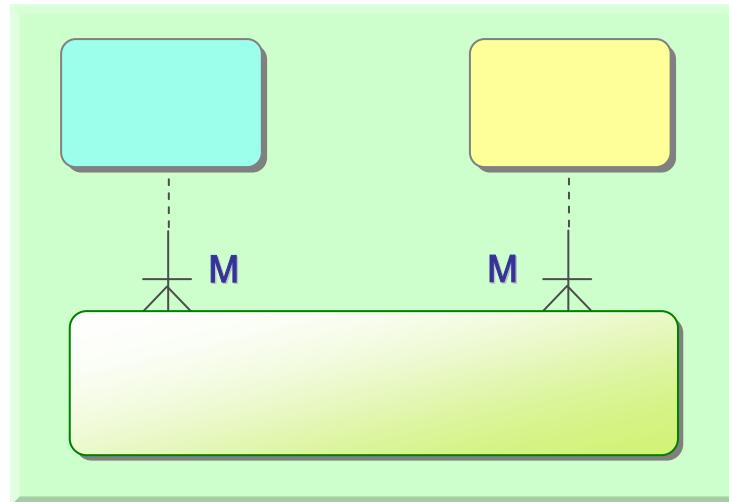
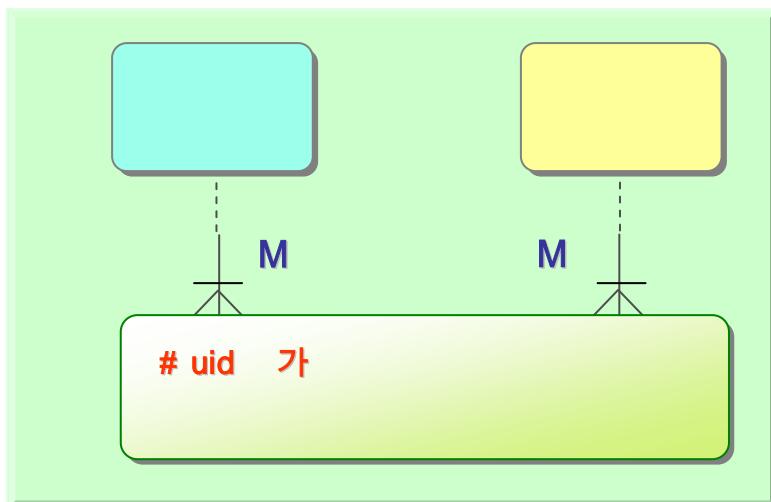
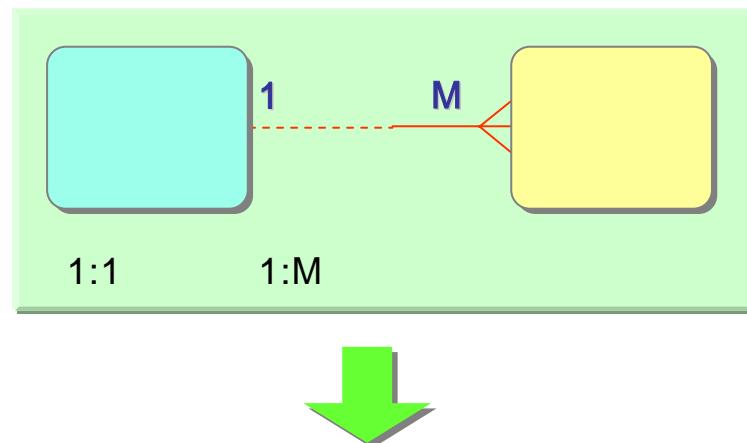
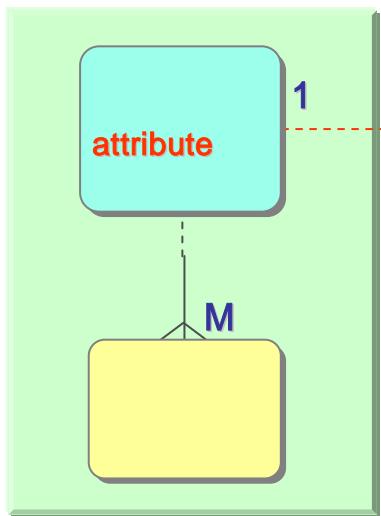
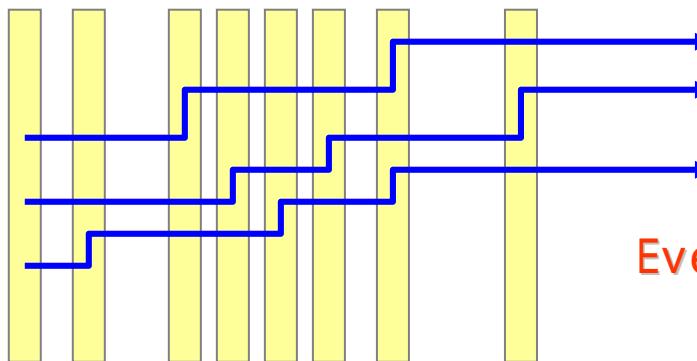


이력관리 시의 관계 변화



전통적인 이력관리 방법

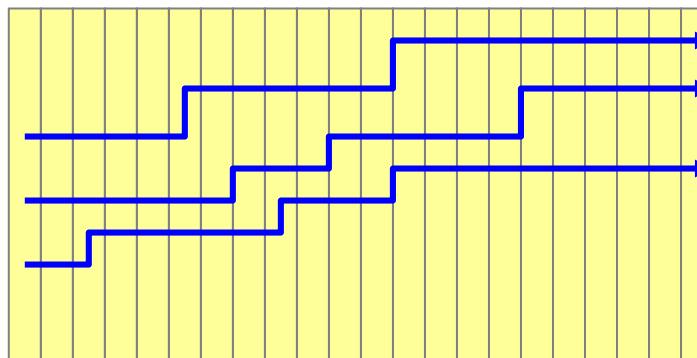
▶ EVENT



Event가

가?

