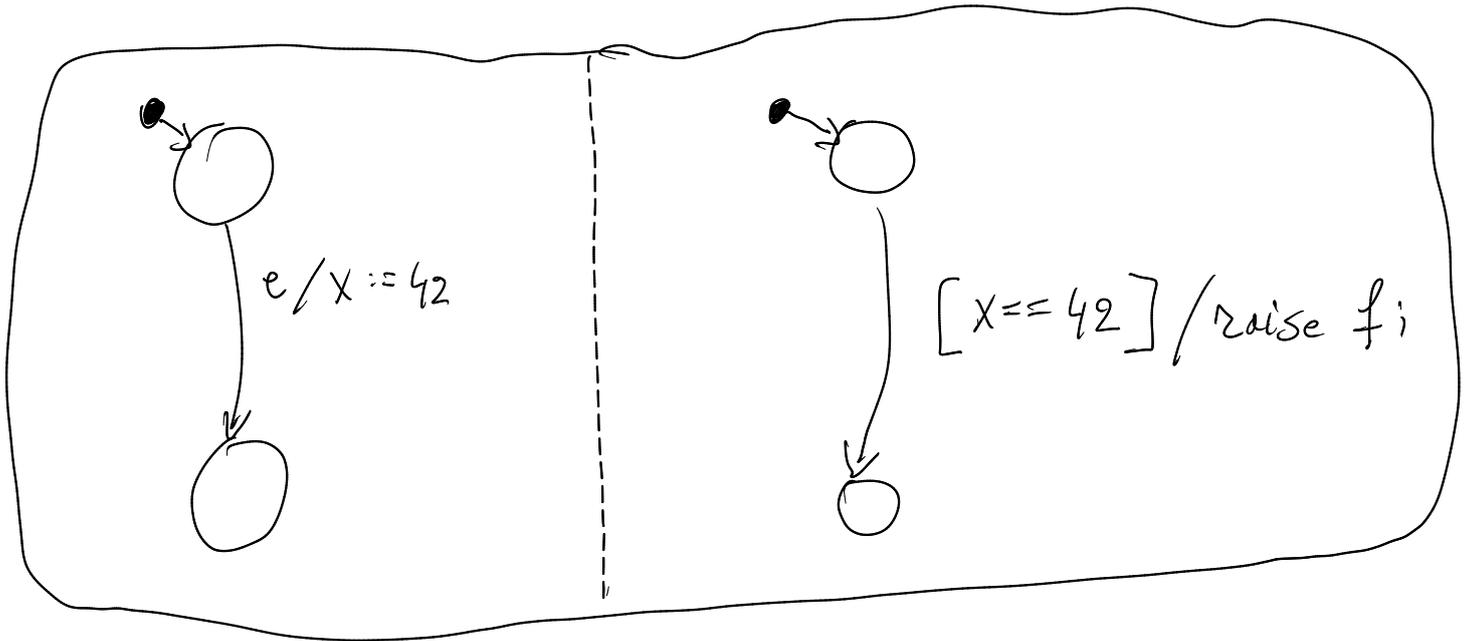
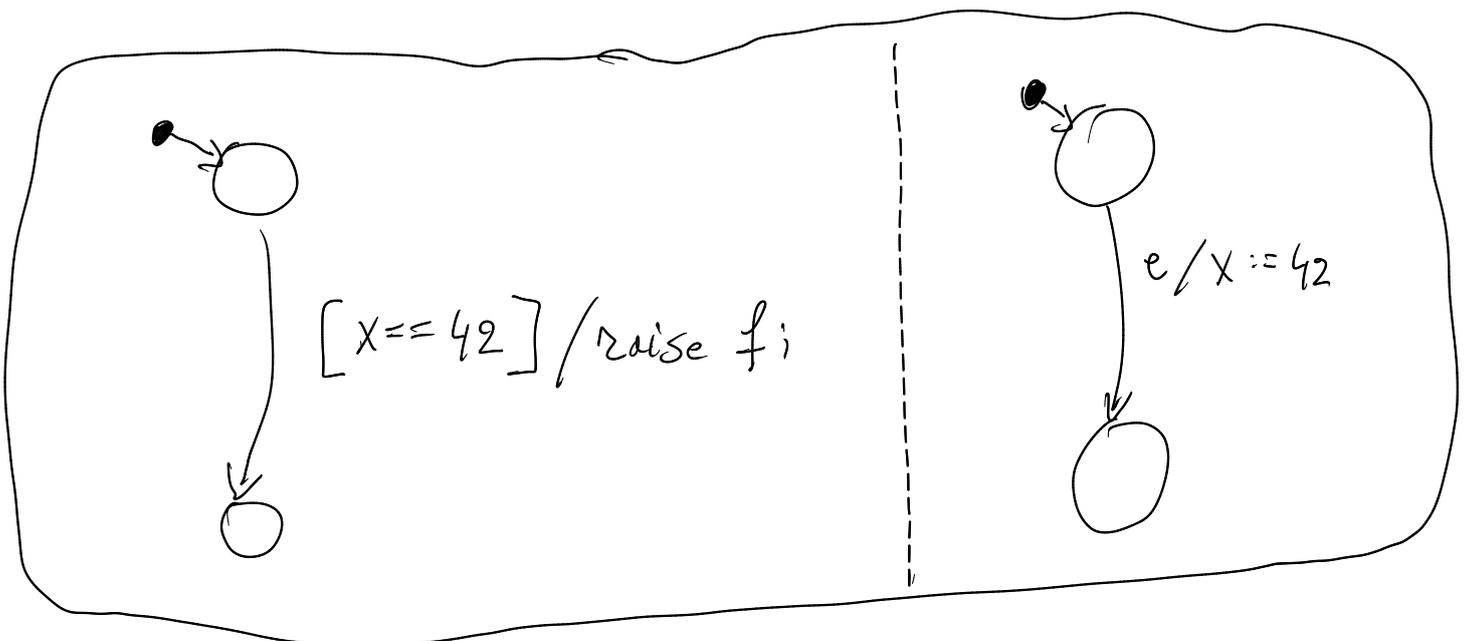


