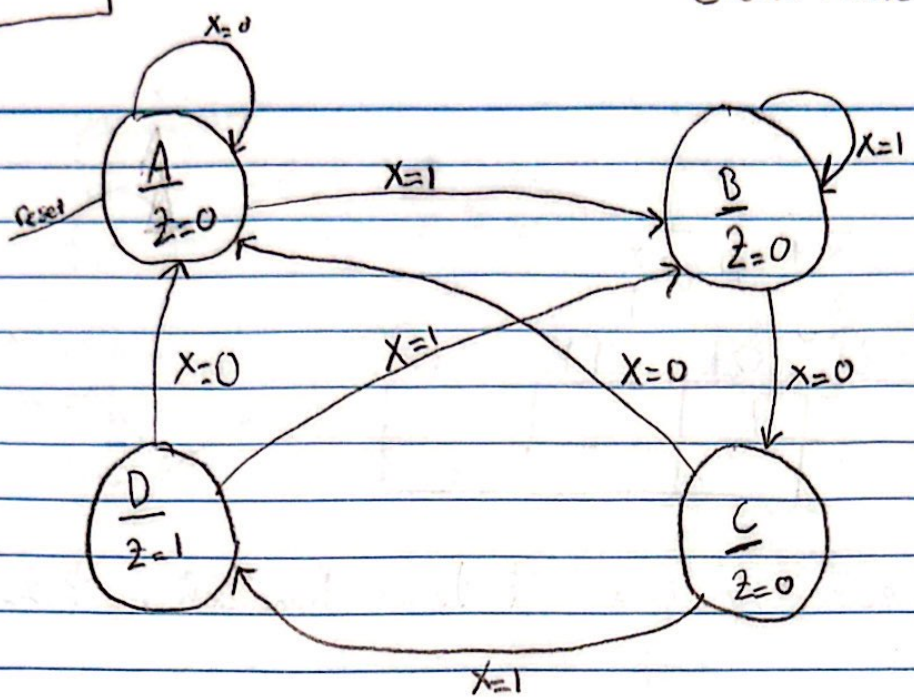
insert star here

Create Moore Finite State Diagram



101101
10101

Non overlapping Moore Machine sequence 101

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

Generate Truth Table

	Current State q_1	Current State q_0	Input x	d_1	d_0	
A	0	0	0	0	0	A
	0	0	1	0	1	B
B	0	1	0	1	0	C
	0	1	1	0	1	B
C	1	0	0	0	0	A
	1	0	1	1	1	D
D	1	1	0	0	0	A
	1	1	1	0	1	B