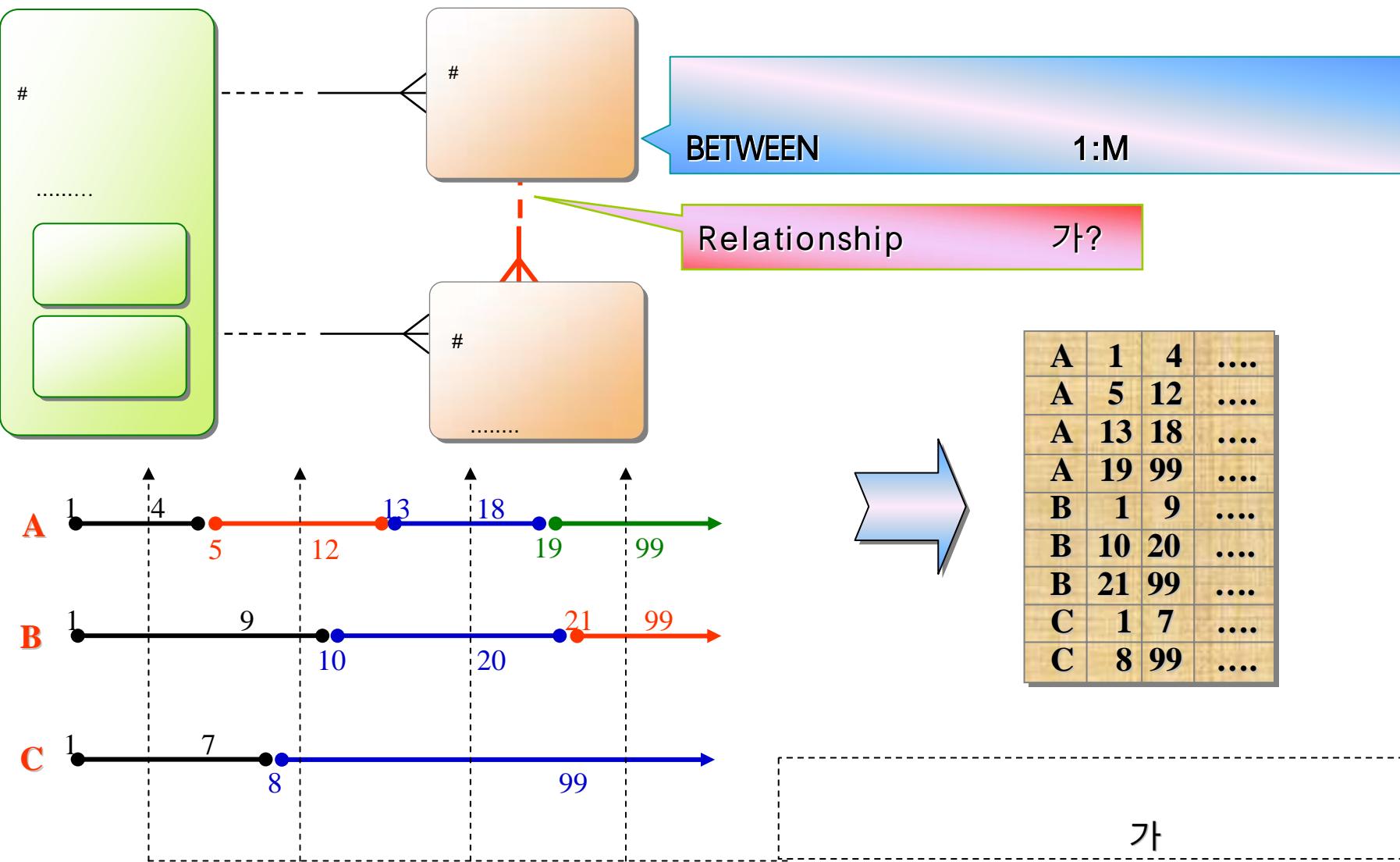
▶ DAILY



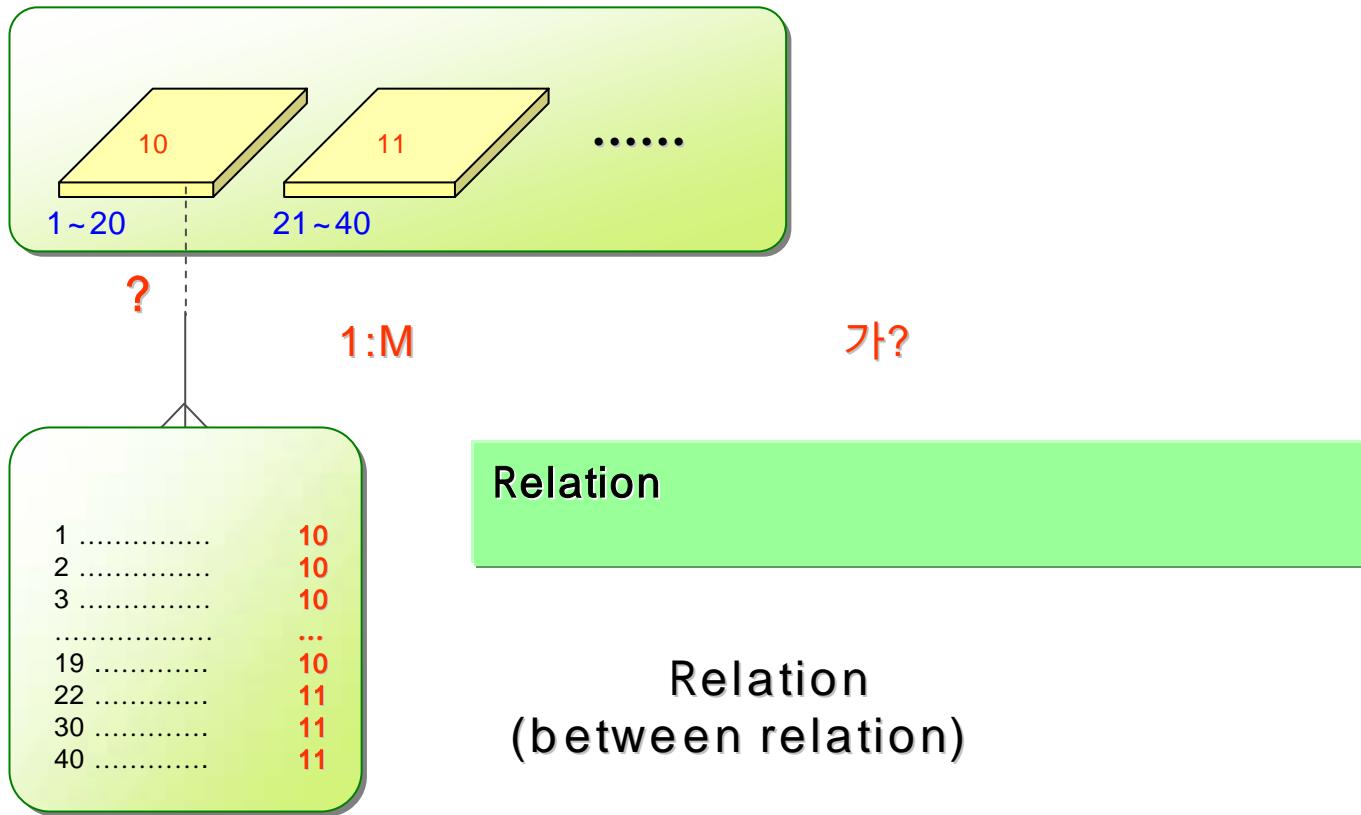
가

가

BETWEEN RELATIONSHIP



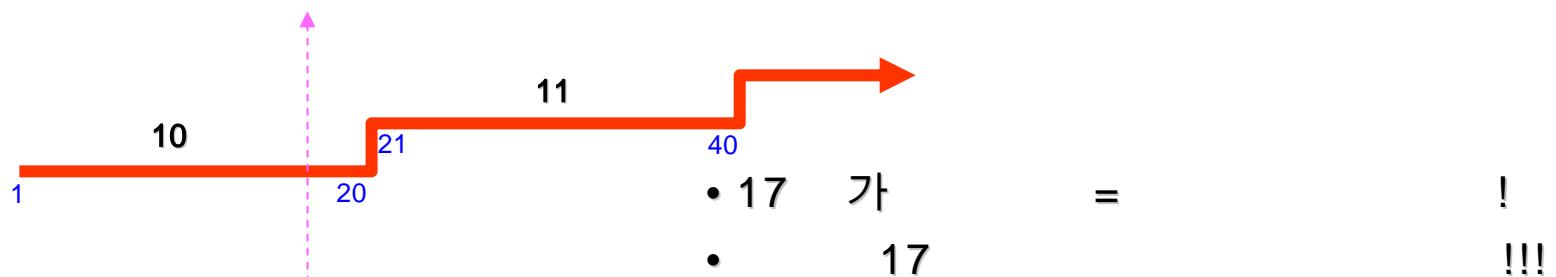
BETWEEN RELATION의 개념



1

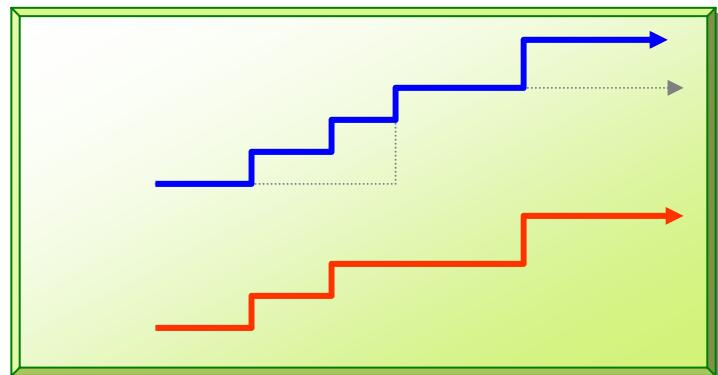
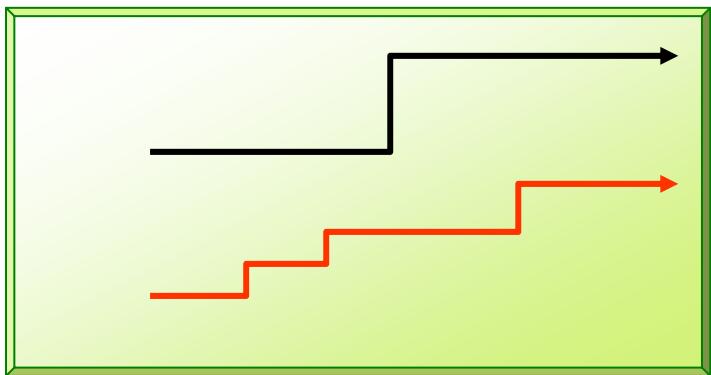
1

이력선분의 기하학적 고찰

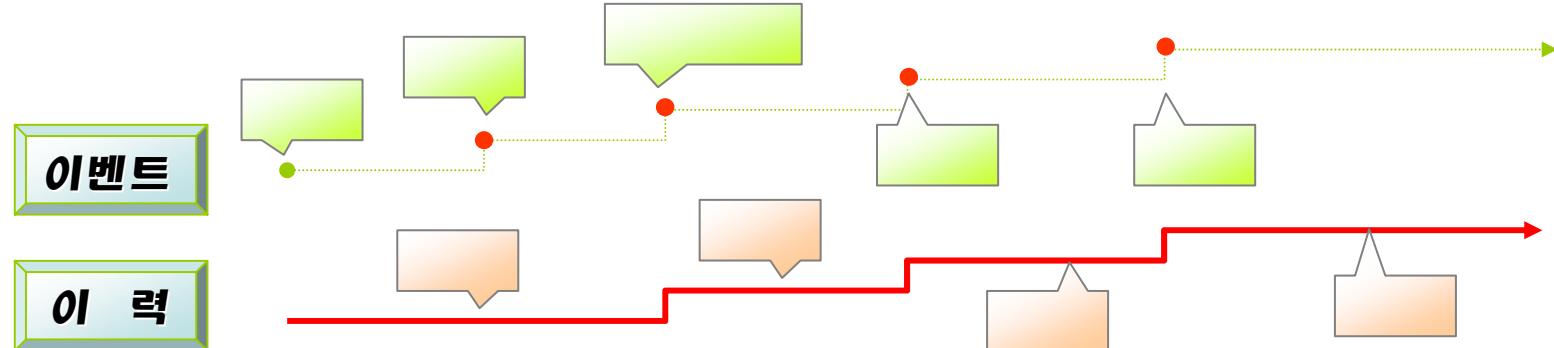
