

MA-236: Homework 8

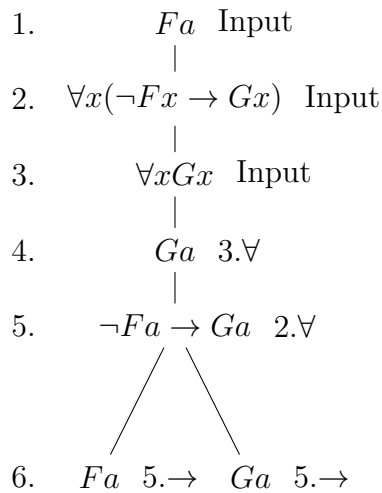
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I pledge my honor that I have abided by the Stevens Honor System.

Use the tree test to check if the following set of three sentences is consistent. If yes, find an interpretation in which the sentences are all true.

$$Fa \quad \forall x(\neg Fx \rightarrow Gx) \quad \forall xGx$$



Since the tree is open, the sentences are **consistent**.

Interpretation

Domain: $\{ p_1 \}$
 a names p_1

$Fa = \text{true}$
 $Ga = \text{true}$

$Fa \Rightarrow \text{true}$

$\forall x(\neg Fx \rightarrow Gx) \Rightarrow \neg Fa \rightarrow Ga \Rightarrow \text{true}$

$\forall xGx \Rightarrow Ga \Rightarrow \text{true}$