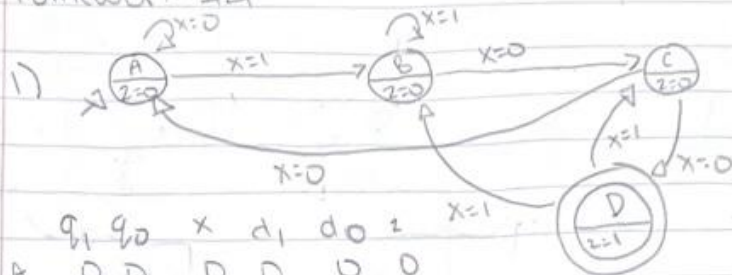


Homework #4



	q_1	q_0	x	d_1	d_0	z
A	0	0	0	0	0	0
	0	0	1	0	1	0
B	0	1	0	1	0	0
	0	1	1	0	1	0
C	1	0	0	0	0	0
	1	0	1	1	1	0
D	1	1	0	0	0	1
	1	1	1	0	1	1

d_1

$q_1 \backslash q_0 x$	00	01	11	10
0	0	0	0	1
1	0	1	0	0

$$d_1 = \overline{q_1} q_0 \overline{x} + q_1 \overline{q_0} x$$

d_0

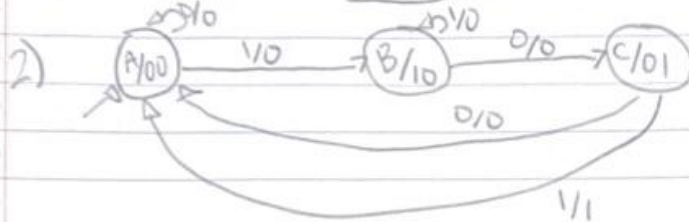
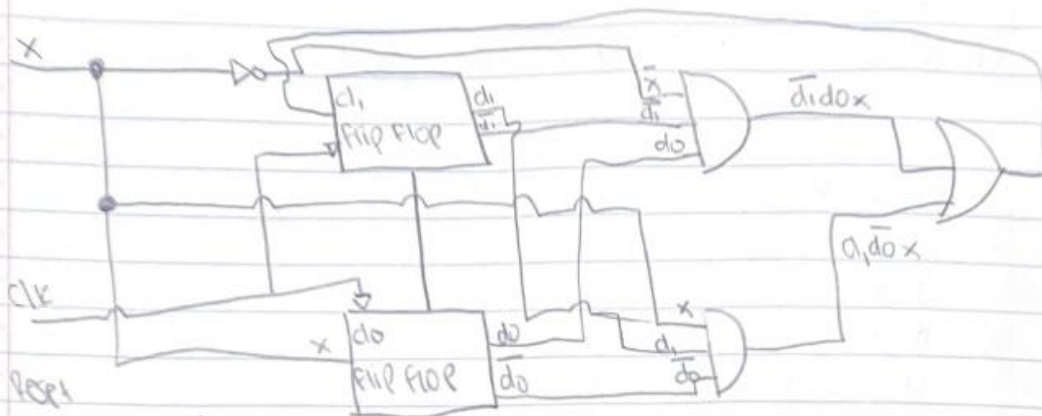
$q_1 \backslash q_0 x$	00	01	10	11
0	0	1	1	0
1	0	1	1	0

$$d_0 = x$$

2

$q_1 \backslash q_0 x$	00	01	11	10
0	0	0	0	0
1	0	0	1	1

$$z = q_1 q_0$$



$$\log[3] = 1.5 = \text{CEIL}[1.5] = 2$$

A=00, B=10, C=01

q_1	q_0	x	q_1^+	q_0^+	z
0	0	0	0	0	0
0	0	1	1	0	0
0	1	0	0	0	0
0	1	1	0	0	1
1	0	0	0	1	0
1	0	1	1	0	0
1	1	0	x	x	x
1	1	1	x	x	x

$x \backslash q_1 q_0$	00	01	11	10
0			X	
1	(1)		X	(1)

$$q_1^+ = \bar{q}_0 x$$

$q_0 \backslash q_1 q_0$	00	01	11	10
0			X	(1)
1			X	

$$q_0^+ = q_1 \bar{x}$$

$2 \backslash q_1 q_0$	00	01	11	10
0			X	
1		(1)	X	

$$2 = x q_0$$

Circuit

$$q_1^+ = \bar{q}_0 x$$

$$q_0^+ = q_1 \bar{x}$$

$$2 = q_0 x$$

