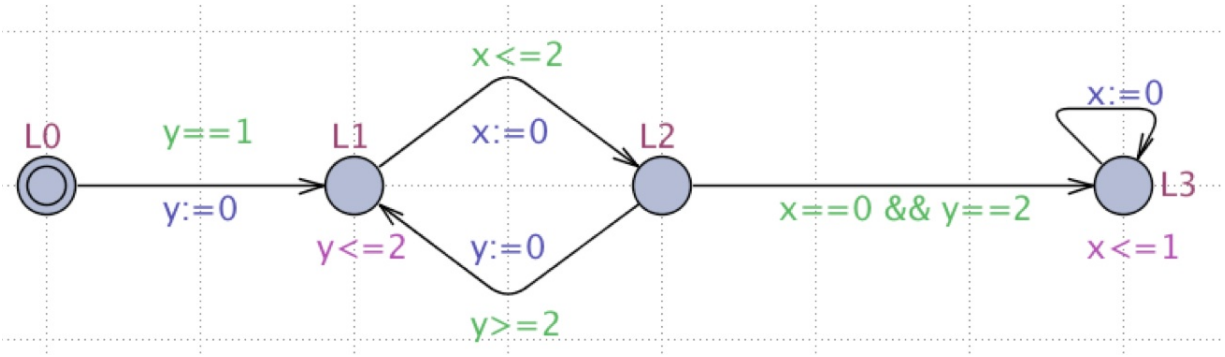
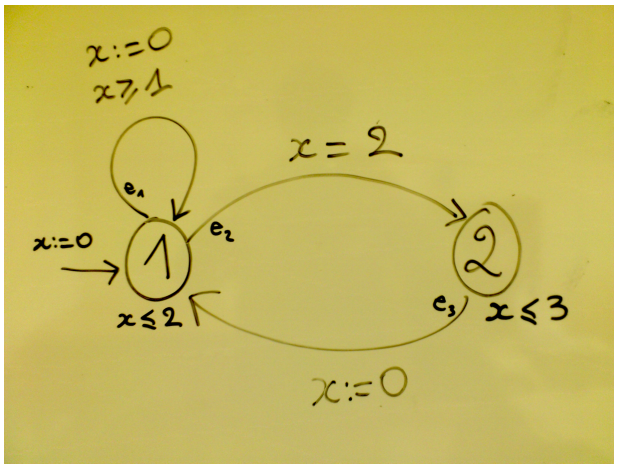
TP 5 – Timed Automata

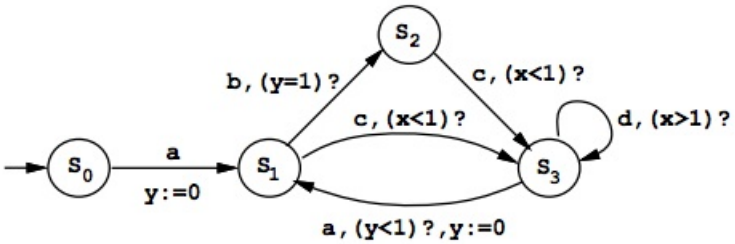
Exercice 1 For the following timed automaton, use the region bisimulation to decide whether location L_3 can be reached.



Exercice 2 For the following timed automaton, construct the quotient of its time-abstract LTS by the region equivalence (i.e. construct its region automaton) :



Exercice 3 Same question with



Exercice 4 Construct a timed automaton over $P = \{a, b\}$ such that there is at most one time unit between two 'a'.

Exercice 5 Construct a timed automaton over $P = \{a, b\}$ such that there is at most three 'b' per time unit.

Exercice 6 Construct a timed automaton over $P = \{a, b\}$ that ensures the two constraints of the previous exercices.

Exercice 7 In the following automaton, give an infinite run that visits infinitely often all states.