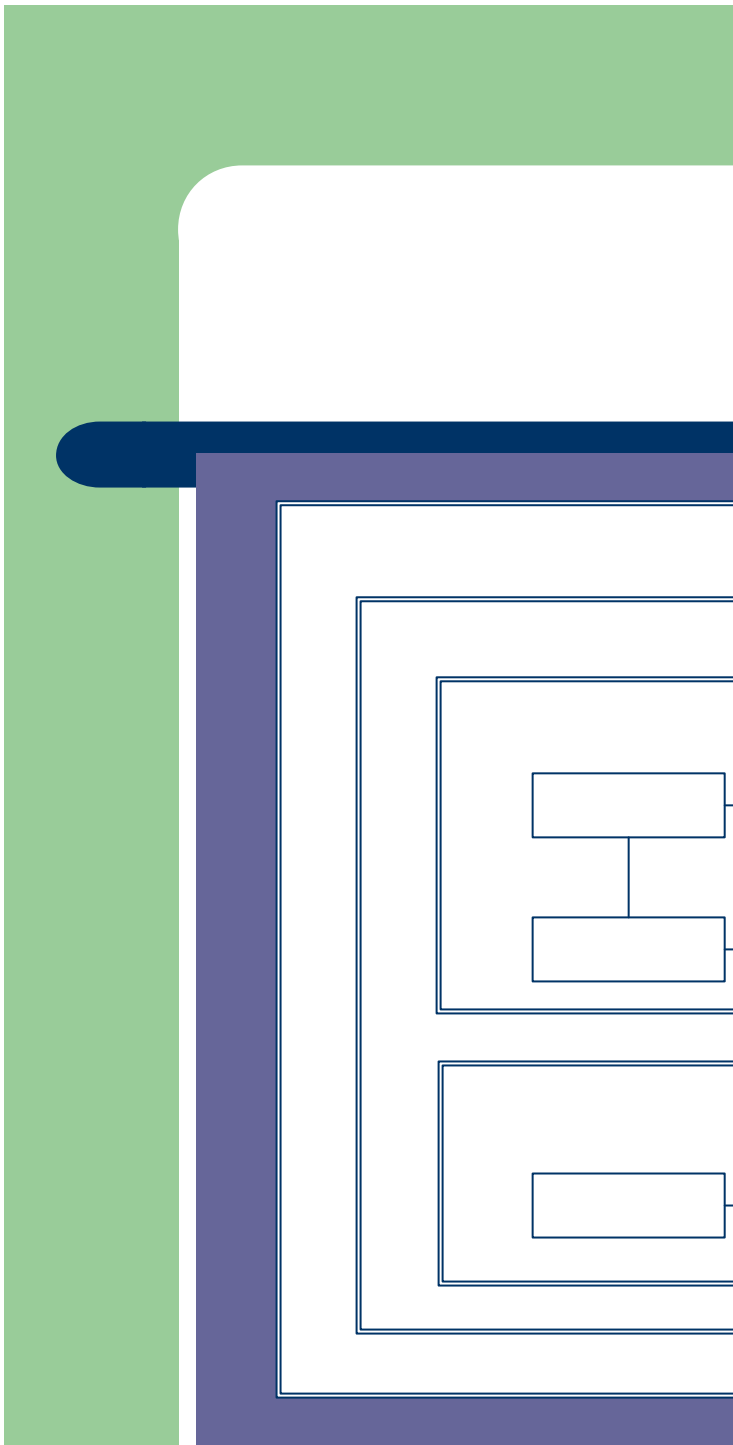


- - Data vs. Activity
- - Relationship vs. Work Flow
- -
- - High Cohesion Low Coupling

