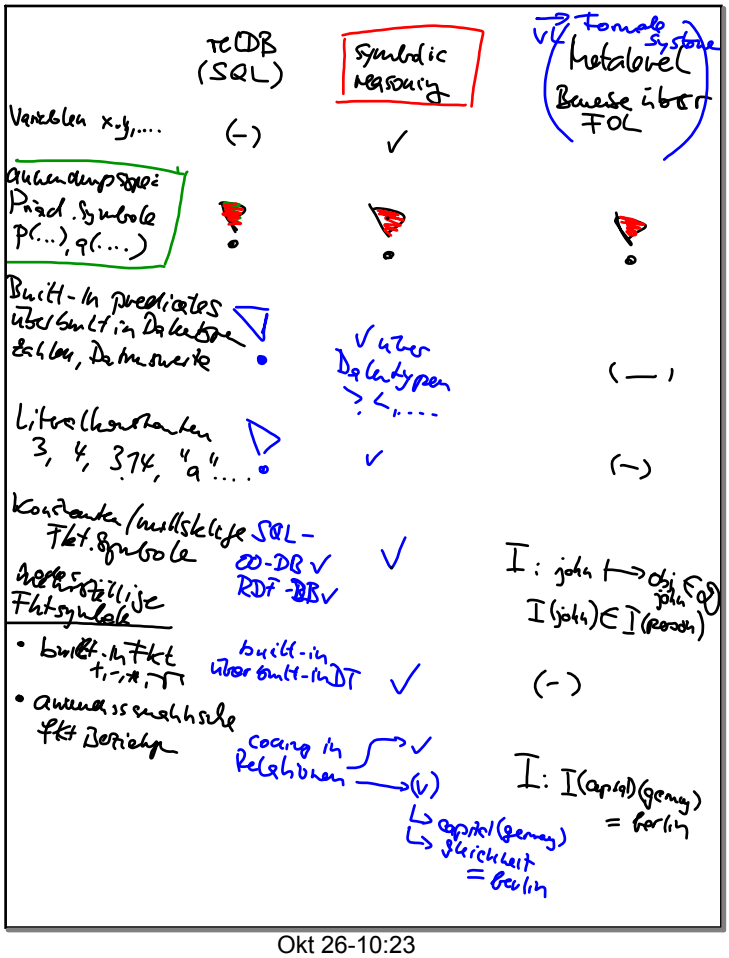
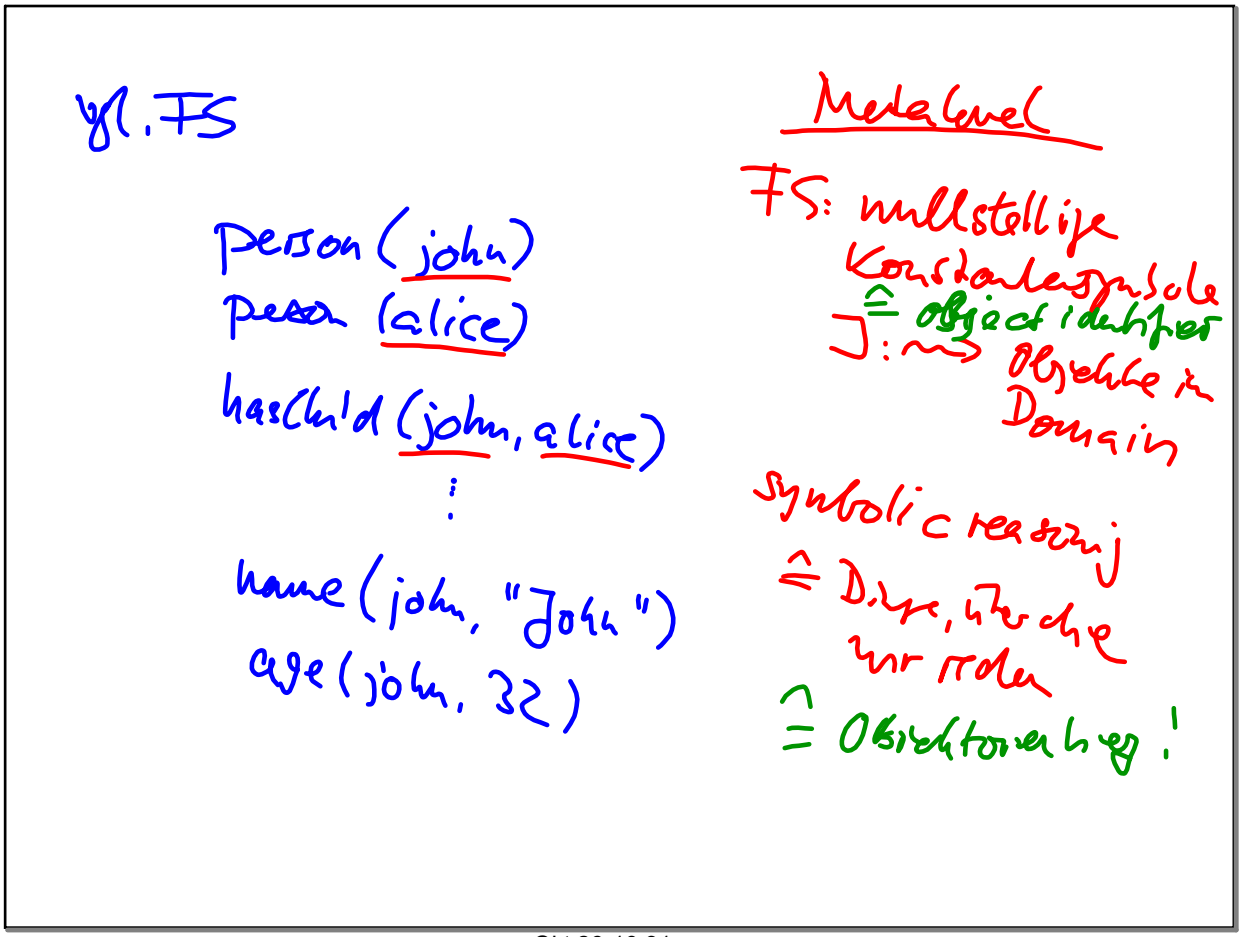