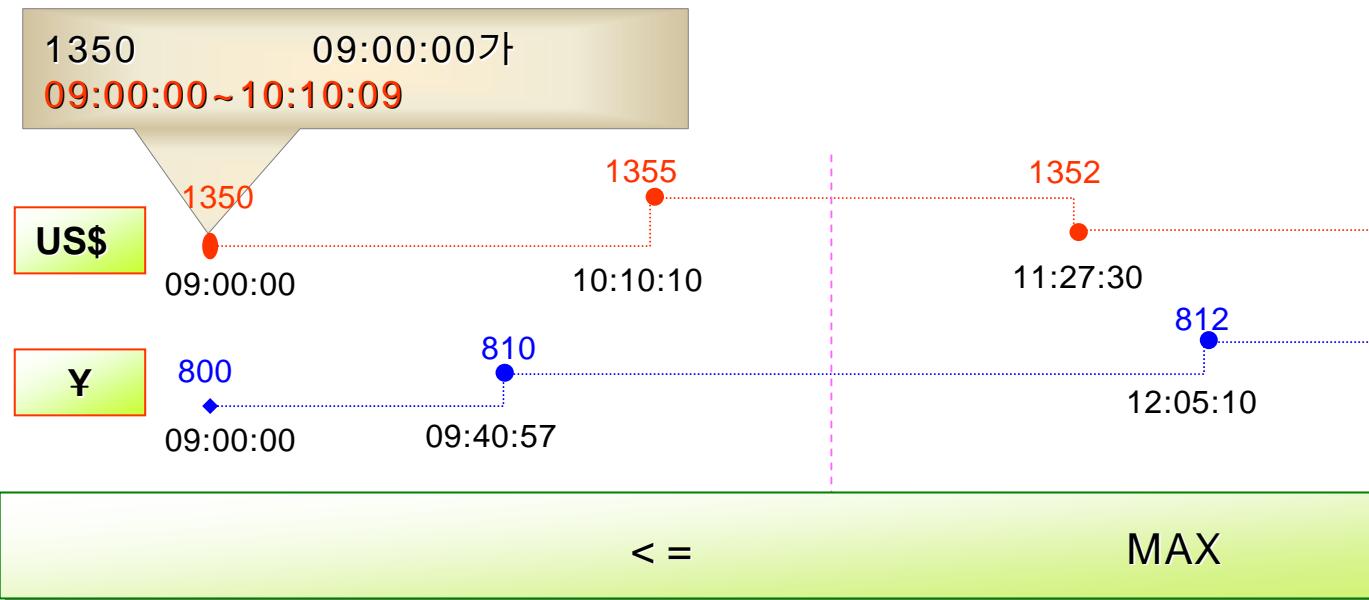


- : $\leq 17 \leq$
- : 17 Between and

▶ Package

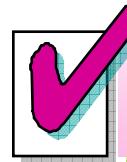


이력(선분)과 EVENT(점)의 차이



점 이력 모델

			...
7788	10	1999/02/04	...
7788	30	2000/07/21	NULL
7788	20	2002/05/15	...
8123	40	2000/03/23	
8123	30	2001/11/05	
8123	10	2002/09/17	
...	