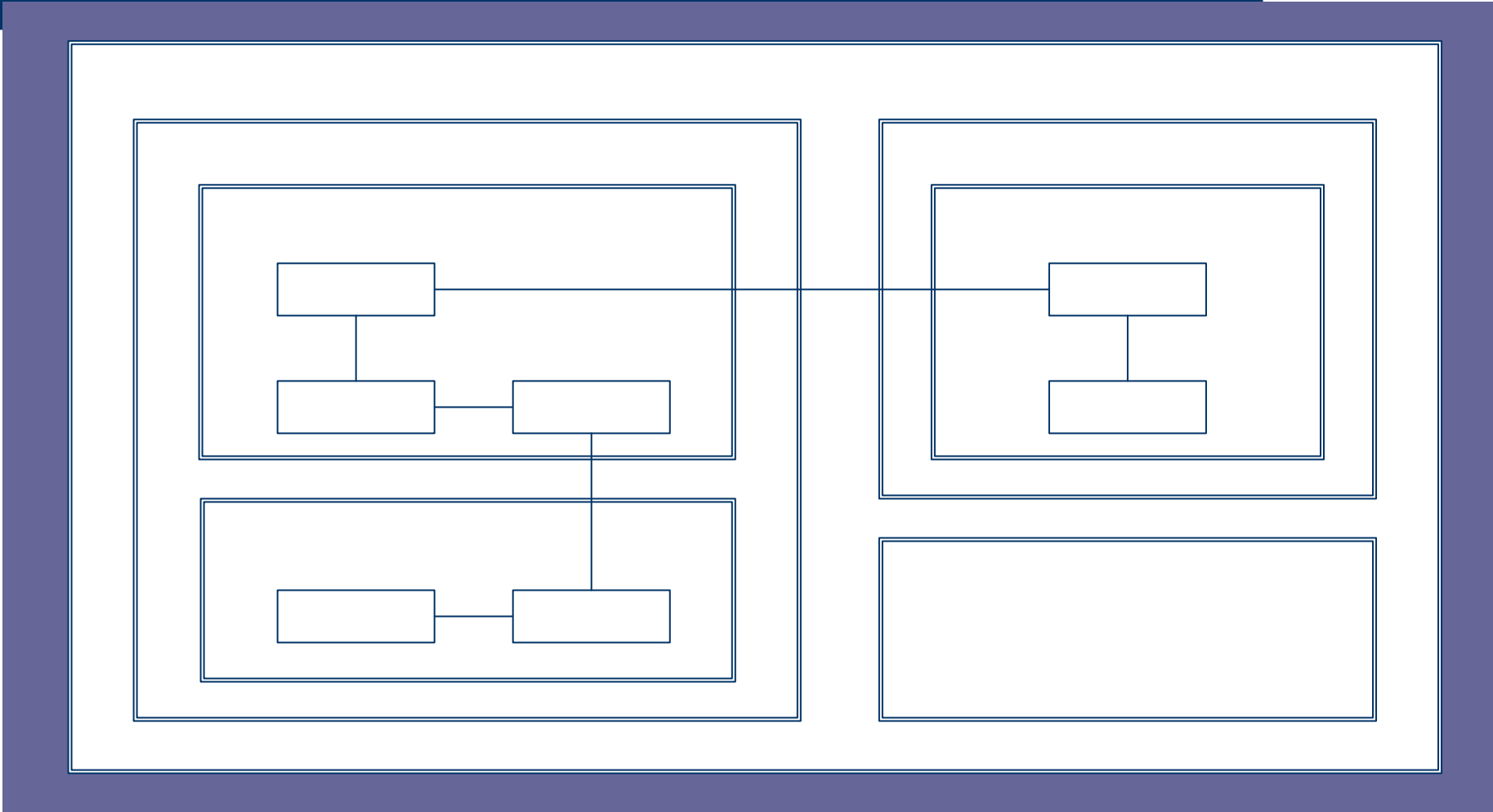


(1)

1	(Naming)	<ul style="list-style-type: none">•••
2	(Desc.)	<ul style="list-style-type: none">•
3		<ul style="list-style-type: none">• , , (3-4)•• 가
4		<ul style="list-style-type: none">• 가
5		<ul style="list-style-type: none">•
6		<ul style="list-style-type: none">• 7-10 가

