460√ (security switch) A security switch has three binary user's variables a, b, and c. The users assign values to a and b as input to the switch. The switch's output is assigned to c. The output changes when both inputs have changed. More precisely, the output changes when both inputs differ from what they were the previous time the output changed. The idea is that one user might flip their input indicating a desire for the output to change, but the output does not change until the other user flips their input indicating agreement that the output should change. If the first user changes back before the second user changes, the output does not change.

(a) Implement a security switch to correspond as directly as possible to the informal description.

(b) Transform the implementation of part (a) to obtain an efficient implementation.

§ see book Subsection 7.2.0