,

: 2002 3 1)



1

SELECT ,
FROM
WHERE = (select MAX() from where < '2002/03/01');

Subquery

(1)

2

SELECT ,
FROM
WHERE ROWID = (select /*+ index_desc() */ ROWID RID
from where idx_ < '2002/03/01' and rownum <= 1);

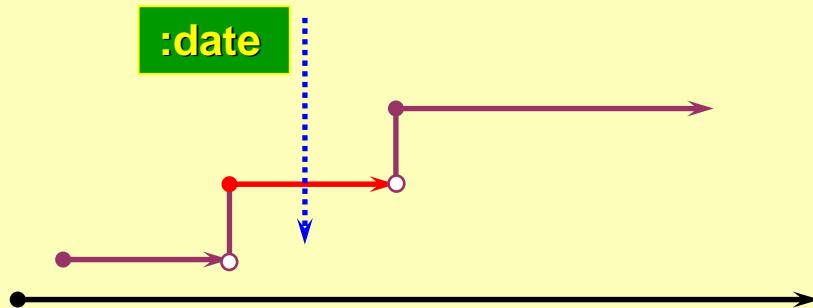
Subquery

(2)

선분이력(한편 넣기)

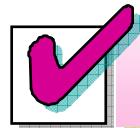
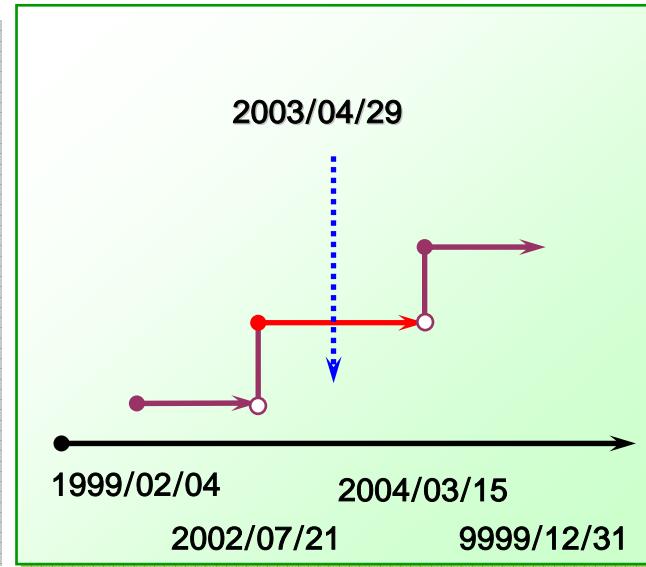
- ' (Day)' 가 ,
 가
- (time)

- where :date >= and :date <=
- where :date between and



선분이력(한편 넣기 예제)

				~~~
7788	10	1999/ 02/ 04	2002/ 07/ 20	~~~
7788	30	2002/ 07/ 21	2004/ 05/ 14	NULL
7788	20	2004/ 05/ 15	9999/ 12/ 31	~~~
8123	40	2000/ 03/ 23	2001/ 11/ 04	
8123	30	2001/ 11/ 05	2002/ 09/ 16	
8123	10	2002/ 09/ 17	9999/ 12/ 31	
~~~	~~~	~~~	~~~	



'7788'

, 2001 4 29

가?