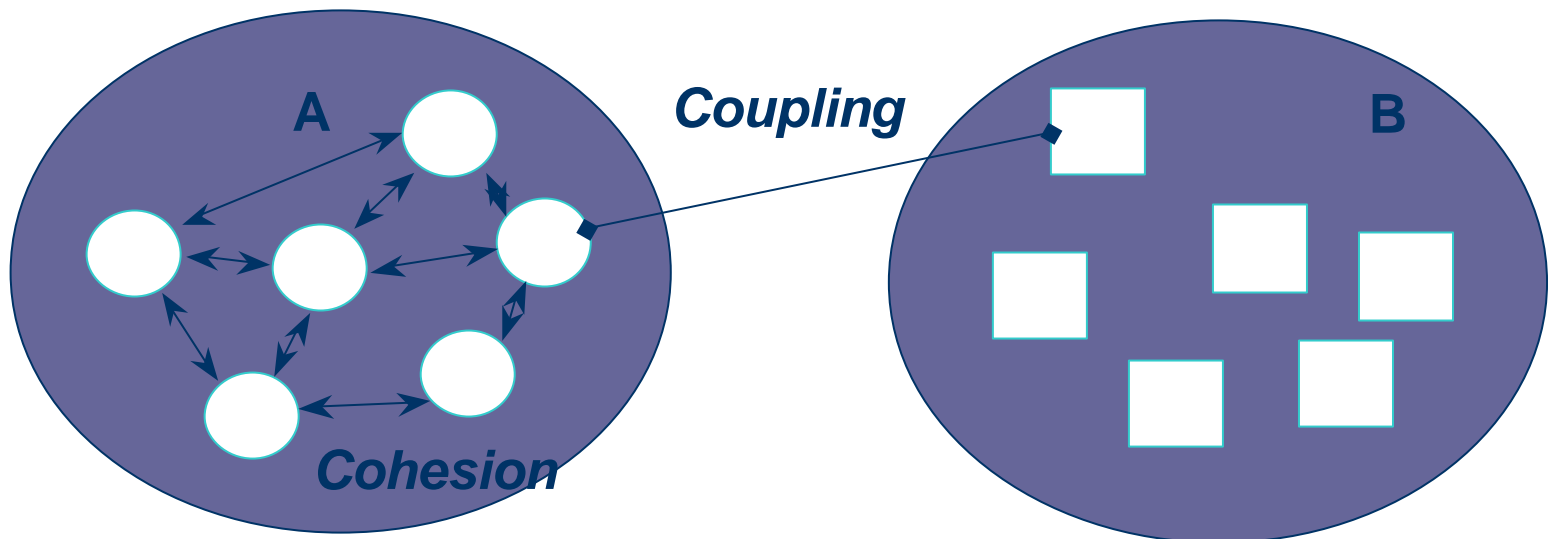


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(2)

7		<ul style="list-style-type: none">• 가• (High Cohesion) / 가 (Low Coupling)



- (3)

8		<ul style="list-style-type: none">••• , ,
9		<ul style="list-style-type: none">••

