

Aufgabe 1.5

Alg: $\pi\dots$, $\sigma\dots$, $\rho\dots$
 $(\dots) \bowtie \dots$, \cup, \cap, \setminus

FOL: $\max(\dots)$, $P(\dots)$, $X = \max(\dots)$
 $F \wedge G, F \vee G, \neg F, \forall x F(x), \exists x F(x)$

\Rightarrow klassische "relationale Vollständigkeit"

SQL:

```

... From ...
... where ...
(select
(F))
(select
(F)
group by)

```

π
 σ
 ρ
 of DB-Obj

$\pi(\sigma[\dots](\text{expr}))$

- group-by-info
- aggr \rightarrow fnc (fnc name)

\Rightarrow

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\Rightarrow group by in Logik

$$X = \max \left(\begin{matrix} \vdots \\ \vdots \\ \vdots \end{matrix} \right)$$

Antworten auf $F(X)$

$$F(N, SP) = \exists C, P, A, G, CP: G(Y_1, \dots, Y_n) \wedge Z = \max_X \underline{F(X, Y_1, \dots, Y_n)}$$

$$\text{only } (N, C, P, A, G, CP) \wedge SP = \max(P[C])$$

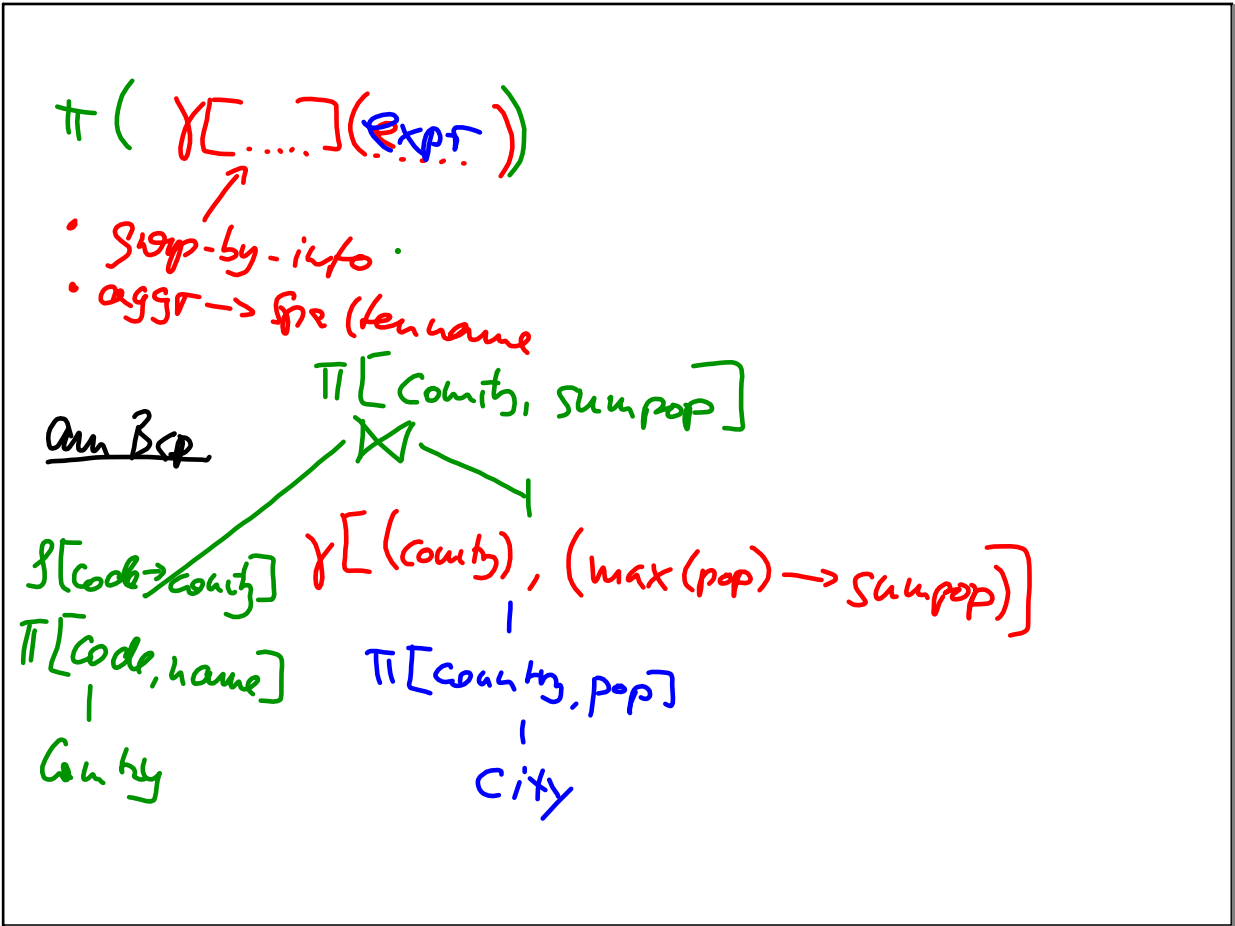
Antworten

N/"Germany", SP = 14000000 ~

N/"France", SP = 12000000 ~

$$\exists N, B, L_1, L_2: \text{city}(N, P, C, P, L_1, L_2)$$

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F480:

DL: Parent \equiv Person. \exists hasChild. Thing

FOL: $\text{parent}(x) \leftrightarrow \text{Person}(x) \wedge \exists y: \text{hasChild}(x,y) [\wedge \text{Thing}(y)]$

" \leftarrow " SQL view

" \rightarrow " entsprechende Prädikate ~~KB~~ KB ✓

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