```
SELECT ,  
FROM  
WHERE <= '2003/04/29'  
AND >= '2003/04/29'  
AND = '7788'
```

```
SELECT ,  
FROM  
WHERE '2003/04/29' BETWEEN  
AND  
= '7788'
```

선분이력(양편 넣기)

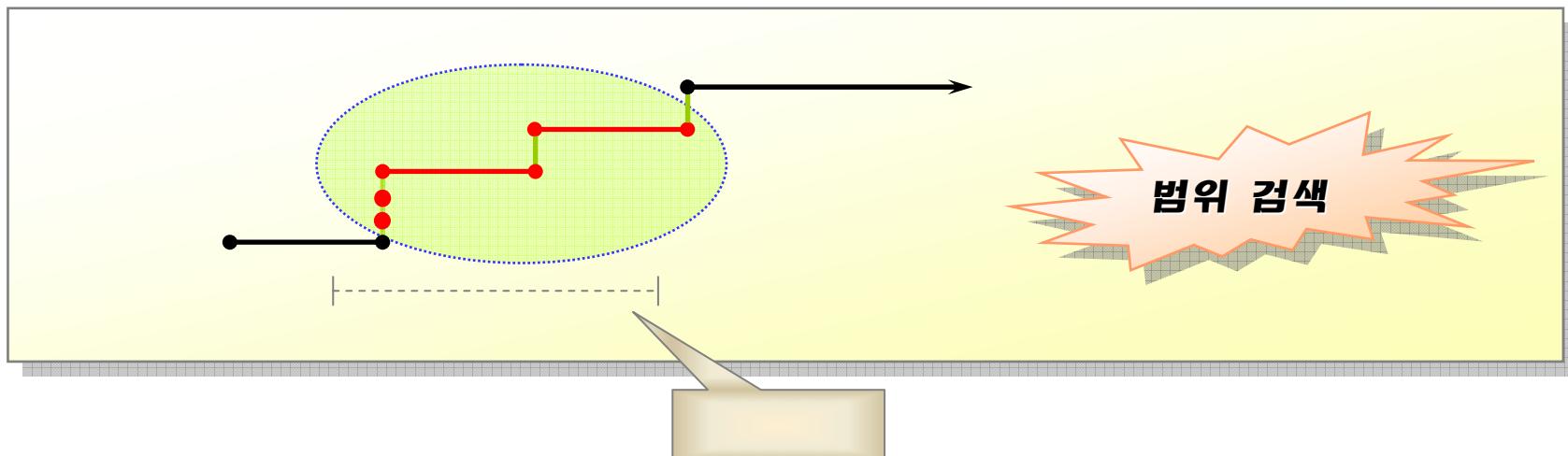


:

Query

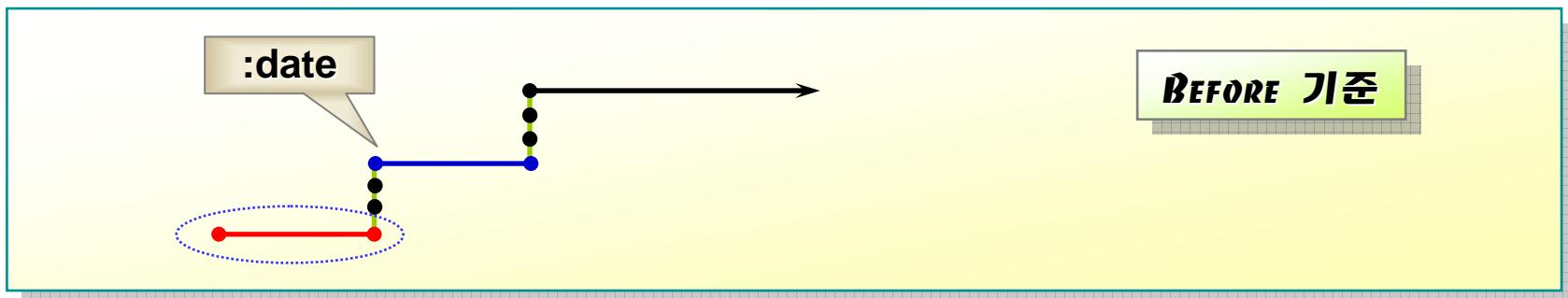
where

between : 1 and : 2

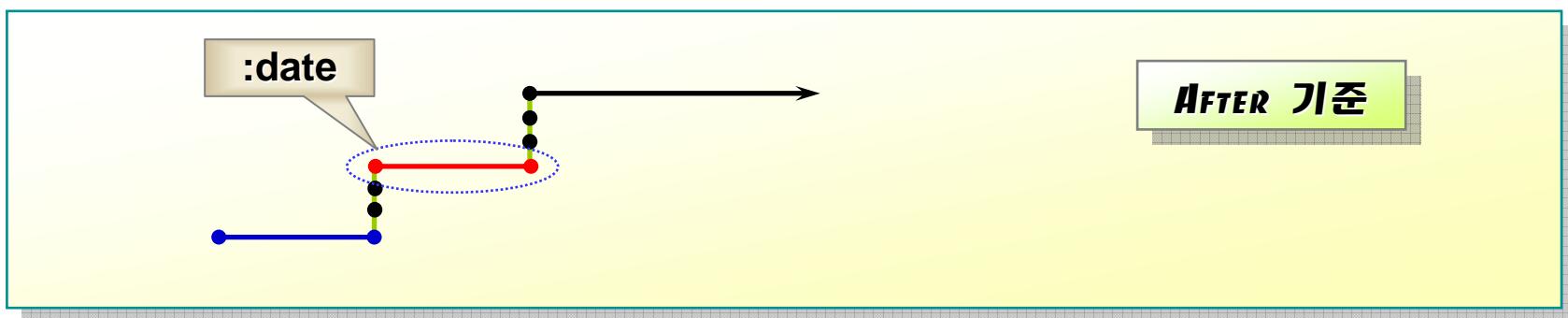


선분이력(양편 넣기)

- where :date \Rightarrow and :date \leq



- where :date \Rightarrow and :date \leq

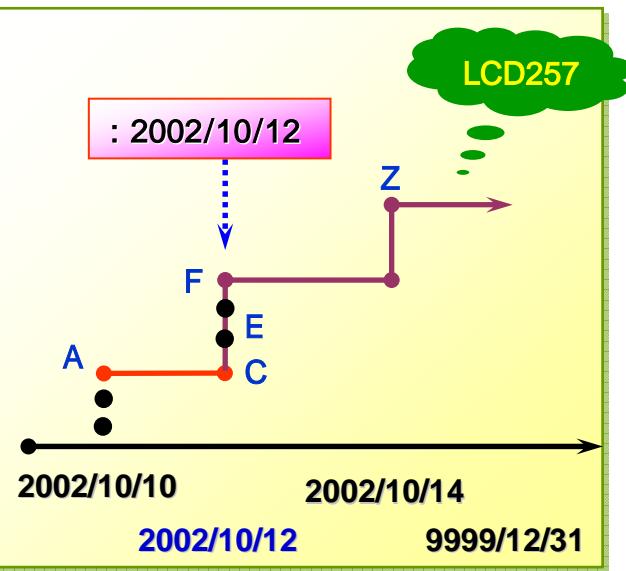


=

선분이력(양편 넣기 예제)

부품상태변경이력

CDR788	E	2002/10/12	9999/12/31	5
LCD257	A	2002/10/10	2002/10/12	1
LCD257	C	2002/10/12	2002/10/12	1
LCD257	E	2002/10/12	2002/10/12	2
LCD257	F	2002/10/12	2002/10/14	3
LCD257	Z	2002/10/14	9999/12/31	1
~~~	~~~	~~~	~~~	~~~



1.

'LCD257'

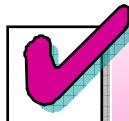
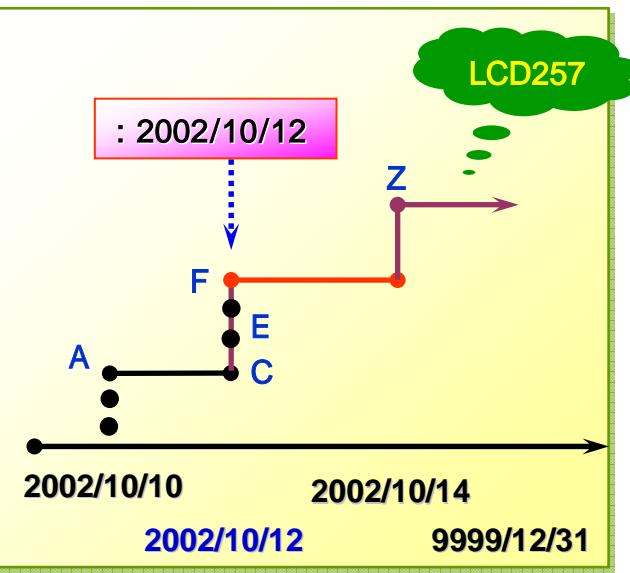
? (2002/10/12 )

SELECT , , , FROM  
WHERE < '2002/10/12'  
AND => '2002/10/12'  
AND = 'LCD257'