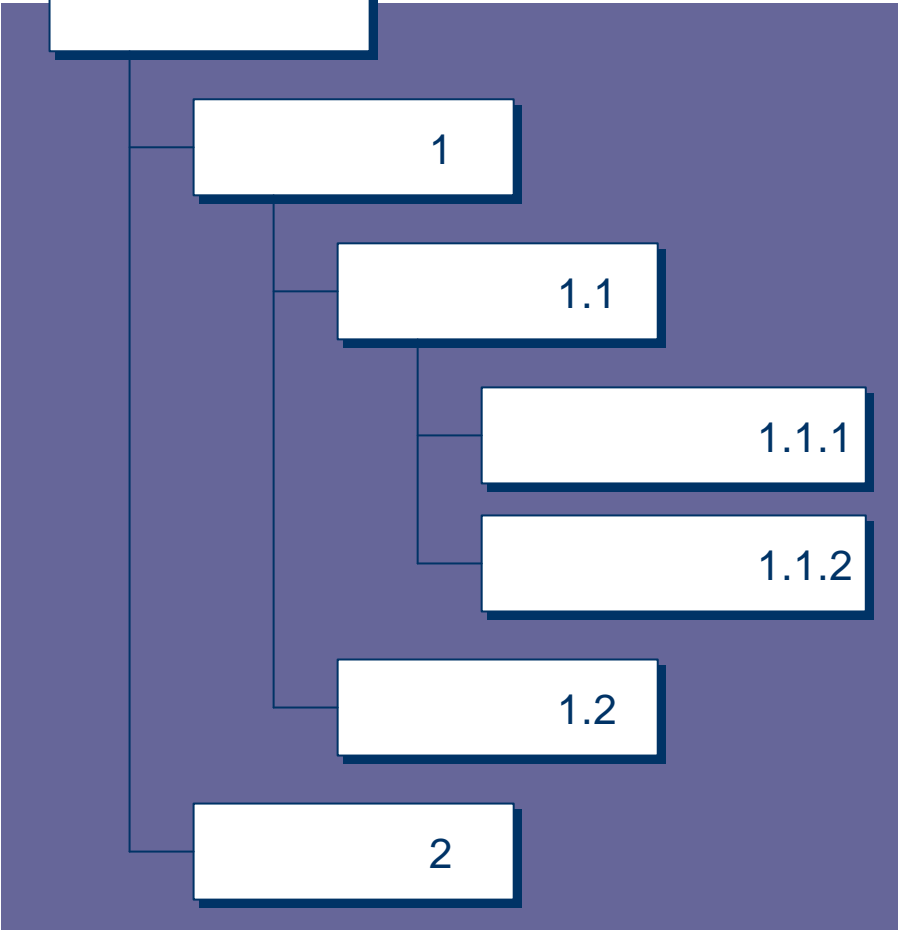
DATA



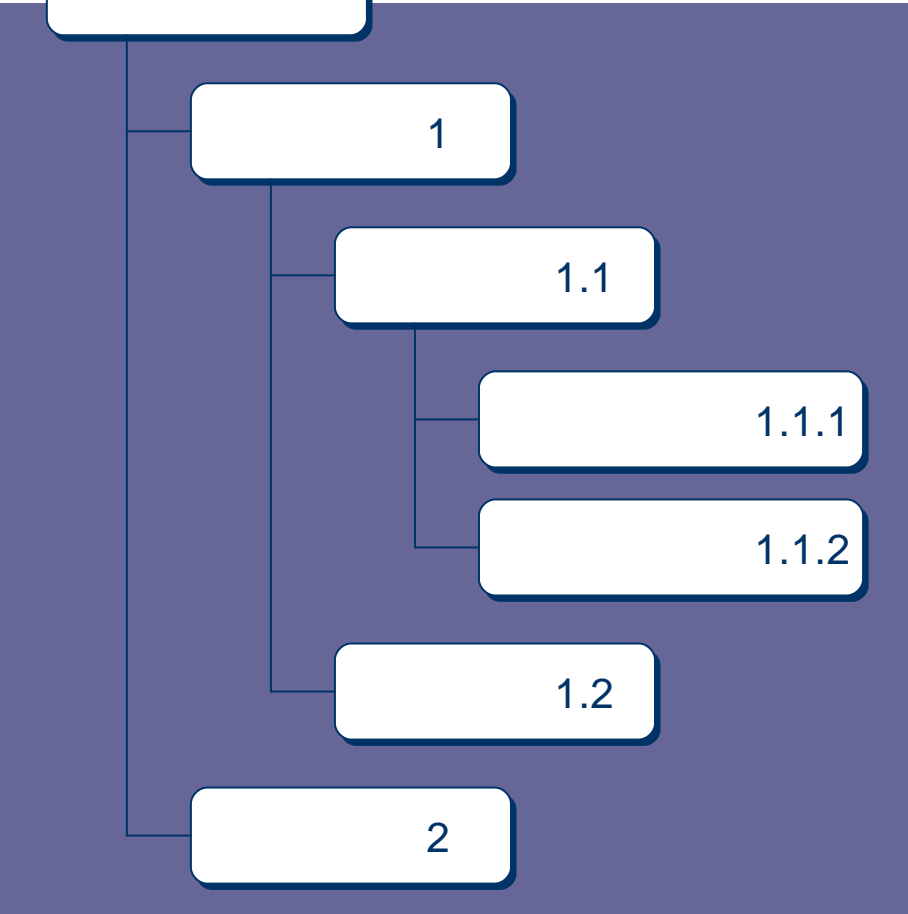
ACTIVITY

/

[Redacted]



