

The following specification (nondet Buchi) has a single output letter (not shown) and two Boolean input signals: x and y .

It is realisable for the following reason. The self-loop in 0 and the transition $0 \rightarrow 2$ with $!x$ ensures that passing $!x$ at any moment means the system wins on that play. Hence the environment has to always provide x (along with $!y$ or y). Now:

- if the environment provides y , we move the automaton into 3, and from 3 we move to 2 with input x .
- if the environment provides $!y$, we move into 1, and then $1 \rightarrow 2$ with input x .

In either case, the play is won by system.

Hence on all plays the system wins, and it realizes the spec.