OG Table

	Current State q_1	Current State q_0	Output Z
A	0	0	0
B	0	1	0
C	1	0	0
D	1	1	1

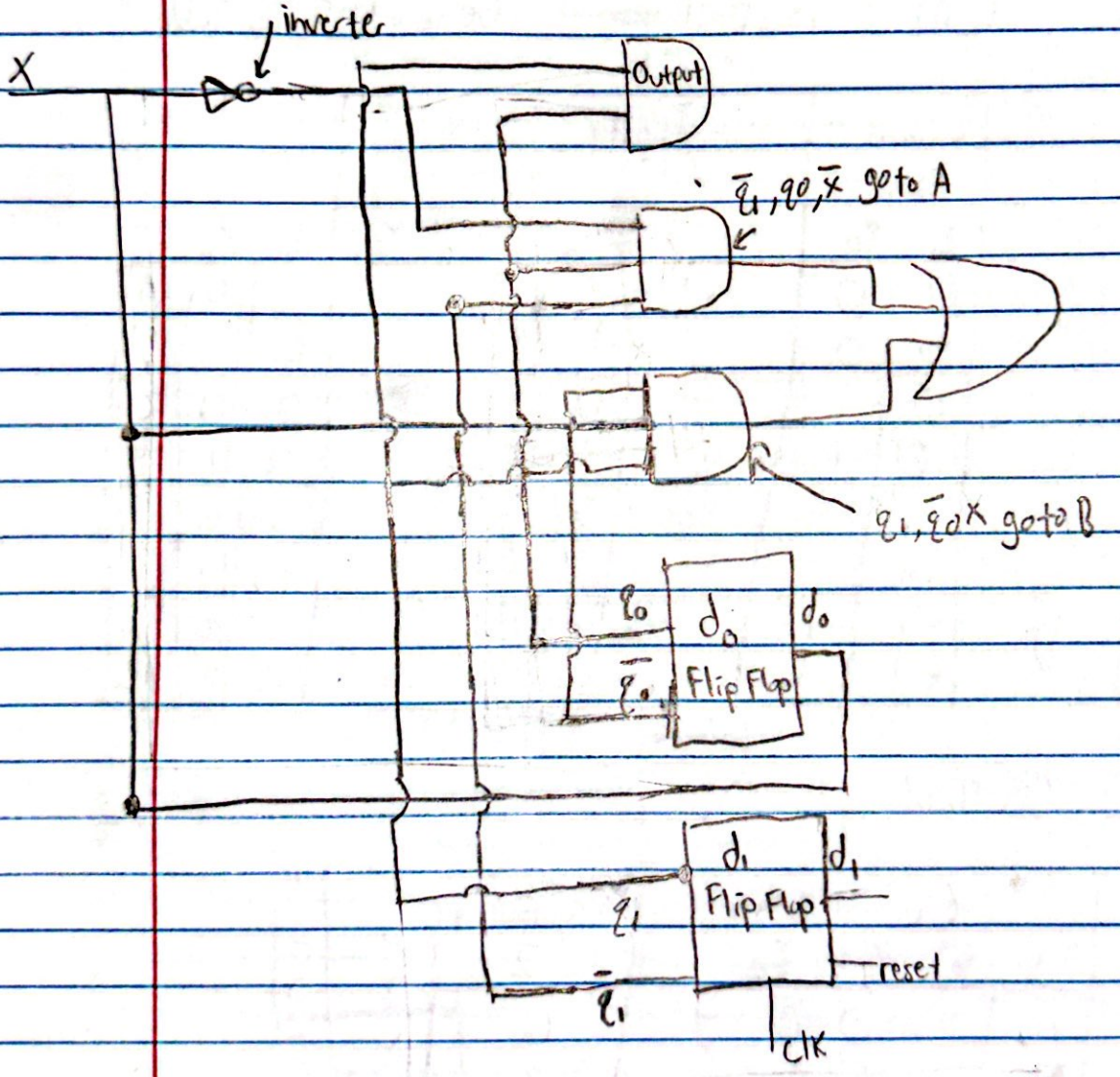
$d_0 = x$

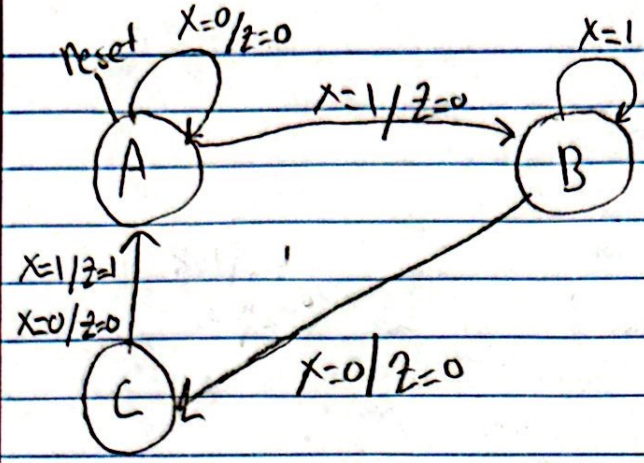
$d_1 = \bar{q}_1 q_0 \bar{x} + q_1 \bar{q}_0 x$

0 1 0 1 0 1

q_1 \ q_0x	00	01	11	10
1		1		
0				1

$d_1 = \bar{q}_1 q_0 \bar{x} + q_1 \bar{q}_0 x$ } $d_0 = x$ from before } $z = q_1 q_0$





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

Non overlapping Mealy Machine

Current State q_1	Current State q_0	Input X	Next State d_1	Next State d_0	
0	0	0	0	0	A
0	0	1	0	1	B
0	1	0	1	0	C
0	1	1	0	1	B
1	0	0	0	0	A
1	0	1	0	0	A
1	1	0	X	X	X
1	1	1	X	X	X

OG Table

	Current State q_1	Current State q_0	Output Z
A	0	0	0
B	0	1	0
C	1	0	0
C	1	0	1
D	X	X	X

