Actividad$_P$*practica*2

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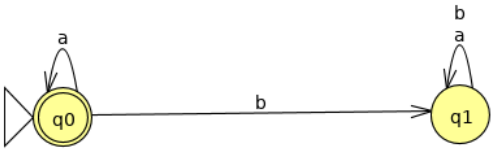
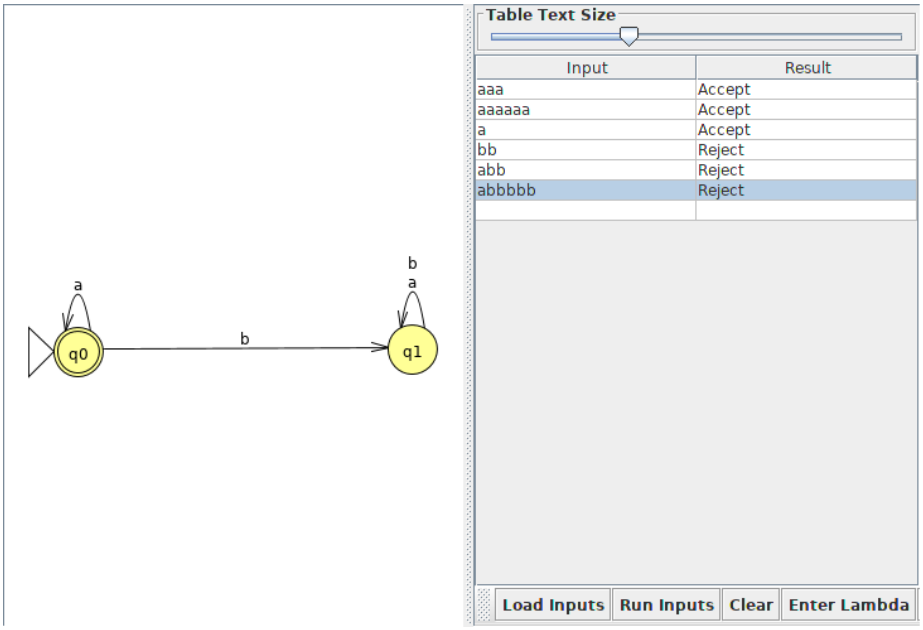
EJERCICIO 1. Consider the language over the alphabet a, b that only contains the string a. Build a DFA that recognizes this language and rejects all those strings that do not belong to the language.

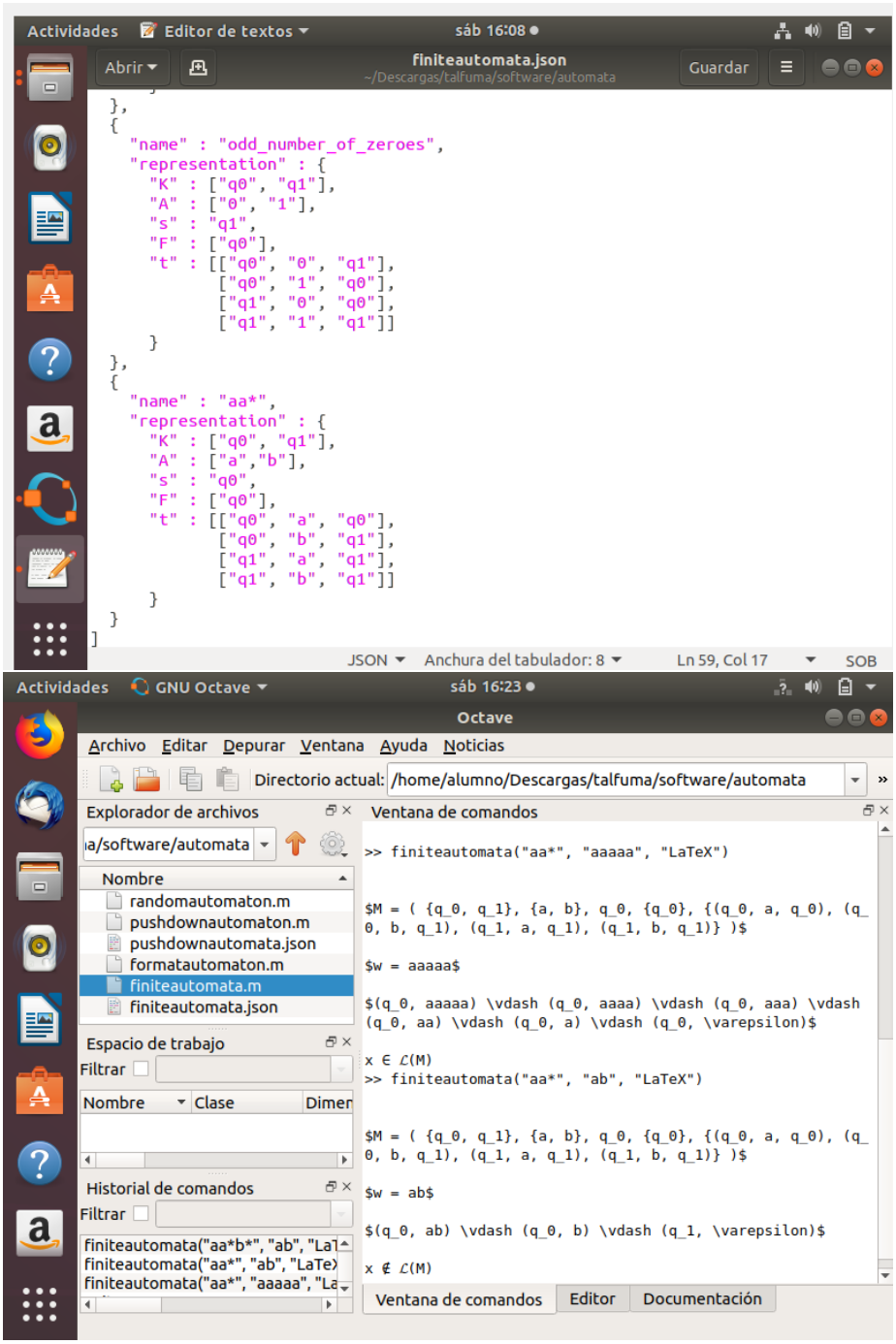
Let $M = (K, \Sigma, \Delta, s, F)$ be an DFA with:
K=$\{q_0, q_1\}$
$\Sigma = \{a, b\}$
$\Delta = \{(q_0, a, q_0), (q_0, b, q_1), (q_1, a, q_1), (q_1, b, q_1)\}$
$s = q_0$
$F = \{q_0\}$



