



Ex 2:

- 1) $\{R_3 \cup \{S_3\} = A$
- 2) $\{T_3 \cup \{R_3\} = \text{trivial}$
- 3) $\{R_3 \cup \{T_3\} = \text{trivial (the same value)}$
- 4) $\{R_3 \cup \{U_3\} = \text{(incompatible, } R(A,B), U(A,C))$
- 5) $\{R_3 \cup \{R_3\} = R$
- 6) $\{U_3 - \{T_3\} = \text{incompatible}$
- 7) $\{R_3 - \{S_3\} = R$
- 8) $\{S_3 - \{A_3\} = \emptyset$
- 9) $\{R_3 - \{T_3\} = A \setminus (u, a)$
- 10) $\{T_3 - \{R_3\} = T \setminus (u, t)$
- 11) $\{R_3 - \{R_3\} = \emptyset$
- 12) $\Pi_{A,B} \{R_3\} = \text{all pairs}$
- 13) $\Pi_A \{R_3\} = \{1, 2, 6, 4\}$
- 14) $\Pi_B \{R_3\} = \{2, 2, 7, 7\}$

→ ON A
 KOMMUNAL
 mais $\{2, 7\}$
 sans distinction avec

Pract example

R_1	A	B
	1	2
	2	3

R_2	A	B
	1	4
	2	3

R_3	A	C
	1	6
	4	3

R_4	C	D
	5	6
	8	9

$R_1 \bowtie R_2 = \{R_1\} \cap \{R_2\}$

$R_1 \bowtie R_2$

A	B
2	3

$R_1 \bowtie R_3 = R_1 \bowtie R_3$

A	B	C
1	2	6

$R_1 \bowtie R_4 = R_1 \bowtie R_4$

A	B	C	D
1	2	5	6
1	2	8	9
2	3	5	6
2	3	8	9

15) pas possible

16) $\Pi_A \{T\} = \{2, u, u\}$

$$17) \Pi_C [U] = \{2\}$$

$$18) G_{A \geq 2} [R] = [R] \setminus \{(1, 2)\}$$

$$19) G_{A < 1} [R] = \emptyset$$

$$20) G_{A=0} [R] = \{(2, 2)\}$$

$$21) G_{A \leq 1 \wedge B \leq 1} [R] = \emptyset$$

$$22) G_{A \leq 1 \vee B \leq 1} [R] = \{(1, 2)\}$$

23) incompatible

$$24) G_{A \neq B} [T] = \{(2, 3), (4, 7)\}$$

$$25) R \bowtie U = \{(1, 4, 2), (2, 7, 2)\}$$

$$26) [R] \bowtie [S] = \emptyset$$

$$27) U \bowtie U = [U]$$

$$28) [R] \bowtie [T] = \{(4, 7)\}$$

$$29) \rho_{A \rightarrow C, B \rightarrow D} [R] = \text{on va sélectionner A dans C et B dans D}$$

$$30) \rho_{B \rightarrow C} [R] = \{(1, 2), \dots\}$$

$$31) [\rho_{B \rightarrow C} [R]] - [U] = \{(6, 4), (4, 7)\}$$

$$32) [U] - [\rho_{B \rightarrow C} [R]] = \emptyset$$

$$33) [R] \bowtie [\rho_{A \rightarrow B, C \rightarrow A} [U]] = \\ = [R] \bowtie \{(2, 1), (2, 2)\} = \{(2, 2)\}$$

$$P \rightarrow A, A \rightarrow B \quad [U] = \left(\begin{array}{c} B \\ \{2, 3\} \end{array} \right)$$

$$34) [R] \times [P_{B \rightarrow C} [T]] = \left\{ \begin{array}{c} A \quad C \\ (2, 3), (4, 4), (4, 4) \\ (2, 2, 3), (4, 4, 4), (4, 4, 4) \end{array} \right\}$$

$$35) [R] \times [P_{A \rightarrow D} [U]] =$$

$$= \left\{ \begin{array}{c} A \quad B \quad D \quad C \\ (1, 2, 1, 2), (1, 2, 2, 2), (2, 2, 1, 2) \dots \dots \end{array} \right\}$$

all combinations