

7.

7.1

- (relation)
- - (domain)
 - ◆ 가 (value)
 - (attribute)
 - ◆
 - ◆
- - (simple domain)
 - ◆ :
 - (composite domain)
 - ◆ :
 - ◆ , , :< , , >

Note

7.2

(student)

(SNO)	(SNAME)	(YEAR)	(DEPT)
100		4	
200		3	
300		1	
400		4	
500		2	

(STUDENT)

```

DCL DOMAIN DSNO INTEGER;
DCL DOMAIN NAME CHAR(10);
DCL DOMAIN DYEAR INTEGER;
DCL DOMAIN DEPT CHAR(6);
DCL RELATION STUDENT
    (SNO DOMAIN DSNO,
     SNAME DOMAIN NAME,
     YEAR DOMAIN DYEAR,
     DEPT DOMAIN DEPT);

DCL RELATION STUDENT
    (SNO INTEGER,
     SNAME CHAR(10),
     YEAR INTEGER,
     DEPT CHAR(6));
  
```

가 STUDENT

(STUDENT)

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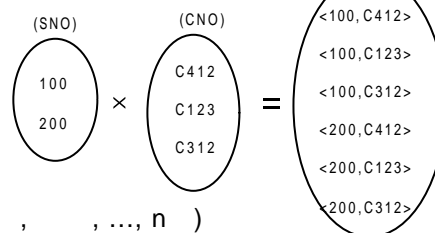


(Relation)

.

$R :$
 $R \quad D_1 \times D_2 \times \dots \times D_n,$
 $n\text{-tuple } \langle v_1, v_2, \dots, v_n \rangle$
 $v_i \quad D_i, \quad i = 1, 2, \dots, n$

$D_i : i$



$n : R$ (degree : , , , ..., n)
 : (cardinality)

.

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(Relation scheme)

□ (Intension)

-
- $R(A_1, A_2, \dots, A_n), A_i D_i$

- :
-

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(Relation instance)

□ (Extension)

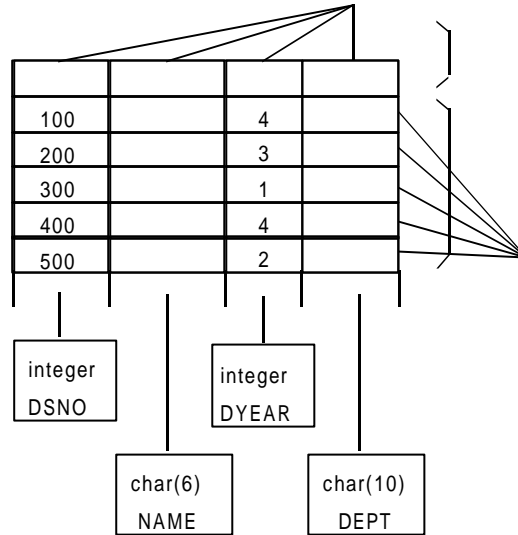
-
- R
- $\langle v_1, v_2, \dots, v_n \rangle, v_i D_i$
-
- $\{(attr_1=v_1, attr_2=v_2, \dots, attr_n=v_n)\}$

-
- (\quad , \quad , \quad)
- (\quad)

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:



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7.3

• = " "

• " "

• :

• : " "

• : <attr.value>

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· (atomic value)

– (atomic value): 가

– (normalized relation)

◆

◆

–

◆ null value ; unknown, inapplicable

–

– :

7.4

□

– ()

□

=

□

()

Notes

– 가

Example: (University)

(STUDENT)

(SNO)	(SNANE)	(YEAR)	(DEPT)
100		4	
200		3	
300		1	
400		4	
500		2	

학생테이블에서 학번은 기본키
과목테이블에서 과목번호는 기본키

(COURSE)

(CNO)	(CNANE)	(CREDIT)	(DEPT)	(PRNAME)
C123		3		
C312		3		
C324		3		
C413		3		
C412		3		

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(ENROL)

(SNO)	(CNO)	(GRADE)	(MIDTERM)	(FINAL)
100	C413	A	90	95
100	E412	A	95	95
200	C123	B	85	80
300	C312	A	90	95
300	C324	C	75	75
300	C413	A	95	90
400	C312	A	90	95
400	C324	A	95	90
400	C413	B	80	85
400	E412	C	65	75
500	C312	B	85	80

여기서 기본키는 학번+과목번호

그러나 등록테이블에서
학번과 과목번호는 기본키가 아님
각각 자체는 외래키 foreign키

학생이 백만명이 있는데
한학생당 5과목을 신청했으면
500만개의 튜플이 나와야함
시간이 너무 많이 걸림

학번만 떼어내서
메인메모리로 옮김(속도 빠름)
(위에는 디스크임)
index를 사용하는 방법임

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