

Natural join

Student			Subject	
sid	name	std	class	sub
101	Allen	10	10	M
101	Allen	10	10	E
102	Maria	11	11	Music
102	Maria	11	11	Sport

Student $\bowtie$ Subject

student.std =

subject.class

Sid	Name	Sub	class	Std
101	Allen	M	10	10
101	Allen	E	10	10
102	Maria	Music	11	11
102	Maria	Sport	11	11

Ex

T_1

P	R
✓ 10	5
15	8
✓ 25	6

T_2

A	C
✓ 10	6
✓ 25	3
✓ 10	5

Ⓐ $T_1 \bowtie T_2$

$$T_1 \cdot P = T_2 \cdot A$$

P	R	A	C
10	5	10	5
10	5	10	6
25	6	25	3

3 tuple

Ⓑ $T_1 \text{ } \bowtie \text{ } T_2$

$$T_1 \cdot P = T_2 \cdot A$$

P	R	A	C
10	5	10	5 ✓
15	8	7	7
25	6	25	3
10	5	10	6 ✓

4 tuple

(c)

$$T_1 \not\bowtie T_2$$

$$T_1.P = T_2.A$$

P	R	A	C
10	5	10	6
25	6	25	3
10	5	10	5

3 Tuple

(d)

$$T_1 \underline{\bowtie} T_2$$

$$T_1.P = T_2.A$$

P	R	A	C
10	5	10	5
15	8	7	7
25	6	25	3
10	5	10	6

4 tuple