Práctica 2

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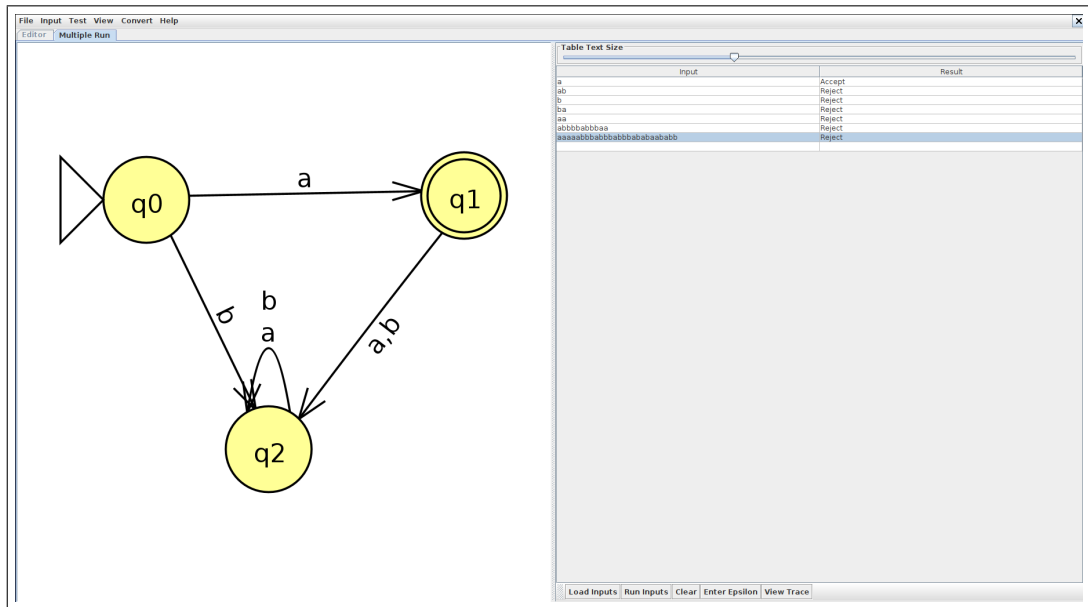
1 Actividad 1:

1.1 Consider the language over the alphabet [a, b] that only contains the string a.

a. Build a DFA that recognizes this language and rejects all those strings that do not belong to the language.

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

$$M = \{\{q0, q1, q2\} \{a, b\} \{(q0, a, q1) (q0, b, q2) (q1, a, q2) (q1, b, q2) (q2, a, q2) (q2, b, q2)\} \{q0\} \{q1\}\}$$

2 Actividad 2:

2.1 Finite automaton in Octave:

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

```
octave:1> finiteautomaton("aa*bb*", "ab")
warning: strmatch is obsolete; use strncmp or strcmp instead

M = ({q0, q1, q2}, {a, b}, {(q0, a, q1), (q1, a, q1), (q1, b, q2), (q2, b, q2)}, q0, {q2})

w = ab

(q0, ab) ⊢ (q1, b) ⊢ (q2, ε)
```

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

```
"name" : "Automata mío",
"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"]]
```