Práctica 2

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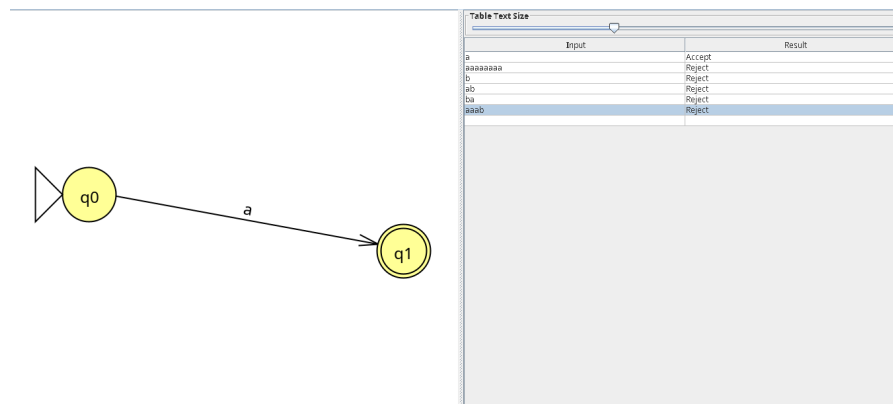
1 Consider the language over the alphabet {a, b} that only contains the string a.

1. **Build a DFA that recognizes this language and rejects all those strings that do not belong to the language.**
   El autómata pedido es una 5-tupla $(K, \Sigma, \delta, s, F)$, donde:

   - $K = \{q_0, q_1\}$
   - $\Sigma = \{a, b\}$
   - $s = q_0$
   - $F = \{q_1\}$
   - $\delta(q_0, a) = q_1$

2. **Test the automaton that you have created by introducing 6 chains.**

2 Finite automaton in Octave:

1. **Open the Octave finiteautomata.m script and test it with the given example (see script help) in the GitHub repository.**

2. **Specify in finiteautomata.json the automaton created in Activity 1 and test it with the script!**

```
{
    "name" : "ejercicio1",
    "representation" : {
        "K" : ["q0", "q1"],
        "A" : ["a", "b"],
        "s" : "q0",
        "F" : ["q1"],
        "t" : [["q0", "a", "q1"]]
    }
}

octave:1> finiteautomaton("ejercicio1", "a")
warning: strmatch is obsolete; use strncmp or strcmp instead

M = ({q0, q1}, {a, b}, {(q0, a, q1)}, q0, {q1})

w = a

(q0, a) produces (q1, epsilon)

x in L(M)
ans = 1

octave:2> finiteautomaton("ejercicio1", "b")

M = ({q0, q1}, {a, b}, {(q0, a, q1)}, q0, {q1})

w = b

(q0, b)

x not in L(M) (blocked computation)
ans = 0

octave:3> finiteautomaton("ejercicio1", "ab")

M = ({q0, q1}, {a, b}, {(q0, a, q1)}, q0, {q1})

w = ab

(q0, ab) produces (q1, b)

x not in L(M) (blocked computation)
ans = 0
```