Práctica 2 TALF

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1 Consider the language over the alphabet a, b that only contains the string a. Build a DFA that recognizes this language and rejects all those strings that do not belong to the language.

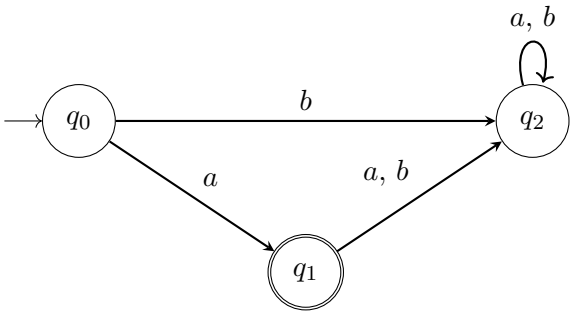
1.1 Mathematical description of the automaton

$M = (\{q_0, q_1, q_2\}, \{a, b\}, \delta, q_0, \{q_1\})$ with:

$\delta = \{(\text{"}q0\text{"}, \text{"}a\text{"}, \text{"}q1\text{"}), (\text{"}q0\text{"}, \text{"}b\text{"}, \text{"}q2\text{"}), (\text{"}q1\text{"}, \text{"}a\text{"}, \text{"}q2\text{"}), (\text{"}q1\text{"}, \text{"}b\text{"}, \text{"}q2\text{"}), (\text{"}q2\text{"}, \text{"}a\text{"}, \text{"}q2\text{"})\}$

Or also $M = (\{q_0, q_1, q_2\}, \{a, b\}, \delta, q_0, \{q_1\})$ as a DFA with:

$\delta(q, \sigma)$	a	b
q_0	q_1	q_2
q_1	q_2	q_2
q_2	q_2	q_2



1.2 Image from JFLAP

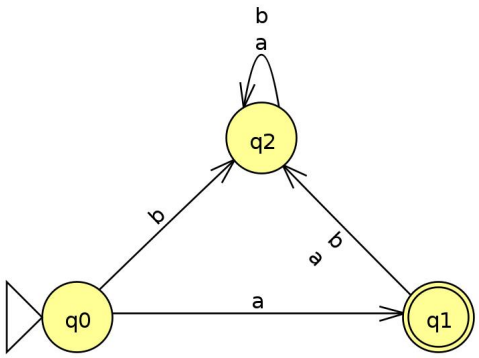


Figure 1: Automaton created in JFLAP

2 Create a JSON file that describes the automaton created in Activity 1

```
{
    "name" : "a",
    "representation" : {
"K" : ["q0", "q1", "q2"],
"A" : ["a","b"],
"s" : "q0",
"F" : ["q1"],
"t" : [["q0","a","q1"],
       ["q0","b","q2"],
       ["q1","a","q2"],
       ["q1","b","q2"],
       ["q2","a","q2"],
       ["q2","b","q2"]}
     }
  }
```