

Human Reasoning and the Weak Completion Semantics II

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Exercise 1

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Note: Please consider the equational theory to be empty for each question, unless stated otherwise.

Problem 1

1. Please create a contextual program \mathcal{P} representing the following scenario and compute the least fixed point:
Birds usually fly. However, Penguins and Kiwis are birds which do not. Birds usually have wings, but Kiwis do not. Tweety is a Penguin. Sylvester is a bird.
2. Is the operator $\Phi_{\mathcal{P}}$ monotonic?
3. Is \mathcal{P} acyclic?
4. Is the above computed model the least model of $wc(\mathcal{P})$, or is it a supported one?

Problem 2

Discuss whether Proposition 35 holds for non-contextual acyclic programs as well.