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



EJERCICIO 2. Open the Octave finiteautomata.m script and test it with the given example (see script help) in the GitHub repository. Specify in finiteautomata.json the automaton created in Activity 1 and test it with the script


Actividades
Editor de textos
sáb 16:08
Abrir
finiteautomata.json
~/Descargas/talfuma/software/automata
Guardar
},
{
"name" : "odd_number_of_zeroes",
"representation" : {
"K" : ["q0", "q1"],
"A" : ["0", "1"],
"s" : "q1",
"F" : ["q0"],
"t" : [["q0", "0", "q1"],
["q0", "1", "q0"],
["q1", "0", "q0"],
["q1", "1", "q1"]]
}
},
{
"name" : "aa*",
"representation" : {
"K" : ["q0", "q1"],
"A" : ["a","b"],
"s" : "q0",
"F" : ["q0"],
"t" : [["q0", "a", "q0"],
["q0", "b", "q1"],
["q1", "a", "q1"],
["q1", "b", "q1"]]
}
}
]
JSON
Anchura del tabulador: 8
Ln 59, Col 17
SOB
Actividades
GNU Octave
sáb 16:23
Octave
Archivo Editar Depurar Ventana Ayuda Noticias
Directorio actual: /home/alumno/Descargas/talfuma/software/automata
Explorador de archivos
ia/software/automata
Nombre
randomautomaton.m
pushdownautomaton.m
pushdownautomata.json
formatautomaton.m
finiteautomata.m
finiteautomata.json
Espacio de trabajo
Filtrar
Nombre
Clase
Dimer
Historial de comandos
Filtrar
finiteautomata("aa*b*", "ab", "LaT
finiteautomata("aa*", "ab", "LaTe)
finiteautomata("aa*", "aaaaa", "La
Ventana de comandos
>> finiteautomata("aa*", "aaaaa", "LaTeX")
$M = ({q_0, q_1}, {a, b}, q_0, {q_0}, {(q_0, a, q_0), (q_0, b, q_1), (q_1, a, q_1), (q_1, b, q_1)})$
$w = aaaaa$
$(q_0, aaaaa) \vdash (q_0, aaaa) \vdash (q_0, aaa) \vdash (q_0, aa) \vdash (q_0, a) \vdash (q_0, \varepsilon)$
x ∈ ℒ(M)
>> finiteautomata("aa*", "ab", "LaTeX")
$M = ({q_0, q_1}, {a, b}, q_0, {q_0}, {(q_0, a, q_0), (q_0, b, q_1), (q_1, a, q_1), (q_1, b, q_1)})$
$w = ab$
$(q_0, ab) \vdash (q_0, b) \vdash (q_1, \varepsilon)$
x ∉ ℒ(M)
Ventana de comandos
Editor
Documentación

M = ($\{q_0, q_1\}, \{a, b\}, q_0, \{q_0\}, \{(q_0, a, q_0), (q_0, b, q_1), (q_1, a, q_1), (q_1, b, q_1)\}$)
$w = aaaaa$
$(q_0, aaaaa) \vdash (q_0, aaaa) \vdash (q_0, aaa) \vdash (q_0, aa) \vdash (q_0, a) \vdash (q_0, \varepsilon)$
x $\in L(M)$