

TD6 tableau sémantiques

Exercice 1 :

$\text{Tbox} : \text{Parent} \equiv \exists a\text{Enfant}.T$

- Prouver par tableau sémantique : $\geq 3 a\text{Enfant} \sqsubseteq \text{Parent}$

Exercice 2 :

TBOX :

$\text{ProteinLoverPizza} \equiv \text{Pizza} \sqcap \forall \text{hasTopping}.(\text{Meat} \sqcap \text{Fish})$

$\text{MeatyPizza} \equiv \text{Pizza} \sqcap \forall \text{hasTopping}.\text{Meat}$

- Montrer avec la méthode des tableaux que :
 $\text{ProteinLoverPizza} \sqsubseteq \text{MeatyPizza}$

Exercice 3 :

$\text{Woman} \equiv \text{Person} \sqcap \text{Female}$

$\text{Man} \equiv \text{Person} \sqcap \neg \text{Woman}$

$\text{Mother} \equiv \text{Woman} \sqcap \exists \text{hasChild}.\text{Person}$

$\text{Father} \equiv \text{Man} \sqcap \exists \text{hasChild}.\text{Person}$

$\text{Parent} \equiv \text{Father} \sqcup \text{Mother}$

$\text{Grandmother} \equiv \text{Mother} \sqcap \exists \text{hasChild}.\text{Parent}$

$\text{MotherWithManyChildren} \equiv \text{Mother} \sqcap \geq 3 \text{ hasChild}$

$\text{MotherWithoutDaughter} \equiv \text{Mother} \sqcap \forall \text{hasChild}.\neg \text{Woman}$

$\text{Wife} \equiv \text{Woman} \sqcap \exists \text{hasHusband}.\text{Man}$

$\text{MotherWithoutDaughter}(\text{MARY})$

$\text{Father}(\text{PETER})$

$\text{hasChild}(\text{MARY}, \text{PETER})$

$\text{hasChild}(\text{MARY}, \text{PAUL})$

$\text{hasChild}(\text{MARY}, \text{JHON})$

$\text{hasChild}(\text{PETER}, \text{HARRY})$

$\text{Person}(\text{PAUL}) .$

$\text{Person}(\text{HARRY})$

$\text{Person}(\text{JHON}) .$

- Donner la NNF pour GrandMother .
- Question : $\text{Grandmother}(\text{MARY})$?