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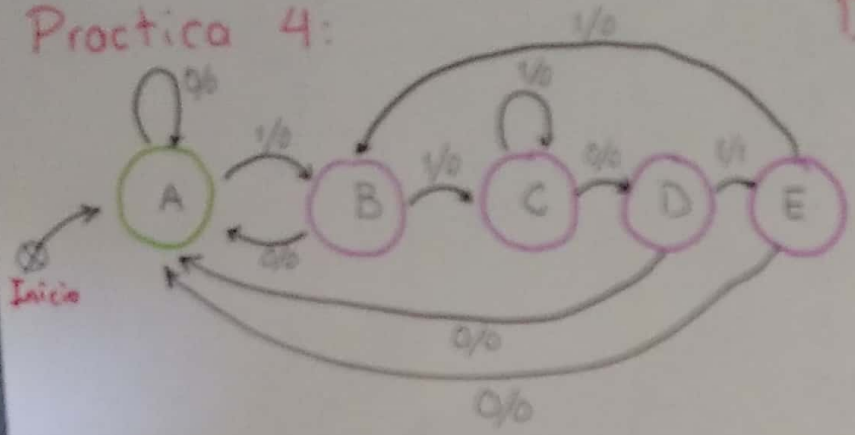
Practica 4: Detector de secuencia

Secuencia

1101



Descripción de la máquina de Mealy por la séxtupla

$M = \{Q, \Sigma, \Delta, \delta, \lambda, q_0\}$

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

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

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

Edo_inicial = $\{A\}$

$\delta(A,0) = A$	$\lambda(A,0) = 0$
$\delta(A,1) = B$	$\lambda(A,1) = 0$
$\delta(B,0) = A$	$\lambda(B,0) = 0$
$\delta(B,1) = C$	$\lambda(B,1) = 0$
$\delta(C,0) = D$	$\lambda(C,0) = 0$
$\delta(C,1) = C$	$\lambda(C,1) = 0$
$\delta(D,0) = A$	$\lambda(D,0) = 0$
$\delta(D,1) = E$	$\lambda(D,1) = 1$
$\delta(E,0) = A$	$\lambda(E,0) = 0$
$\delta(E,1) = B$	$\lambda(E,1) = 0$

Parcialmente redundantes

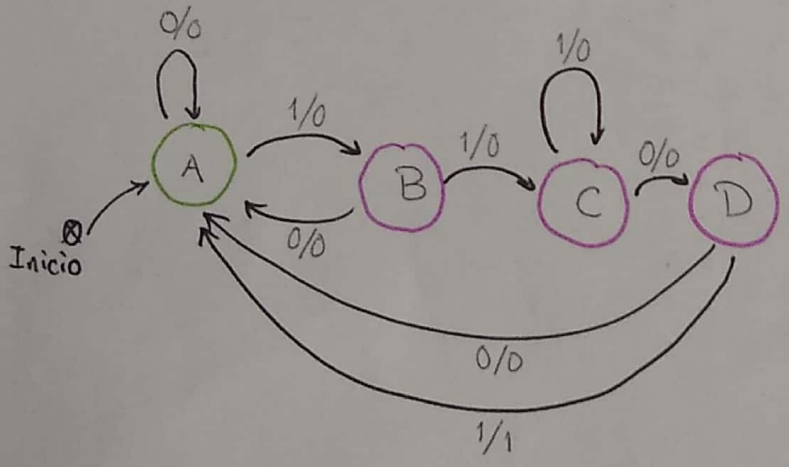
Edo_Act	Entrada	Edo_Sig	Salida
A	0	A	0
A	1	B	0
B	0	A	0
B	1	C	0
C	0	D	0
C	1	C	0
D	0	A	0
D	1	E	1
E	0	A	0
E	1	B	0

A = E
Son redundantes

Tabla resultante

Edo_ACT	E	Edo_Sig	S
A	0	A	0
A	1	B	0
B	0	A	0
B	1	C	0
C	0	D	0
C	1	C	0
D	0	A	0
D	1	A	1

Detector reducido



Asignacion

A = 00
B = 01
C = 10
D = 11

2 ff

codigo secuencial

Edo_Act Q_1	Q_0	E
A 0	0	0
A 0	0	1
B 0	1	0
B 0	1	1
C 1	0	0
C 1	0	1
D 1	1	0
D 1	1	1

FF Tipo D

Edo_Sig Q_1^+	Q_0^+	S
0	0	0
0	1	0
0	0	0
1	0	0
1	1	0
1	0	0
0	0	0
0	0	1

Tabla de exitacion FF tipo D

$Q(t)$	$Q(t+1)$	D
0	0	0
0	1	1
1	0	0
1	1	1

Edo_ACT		E	Edo_SIG		S	D_1	D_0
Q_1	Q_0		Q_1^+	Q_0^+			
0	0	0	0	0	0	0	0
0	0	1	0	1	0	0	1
0	1	0	0	0	0	0	0
0	1	1	1	0	0	1	0
1	0	0	1	1	0	1	1
1	0	1	1	0	0	1	0
1	1	0	0	0	0	0	0
1	1	1	0	0	1	0	0

Entrados

D_1

Q_1/Q_0 E	00	01	11	10
0	0	0	1	0
1	1	1	0	0

D_0

Q_1/Q_0 E	00	01	11	10
0	0	1	0	0
1	1	0	0	0

$D_1 = \overline{Q_1}\, Q_0 E + Q_1 \overline{Q_0}$

$D_0 = \overline{Q_1}\, \overline{Q_0} E + Q_1 \overline{Q_0}\, \overline{E}$

$S = Q_1 Q_0 E$