Teoría de Autómatas y Lenguajes Formales. Práctica 2, Autómata en JFLAP

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1. Práctica obligatoria

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.

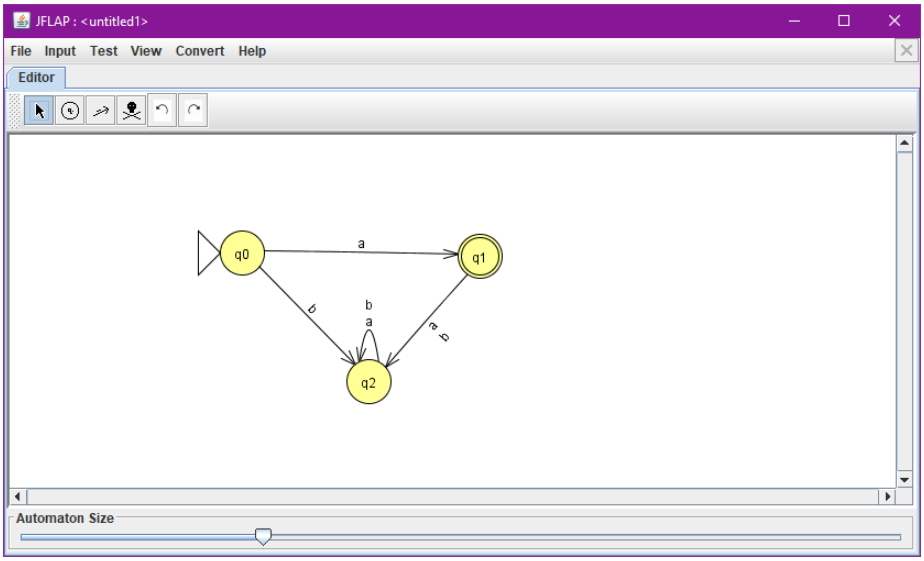
1. a: acepted
2. ab: rejected
3. aa: rejected
4. abb: rejected
5. b: rejected
6. abbba: rejected

1.1. Definición

Definición 1.1 *Deterministic finite automaton A deterministic finite automaton (DFA) is a 5-tuple* $(K, \Sigma, \delta, s, F)$*, where*

1. K *is a non-empty set of states: q0, q1, q2*
2. Σ *is an alphabet: {a, b}*
3. $s \in K$ *is the initial state: q0*
4. $F \subseteq K$ *is a set of final states: q1*
5. $\delta : K \times \Sigma \to K$ *is the transition function*

1.2. JFLAP



1.3. Octave

```
{
    "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"]]
}
```