

SE443et c.
 cf. relational Algebra

SQL select * from A where not exists (select ... B)
 Left-anti join
 'sideways information passing'

SE 424:

$L \cap (A \cap B - R)$
 $L \cap R$
 $\cong \cap \cap A \cap B$

SE451

$F = F_1 \wedge F_2 \wedge \dots \wedge F_n \wedge (G_1 \vee G_2)$

$z \in \text{free}(F)$
 $z \in \text{tr}(F)$

makes $z \in \text{tr}(F_i)$
 some G_i wlog. G_2 :
 $\text{free}(G_2) \not\subseteq \text{tr}(G_2)$
 $z \in \text{free}(G_2)$
 $z \notin \text{tr}(G_2)$

$z \in \text{free}(F_1 \wedge G_2)$
 $z \in \text{tr}(F_2 \wedge G_2)$

Ex 8.10(2).

$F(x,y) \equiv$

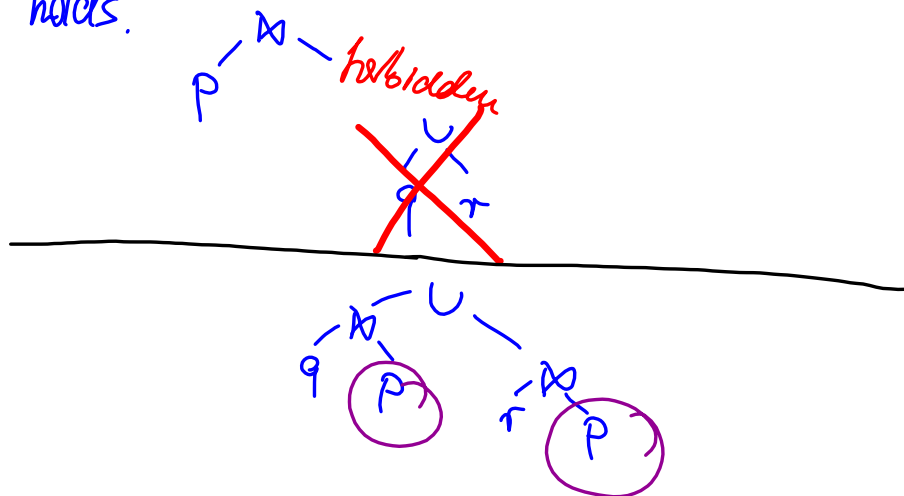
$$p(x,y) \wedge (q(y) \vee r(x))$$

$\pi = \{x,y\}$ $\pi = \{y\}$ $\pi = \{x\}$
 $\pi = \emptyset \neq \text{free}$
 $\pi = \{x,y\} \Rightarrow \text{BRUE} \checkmark$

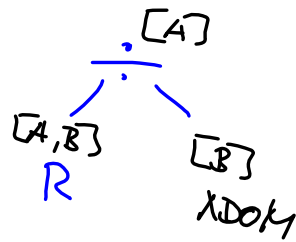
$$\frac{(p(x,y) \wedge q(y)) \vee (p(x,y) \wedge r(x))}{\text{free} = \{x,y\} = \pi}$$

Considers DB lecture:

give an algebra expression that returns all pairs (A,B) st. p(A,B) and q(B) or r(A) holds.



Sl 458: relational division



Sl 461:

Herbrand-Style interpretation

FOL:

$$\mathcal{I} = (I, \mathcal{D})$$

DB

$\hat{=}$ Herbrand:

$$\mathcal{I} =$$

\Downarrow symbolic reasoning

DB, Tableau calculi

contents of the tables

$\hat{=}$ Interpretation of pred symbols P_i
by k -ary tables over $ADOM$