$d_1 = \bar{q}_1 q_0 \bar{x}$

$d_0 = \bar{q}_1 \bar{q}_0 x + \bar{q}_1 q_0 x$

$\bar{q}_1 x (\bar{q}_0 + q_0)$

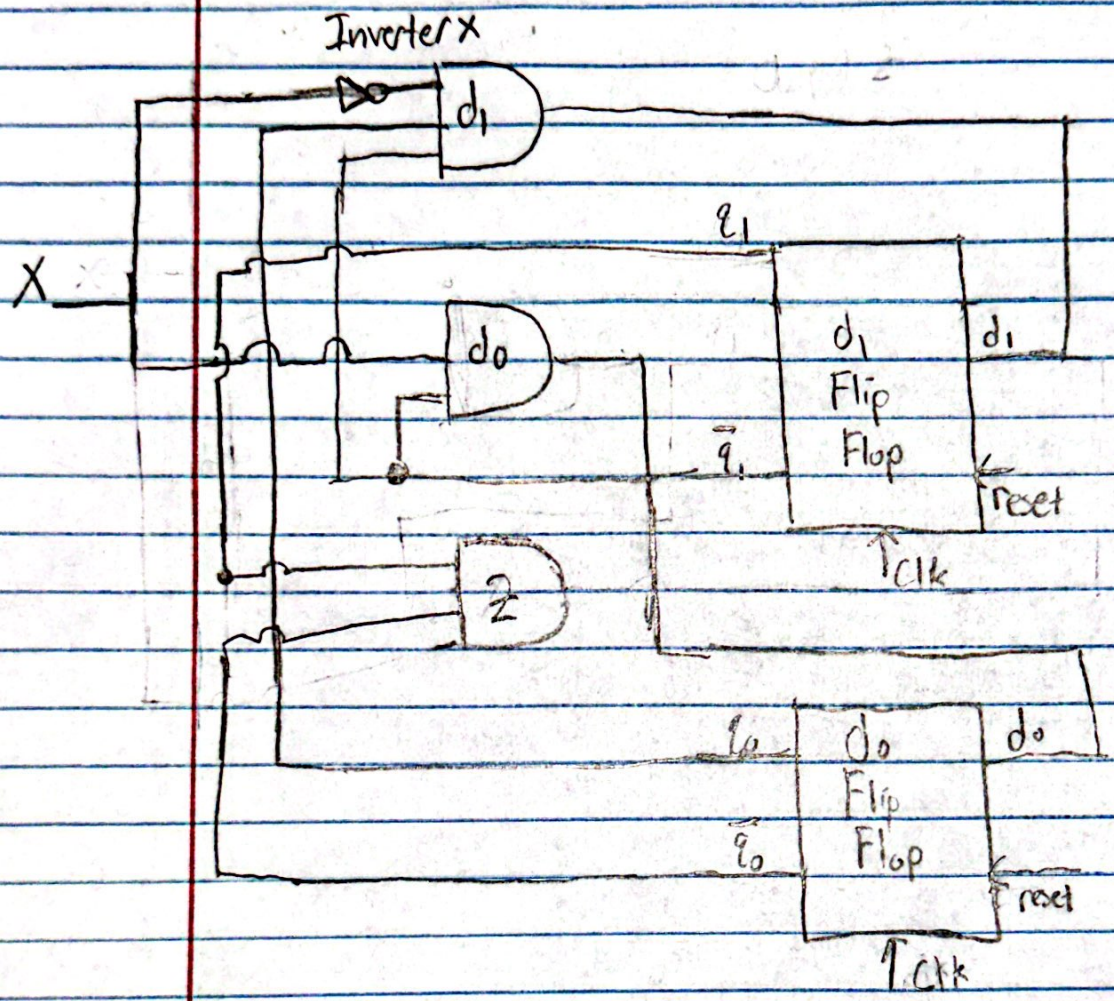
1

$d_0 = (\bar{q}_1 x)$

$Z = q_1 \bar{q}_0$

Draw circuit

$d_1 = \bar{q}_1 q_0 \bar{x}$ $d_0 = \bar{q}_1 x$ $z = q_1 \bar{q}_0$



Moore Sequence recognizer dectects overlapping sequence 001