YAKINDU semantics: Will output event 'f' be raised when event 'e' is received?  
Assume that we are in the initial state, and  $x=0$ .



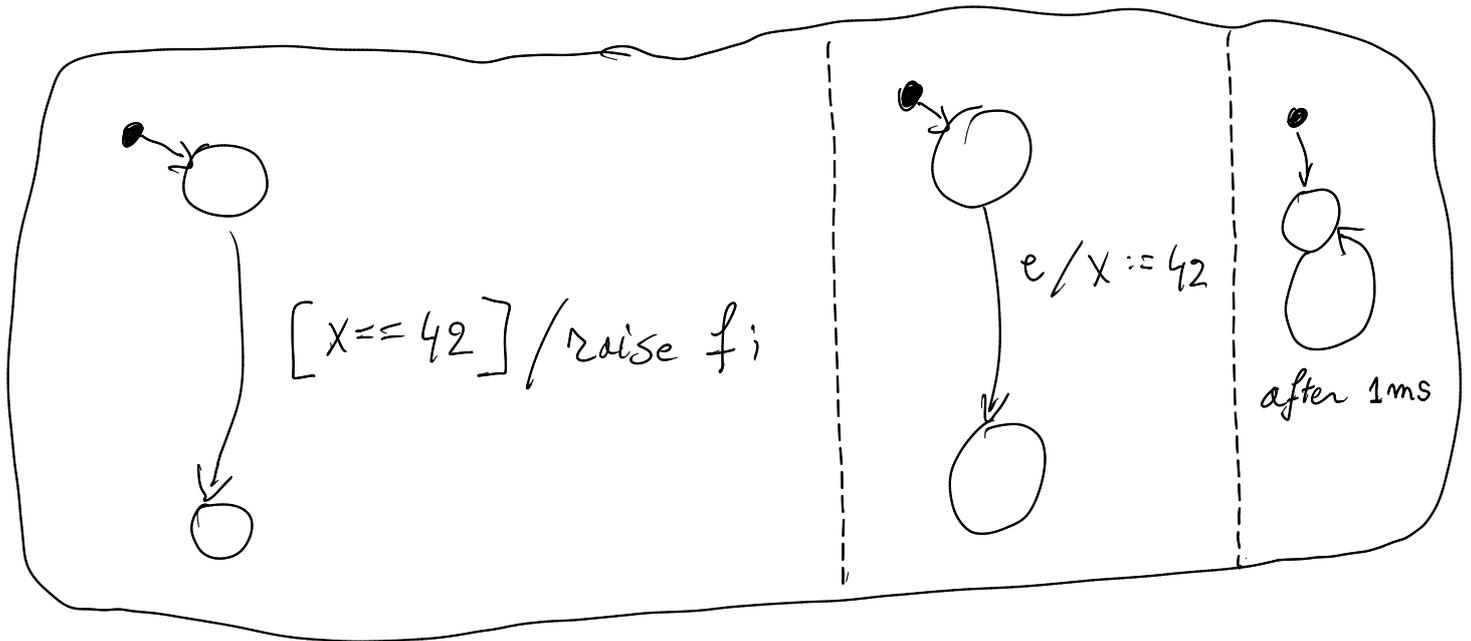
YES, because guard condition  $[x == 42]$  is evaluated AFTER the assignment to  $x$ , but in the same RTC step in which event 'e' is received.

HOWEVER, this is not very intuitive! Changing the order of the orthogonal components will alter the behavior:



NO, because the guard condition  $[x == 42]$  is evaluated BEFORE the assignment to  $x$ . Not until the next RTC step (caused by ANY input event), will event 'f' be raised.

Transitions that have only a guard condition can be a great source of confusion, when the Statechart also contains after-triggers:



It may appear as if event 'f' is raised immediately after input event 'e' is received, BUT event 'f' happens only in a later RTC step, up to 1ms later than event 'e'.

In other words, it is **WRONG** to assume that 'f' will be raised at the same time as the assignment  $x := 42$

Bottom line:

AVOID transitions that have only a guard condition (checking some variable value). It is much better to use an internal event, to trigger a transition in another orthogonal region:

