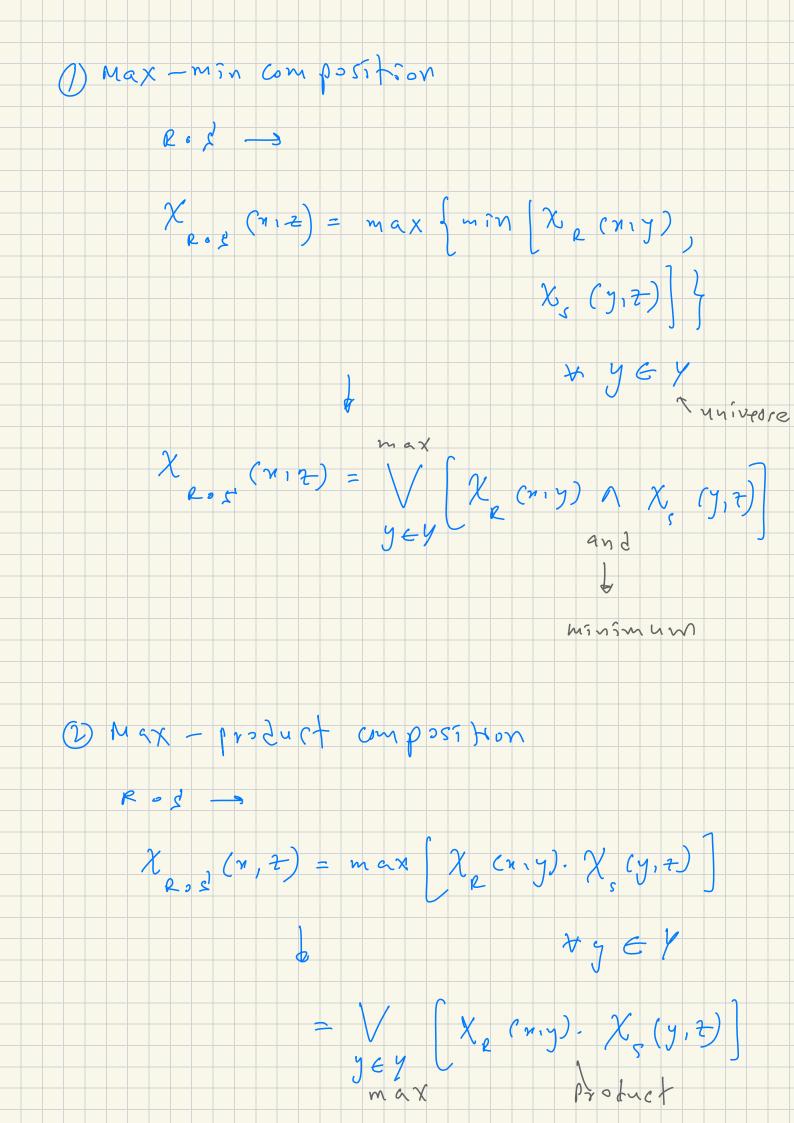


intersection for RNS interrection of relations χ $(x,y) = min \left(\chi (x,y), \chi (x,y)\right)$ EX two relations & (n.y) & s'(n.y) two relations de tired over crisp sets X & Y such mat n & X & y & Y $R = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ RNS = [] 0 te muninimi nt each elim (0 (3) (113) No2 (0) 0)

comple ment for R complement of a relation $\widehat{\mathbb{R}} = \chi_{\widehat{\mathbb{R}}}(x,y) = 1 - \chi_{\widehat{\mathbb{R}}}(x,y)$ E7_ two relations & (n,y) & & (n,y) two relations de tired over crisp sets X & Y such mat n & X & y & Y

Contamination/inclusion for Rinclusion of relation $R \subset S = \chi C (x, y) \leq \chi C (x, y)$ $M = \begin{bmatrix} 0 & 0 \\ 1 & 0 \end{bmatrix}$ $N = \begin{bmatrix} 1 & 0 \\ 1 & 0 \end{bmatrix}$ $\chi_{M} (x_{1}, y_{1}) (x_{N}, y_{1}) (x_{N}, y_{1}) (x_{N}, y_{1})$ $\chi_{M}(x_1,y_2) = \chi_{N}(x_1,y_2)$ χ $(n_2, y_1) = \chi$ (n_2, y_1) $\chi_{M}(n_2,y_2) = \chi_{N}(n_2,y_2) \leftarrow$ all satisfy χ (n, y) $\leq \chi$ (n, y)

Propot crispollations cum u Intire I dem poten cy Associative De Morgans Distibutive law of excluded moddle com possition Relation R map elem from ynivers x to y R; X -PY belation d'map elle from universe y to z 3; 4 - 7 ten R composition & R . 2 : X - 2 Composition - Max - Min max - product



```
relation &
      Y x t = { (2,3), (1,4), (3,2), (3,4) }
         y < 2
                            3 < 4 1
         2 < 4
        S = \{(2, 3), (2, 4), (3, 4)\}
(1,3)
  X (1,3) = max { min (1,1), min (0,0)}
            = max { 1,0} = 1
(1 4)
 X (1,4) = max { min (1,1), min (0,1)}
           = max (1,0)
```