



Introduction to nonmonotonic reasoning

Winter Semester 2019/20

Exercise Sheet 11 – Belief revision

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Exercise 11.1 Prove Lemma 6.4, which states:

If C satisfies absorption, then distribution is equivalent to the following conditions:

- (a) If $M = Th(M)$ and $N = Th(N)$ then $C(M) \cap C(N) \subseteq C(M \cap N)$
- (b) $C(T \cup M) \cap C(T \cup N) \subseteq C(T \cup (Th(M) \cap Th(N)))$.

Exercise 11.2 It was shown in the lecture that the inference operation $C_{D, Ske}$ for default logic satisfies Cut and Absorption. Which of the (other) basic properties does $C_{D, Ske}$ satisfy?

Exercise 11.3 Pick 7 properties for inference relations defined in the lecture. Determine which of these properties hold for the credulous inference relation $\vdash_{D, Cre}$ for default theories. Give proofs or counterexamples.