# 선분이력(양면 넣기 예제)

## 부품상태변경이력

CDR788	E	2002/10/12	9999/12/31	5
LCD257	A	2002/10/10	2002/10/12	1
LCD257	C	2002/10/12	2002/10/12	1
LCD257	E	2002/10/12	2002/10/12	2
LCD257	F	2002/10/12	2002/10/14	3
LCD257	Z	2002/10/14	9999/12/31	1
~~~	~~~	~~~	~~~	~~~



1.

'LCD257'

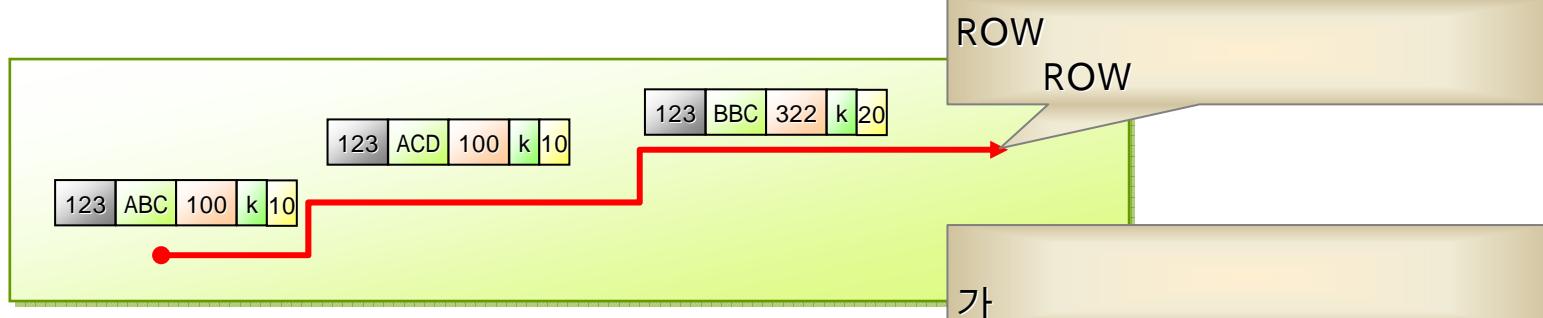
? (2002/10/12)

SELECT , , FROM
WHERE =< '2002/10/12'
AND > '2002/10/12'
AND = 'LCD257'

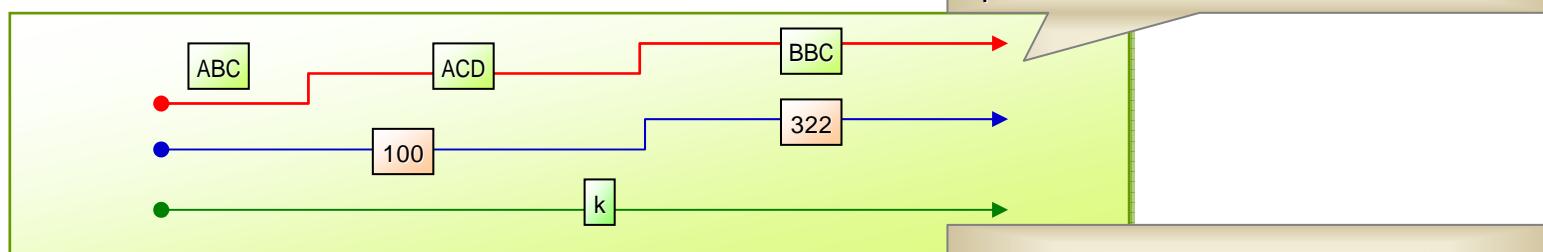
이력관리 유형

- **ROW-LEVEL HISTORY MANAGEMENT**
- **COLUMN-LEVEL HISTORY MANAGEMENT**
