

SYNTAX

Here are 10 symbols:

→ ↗ ⊕ ◆ √ ⊕ ⊖ ⊛ × □ ←

(a) Let it be a rule that symbols separated by a ⊕ or a ◆ may be rewritten with those symbols reversed.

E.g. If you have: (1) √ ⊕ ⊕ ⊛ ⊖ ←

Then you can write: (2) ⊖ ⊕ √ ⊛ ⊖ ←

Or if you have: (3) × ◆ √ ⊛ ⊖ →

Then you can write: (4) √ ◆ × ⊛ ⊖ →

(b) Let it be the case that two ⊕ can never appear adjacent to each other on a single line, nor can two ◆.

SEMANTICS

I. Assign any values that you like to the symbols above, such that the strings of symbols (1) and (3) turn out to be true, and the rules (a) and (b) are *truth preserving*.

II. Assign a second, different interpretation of the symbols that also makes (1) and (3) true, and the rules (a) and (b) truth preserving.

III. Assign a third interpretation, such that (1) and (3) are true, but the rules (a) and (b) are not truth preserving.