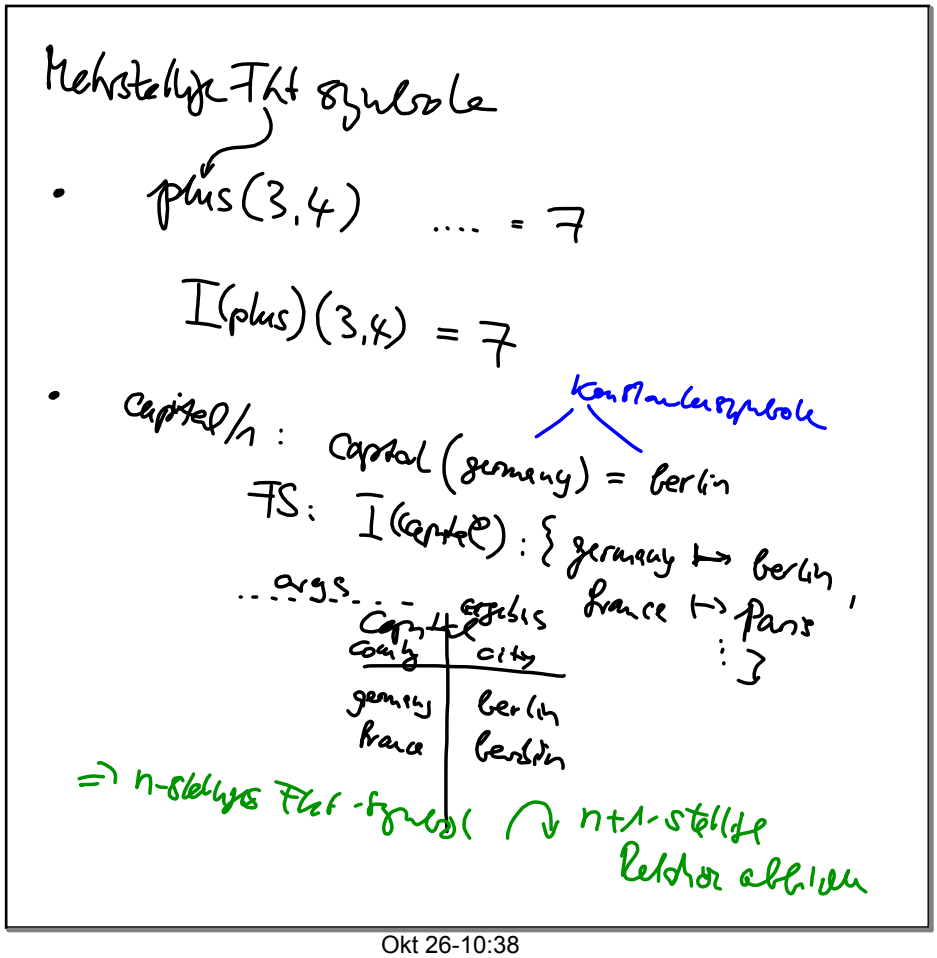


