Systems and Solving Techniques for Knowledge Representation

– Disjunctive Logic Programs –

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066 011 Double degree programme Computational Logic (Erasmus-Mundus)
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EXERCISES

Exercise (XI): 3SAT

Given a propositional formula Φ in 3 CNF, compute an assignment to variables that satisfies Φ if it exists.

Write a disjunctive logic program $P(\Phi)$ such that answer sets of $P(\Phi)$ correspond to satisfying assignments of Φ

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Exercise (XII): 2QBF

Given a propositional formula $\exists x \forall y \Phi(x, y)$ in DNF, compute an assignment to x-variables that satisfies Φ for all assignments to y-variables, if it exists.

Write a disjunctive logic program $P(\exists x \forall y \Phi(x, y))$ such that answer sets of $P(\exists x \forall y \Phi(x, y))$ correspond to satisfying assignments of $\exists x \forall y \Phi(x, y)$

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What you are requested to do

What you are requested to do is:

1. sending by email at mmaratea@dbai.tuwien.ac.at before 24:00 (resp. 12:00) of the day before (resp. same day) if lecture is done in the morning (resp. in the afternoon), at least one solution (*dl) of the above problems you would like to present, and *db file
2. trying your solution(s) using a grounder and a solver.
3. coming to the black-board! (if time/space allow :)