- **SUBJECT-LEVEL HISTORY MANAGEMENT**

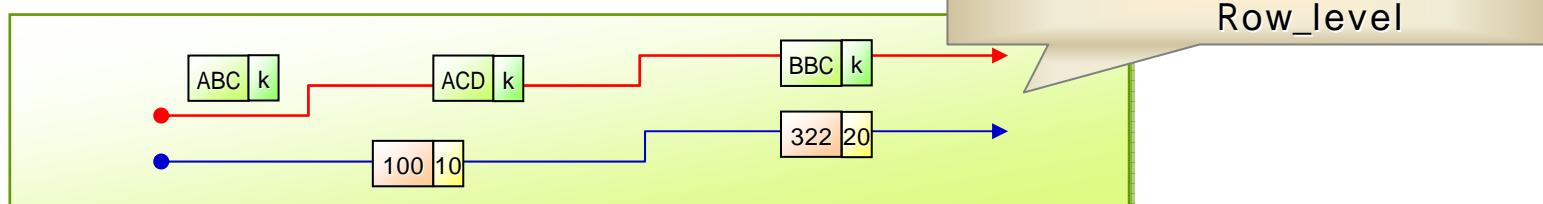
ROW
LEVEL



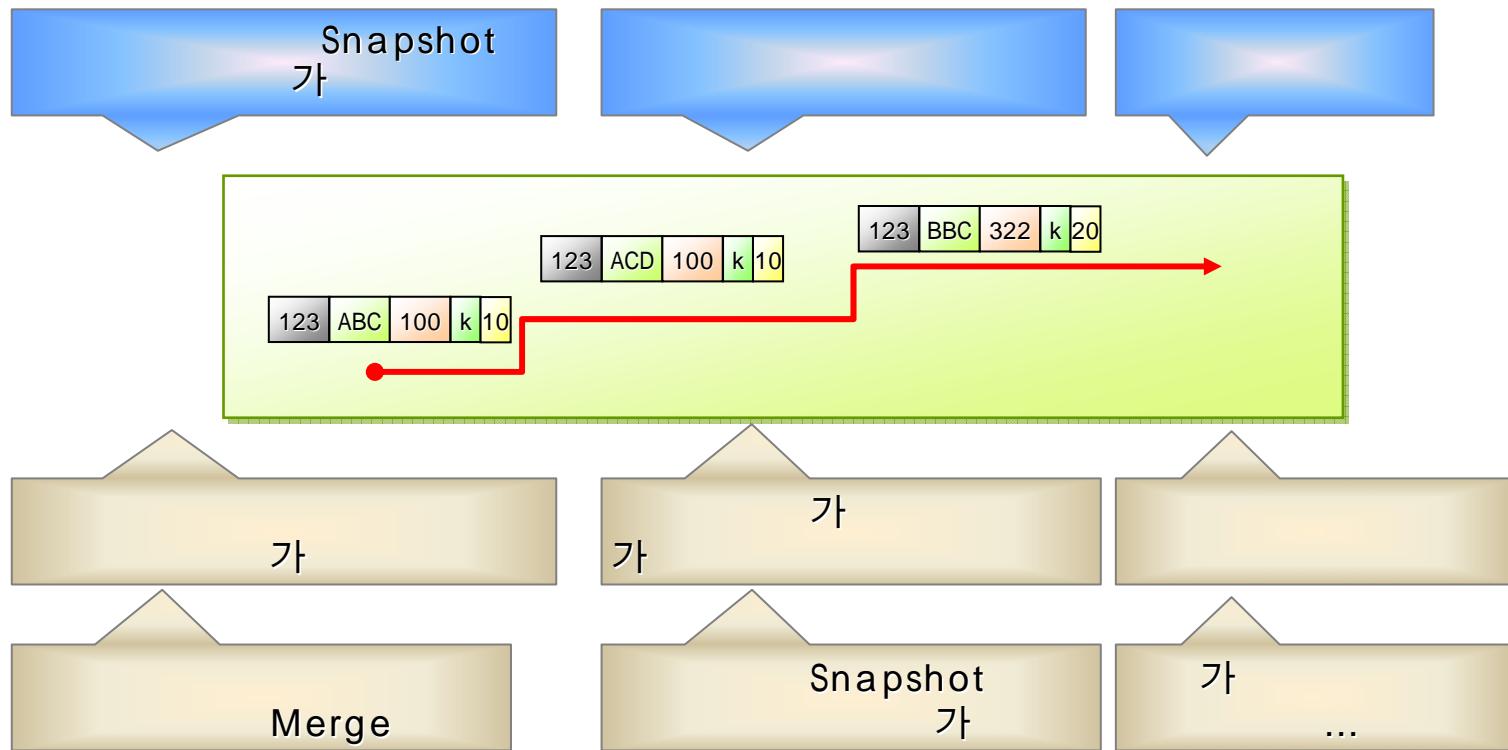
COLUMN-LEVEL



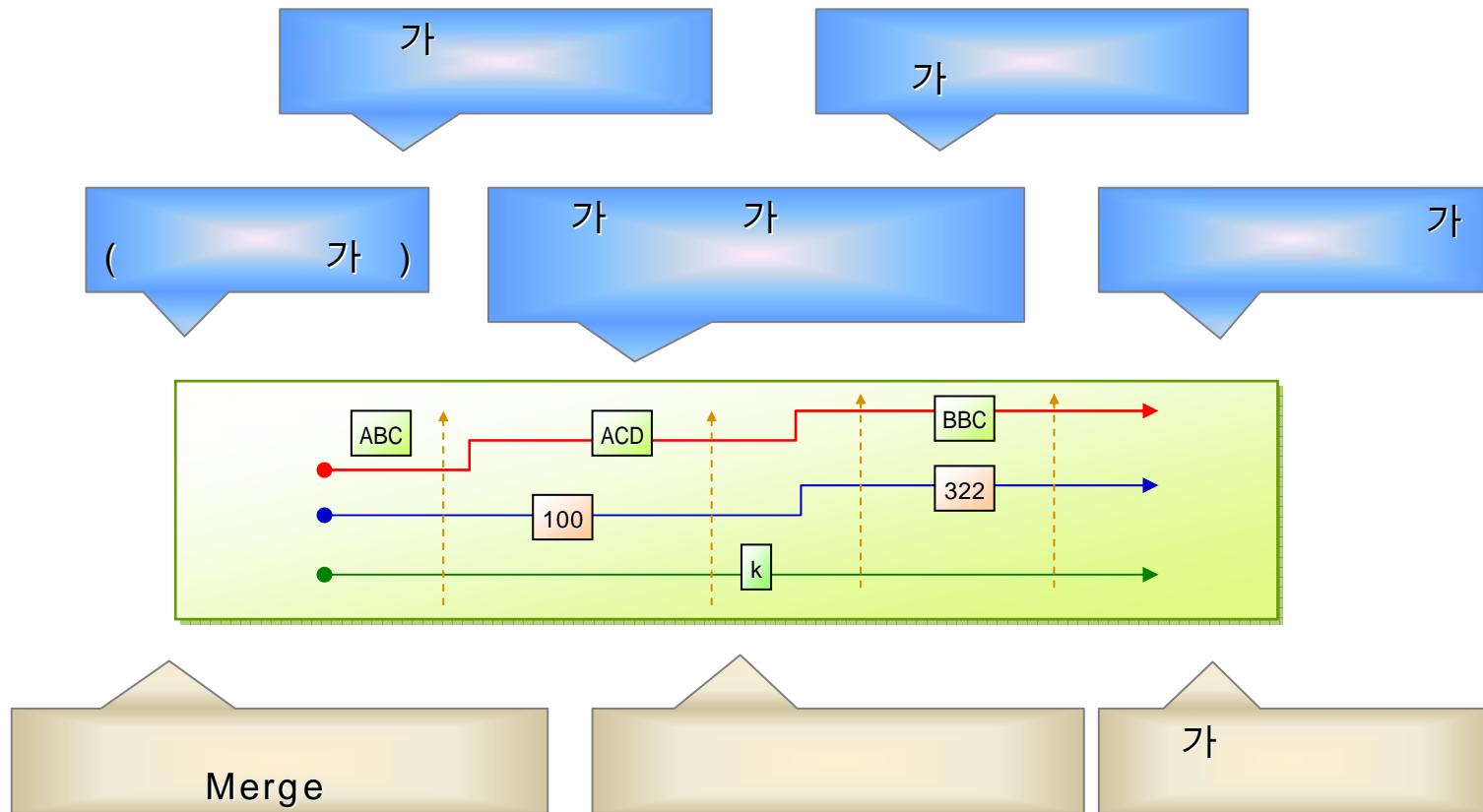
SUBJECT-LEVEL



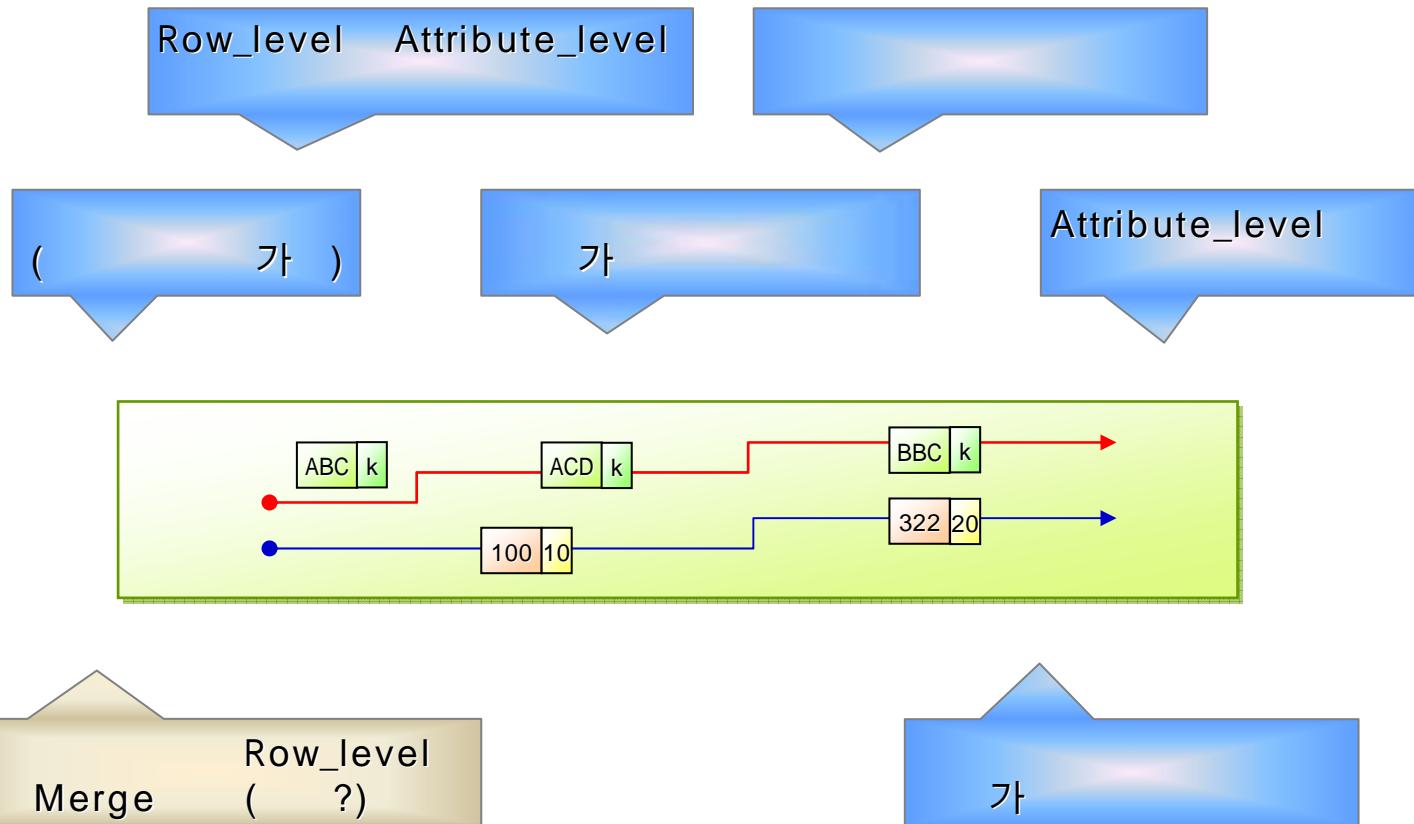
ROW-LEVEL HISTORY



COLUMN-LEVEL HISTORY



SUBJECT_LEVEL HISTORY



물리 설계 고려사항 - 결합인덱스

Column_name BETWEEN :

AND :

:Value BETWEEN

AND

:value가 520

:value가 10

$\leq :value$ AND
 $\geq :value$

1	4
5	12
13	18
19	99
100	110
111	120
121	199
200	207
208	289
290	320
321	400
401	500
501	600