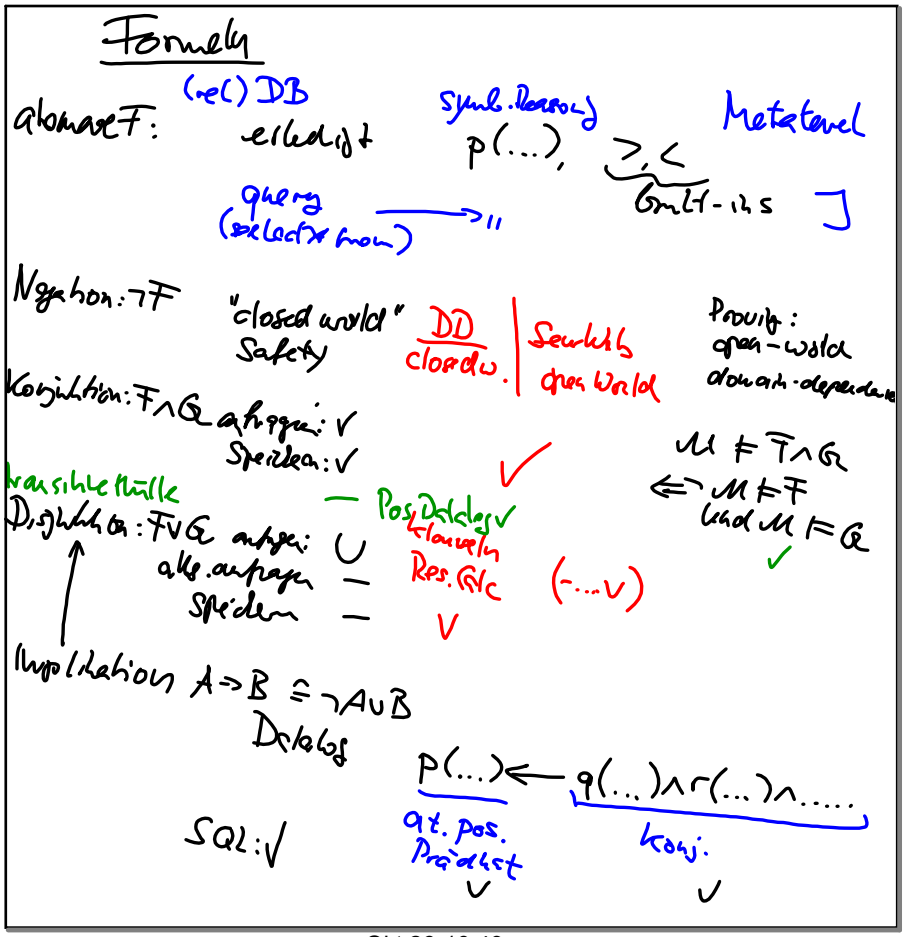
Okt 26-10:23



Okt 26-10:31



Okt 26-10:38



Okt 26-10:49

Disjunktion:

select * from country
where pop > 10.000.000 or
area > 1.000.000 → OR, ∪

student	lehre	mail	m	w
A, B,	DD	⋮	true	false
C, D,	DB	⋮	false	true
X, Z,	xmlp	⋮	null	null

incomplete knowledge

alle w. personen ∪ alle männl. Personen = {A, B, C, D}
alle Personen, die m ∨ w sind = ! = {A, B, C, D, X, Z}

OWL: Person ≡ M ⊔ W
Formel → Knowledge Base

Okt 26-11:07

Fish Puzzle:
Color (HAUS, COL)
smokes (HAUS, CIG)

1)
color (X, yellow) ↔ smokes(X, Dunhill)
color (2, yellow)

¬color (X, yellow) ∨ smokes (X, Dunhill)
color (2, yellow)
---
smokes (X, Dunhill)

A → B
¬A ∨ B

¬A ∨ B
A

B

A → B
A

B

2)
color(X, yellow) ↔ smokes (X, Dunhill)
color(2, yellow) ∨ pet (2, fish)

¬color (X, yellow) ∨ smokes (X, Dunhill)
falls gelb: color (2, yellow) ∨ pet (2, fish)
falls grün
---
smokes (X, Dunhill) ∨ pet (2, fish)
Resolutionsschritt

Okt 26-11:14

SQL views:

symborder(x,y) ← border(x,y) ∨ border(y,x)

symborder(x,y) ← border(x,y).
symborder(x,y) ← border(y,x).

Create view symborder as
(select c1,c2, from border
union (select c2,c1) from border

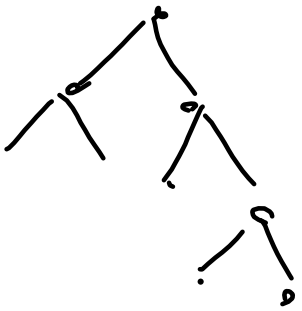
⇒ SQL 2 pos. Regeln
Union of Regeln

Okt 26-11:20

Transitive Clone

hasChild

john	alice
jack	john
⋮	⋮



¬ in SQL!

∀x,y ancestor(X,y) ← hasChild(x,y).

∀x,y ancestor(X,y) ← ∃z: ancestor(X,Z) ∧ hasChild(Z,y)

rekursives Datalog

Okt 26-11:34

	SQL	Symb. Theorie	FS Metalevel
Existenz:	Anfrage: ✓	(incomplete knowledge)	✓
	Speichern –	✓ über Skolem-Fkt. (DD-) (SemWeb)	✓

Okt 26-11:38

Existenz:

$\exists x: river(x) \wedge locatedIn(x, andorra)$

$f_{riverInCountry}$: Land ↦ irgendeinen Fluss in diesem Land
"Zeugen" für die Existenz

$river(f_{ric}(andorra)) \wedge locIn(f_{ric}(andorra), andorra)$

$\forall x: person(x) \rightarrow \exists y: hasParent(x,y)$

$f_{parent}(x) \leadsto$ x's parent

$$\frac{\exists x: hasParent(alice, x)}{hasParent(alice, f_{par}(alice))}$$

$f_{par}(alice)$: Term

Tableau-Kalkül

Okt 26-11:41