[Redacted]



(1)

1	(Naming)	<ul style="list-style-type: none">• ()•••• (Abbreviation)• 가• (Aliases)• -• /
2	(Desc.)	<ul style="list-style-type: none">•• , ,
3		<ul style="list-style-type: none">••

(2)

4		<ul style="list-style-type: none">가7 가 (5-10)- / 가
5		<ul style="list-style-type: none">가7 가- /
6		<ul style="list-style-type: none">가()
7		<ul style="list-style-type: none">가- ()

(3)

8		<ul style="list-style-type: none">• (CRUD) 가• C(), R(), U(), D()
9	(Property)	<ul style="list-style-type: none">• / /
		<ul style="list-style-type: none">• 가/
		<ul style="list-style-type: none">• DB ()
10		<ul style="list-style-type: none">• 가• 가• /• ,

(4)

11		<ul style="list-style-type: none">가 (Read) (Join)→ 1)→ 2)→ 3) Summary Time-Series (Information Requirement)
12		<ul style="list-style-type: none">
13		<ul style="list-style-type: none">3
14		<ul style="list-style-type: none">-

- (1)

1	(Naming)	<ul style="list-style-type: none">• ()•••• (Abbreviation)•• 가• (Aliases) -• /
2	(Desc.)	<ul style="list-style-type: none">•••
3		<ul style="list-style-type: none">•

- (2)

4	(Property)	• , , , , , - •
5		• / -
6		• -
7		• (Basic), (Derived), (Designed) •
8		• 가 • / -
9		• /
10		• 가 가

- (3)

11		• (Default Value)
		• (Derivation Algorithm)
		• (Permitted Value)
		• (Permitted Range)
12		• 가 • 가
13		• • → 1) → 2) → 3) 가 가 → 4) 가

- (4)

14		•
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		• - / ,

- (5)

15		• / / (Anomaly)
16	1	•
17	2	• ,
18	3	• 가
19	4	• 가 가
20		• 가 • 가 •

- (1)

1	(Naming)	<ul style="list-style-type: none"> • () • / () • 가
2	(Desc.)	<ul style="list-style-type: none"> •
3		<ul style="list-style-type: none"> • (10%), (90%),
		<ul style="list-style-type: none"> •
		<ul style="list-style-type: none"> •
4		<ul style="list-style-type: none"> • - /

- (2)

5	가	<ul style="list-style-type: none"> 가 - / 가
6		<ul style="list-style-type: none"> / / /
7	(Property)	<ul style="list-style-type: none"> - / /
		<ul style="list-style-type: none"> -
		<ul style="list-style-type: none"> 가 Yes/No
8		<ul style="list-style-type: none"> (Logical Horizon)
9		<ul style="list-style-type: none"> -
10		<ul style="list-style-type: none"> 가 가 /
11		<ul style="list-style-type: none">

- (3)

12		•
		•
		•
13	()	• - 가 -
		• -
14	()	• - 가 -
		• -

- (4)

15	(RI)	<ul style="list-style-type: none"> • • - • -
16		<ul style="list-style-type: none"> • / • •
17	/	<ul style="list-style-type: none"> • A : 1000 • B : (3000) • A B : , - • : 6 • : 50%
		<ul style="list-style-type: none"> • B (3000) = A (1000) * (0.5) * (6)

- (5)

18		•
19		•
20	Depth	• Depth가 3
21		•

-

1		• 가 7
2		• 가 3
3		•
4		• 가 40 Byte
5		• 가
		• 가 M
		•
		• 가
		• 가 (Variable)

(1)

1	(Naming)	•
2	(Desc.)	•
3	(Partition)	• • •
4		•
5		• 가 • , , 가 • 가 가
6		•
7		• • (Mandatory)

(2)

8		<ul style="list-style-type: none">••••• 가
		• 가
9		<ul style="list-style-type: none">• Promotion• 1)• 2)• 3)• 4)
		<ul style="list-style-type: none">••• Promotion

- (3)



10		<ul style="list-style-type: none">••••• <p>=</p> <p>></p>