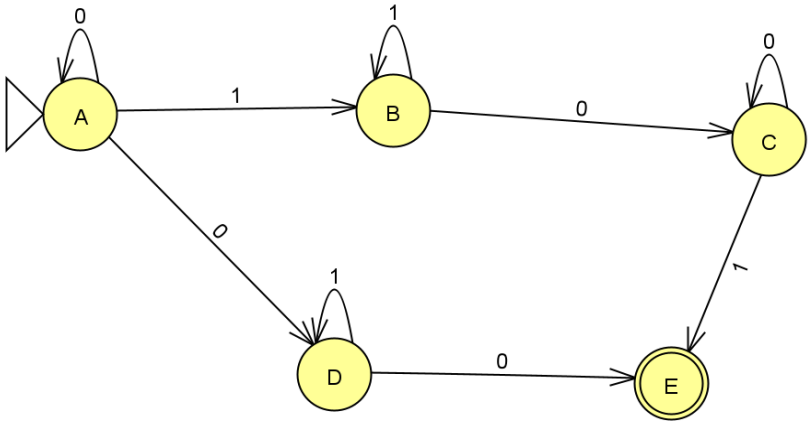
Tarea 2 – Ejercicios de Autómatas

Ejercicio 1

Dado el grafo:



Input	Result
101	Accept
000	Accept
0010	Accept
11001	Accept
0000011111110000001	Accept

$Q = \{A, B, C, D, E\}$

$\Sigma = \{1, 0\}$

$q_0 = \{A\}$

$f = \{E\}$

$L(\Sigma) = \{(01)^+\}$

Transición

Δ	1	0
A	B	A, D
B	B	C
C	E	C
D	D	E
E		

Expresiones Regulares Válidas

101 => Válidas

000 => Válidas

0010 => Válidas

1100 => Válidas

Ejercicio 2

Dado el lenguaje, encontrar los elementos de un autómata:

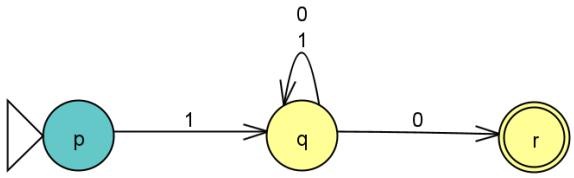
$L(\Sigma) = \{1(01)^*0\}$

$Q = \{p, q, r\}$

$\Sigma = \{0, 1\}$

$q_0 = \{p\}$

$f = \{r\}$



Input	Result
1000010	Accept
100001	Reject
1010101	Reject
10001	Reject
001	Reject
010	Reject
1010	Accept

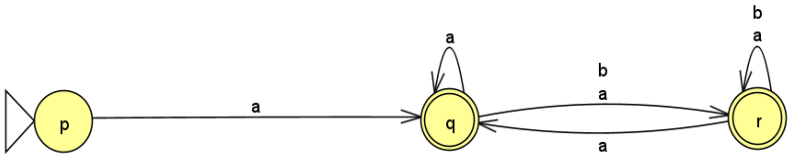
}

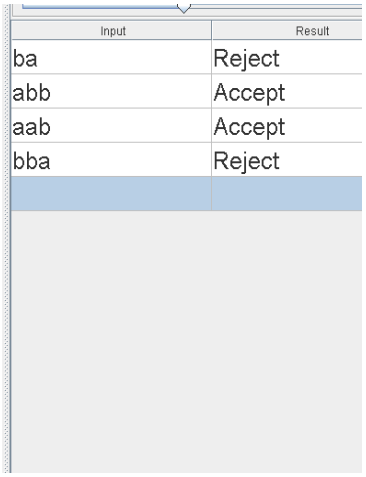
Δ	1	0
⇨ P	q	
q	Q	
* r		r

Ejercicio 3

Dada la tabla de transición:

Δ	a	b
⇨ p	q	
Q	q, r	
* q, r	q, r	r
* r		r





Input	Result
ba	Reject
abb	Accept
aab	Accept
bba	Reject

$Q = \{, p, q, r\}$

$\Sigma = \{a, b\}$

$q_0 = \{p\}$

$f = \{q, r\}$

$L(\Sigma) = \{a(ab)^{+}\}$