

Logic for AI — Master 1 Informatique

Class Assignment #2: Propositional Logic

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1 Entailment

Check whether

$$\{\neg p \Rightarrow q, q \Rightarrow p, p \Rightarrow (r \wedge s)\} \models p \wedge r \wedge s$$

1. With the truth table method.
2. By refutation, with the Davis-Putnam Algorithm
3. By refutation, with clausal resolution

Compare the three approaches.

Suggestion: you will need a CNF to prove the entailment by refutation; just construct a single sentence from the three premises, then transform that sentence into CNF.