

(a) If both processes evaluate $x + 1$ before either assigns a value to x , then the algorithm will terminate with x equal to 1.

(b) Suppose that x is stored in binary, and reading or writing a single bit of x is a separate atomic action. The algorithm could then terminate with x equal to 0 (bit representation 0000) if one process writes the right-hand bit of 1 (0001), the other process then reads x and writes 2 (0010), and the first process then writes the remaining bits of the value 1. With a suitable encoding of numbers, any value is possible. (Imagine an encoding in which 0 has its usual representation and 1 is represented by all ones.)

[CLOSE](#)