601	700
701	9999

4	1
12	5
18	13
99	19
110	100
120	111
199	121
207	200
289	208
320	290
400	321
500	401
600	501
700	601
9999	701

◆ rounum = 1 가
◆ Default
(; '99991231')

+

+

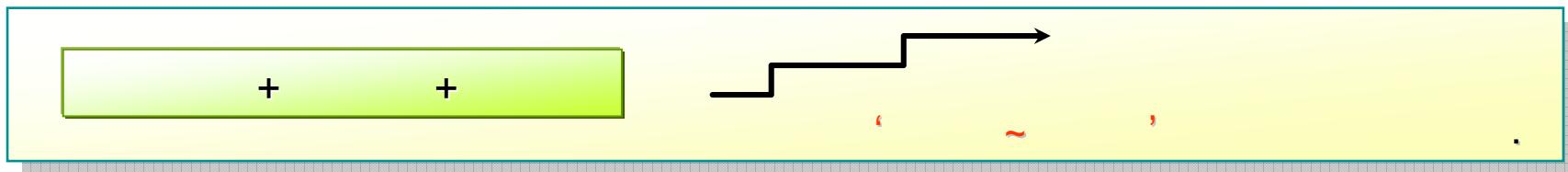
◆ rounum = 1 가

◆ Default

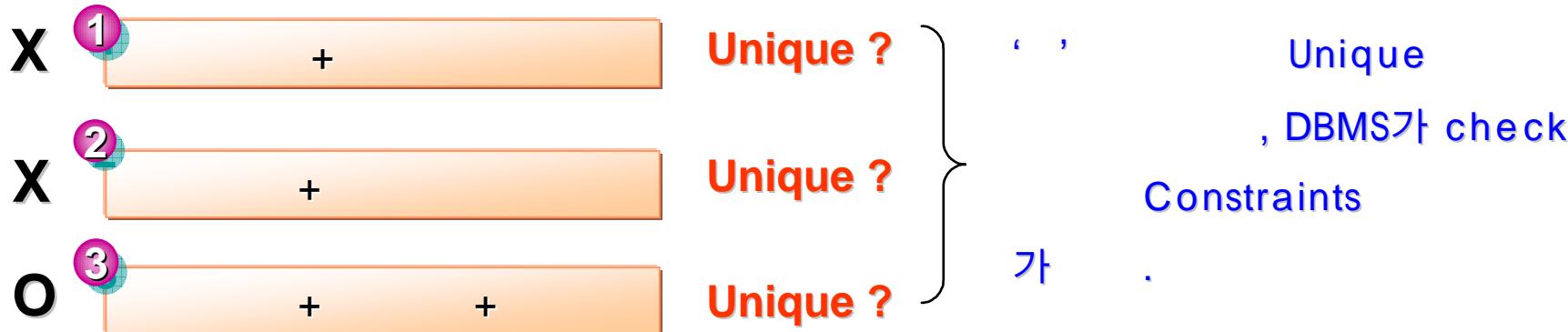
물리 설계 고려사항 - PRIMARY KEY



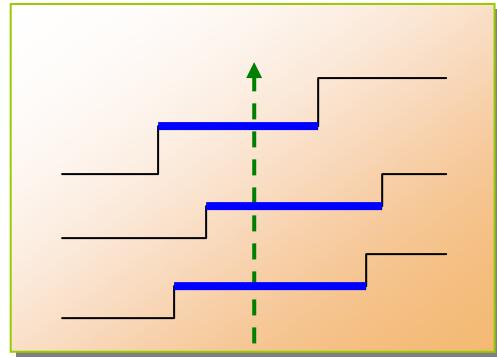
가?



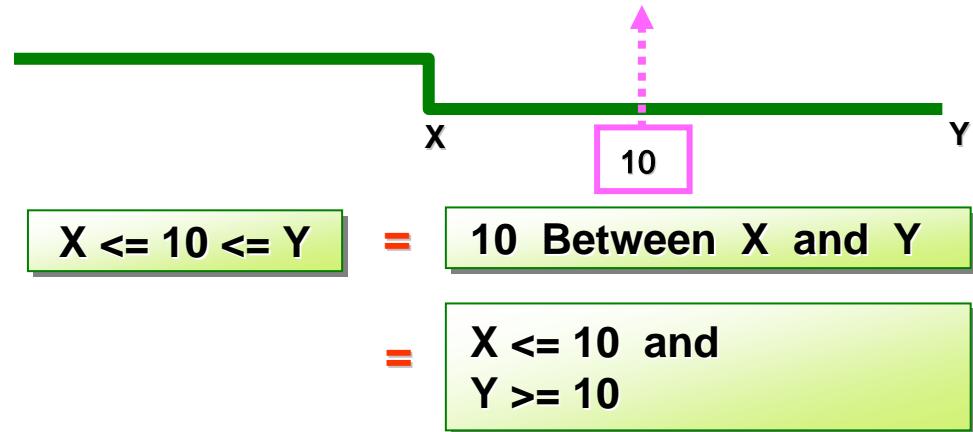
다양한 형태 존재



물리 설계 고려사항 - 종료점 처리



가



위 두 문장은 동일하다. (속도도 동일)



NULL



가 가



(; 9999/12/31)

가 TABLE creation Default constraints

