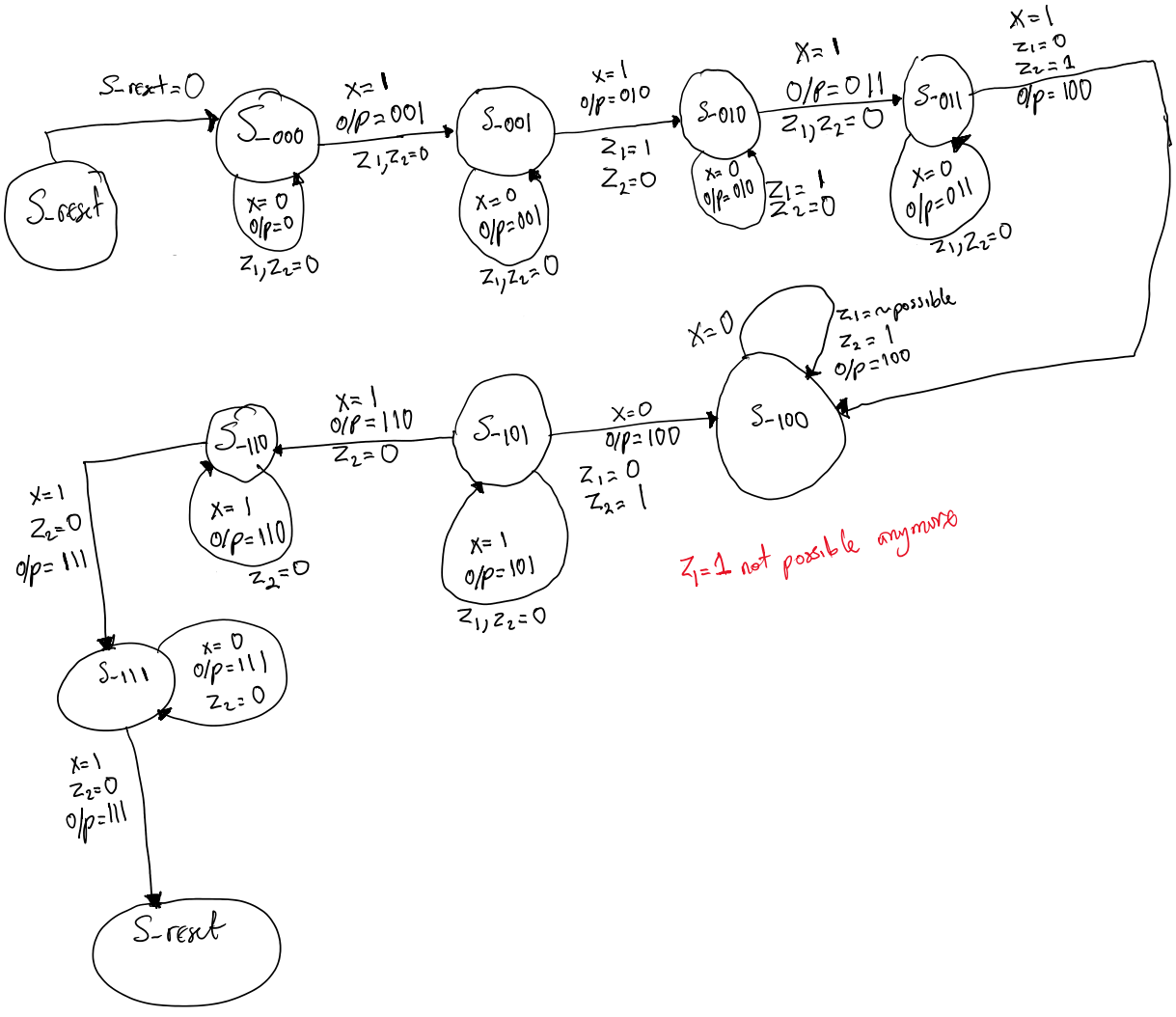
Q1

Saturday, June 8, 2024 8:14 AM

State Table				
	next_state		output	
present_state	x_in=0	x_in=1	z1	z2
S_000	S_000	S_001	0	0
S_001	S_001	S_010	0	0
S_010	S_010	S_011	1	0
S_011	S_011	S_100	0	0
S_100	S_100	S_101	0	1
S_101	S_101	S_110	0	0
S_110	S_110	S_111	0	0
S_111	S_111	S_111	0	0

State Table				
	next_state		output	
present_state	x_in=0	x_in=1	z1	z2
S_000	S_000	S_001	0	0
S_001	S_001	S_010	1	0
S_010	S_010	S_011	1	0
S_011	S_011	S_100	0	1
S_100	S_100	S_101	0	1
S_101	S_101	S_110	0	0
S_110	S_110	S_111	0	0
S_111	S_111	S_reset	0	0

S_reset: Needs to low for the FSM to start
if input sequence = 010 then z1=1 and z2=0
if input sequence = 100 then z1=0 and z2=1
S_000: 3Bit input sequence=000
S_001: 3Bit input sequence=001 received
S_010: 3Bit input sequence=010 received
S_011: 3Bit input sequence=011 received
S_100: 3Bit input sequence=100 received
S_101: 3Bit input sequence=101 received
S_110: 3Bit input sequence=110 received
S_111: 3Bit input sequence=111 received


S_rest=0
S_rest
S_000
x=0
o/p=0
z1,z2=0
x=1
o/p=001
z1,z2=0
S_001
x=0
o/p=001
z1,z2=0
x=1
o/p=010
z1=1
z2=0
S_010
x=0
o/p=010
z1=1
z2=0
x=1
o/p=011
z1,z2=0
S_011
x=0
o/p=011
z1,z2=0
x=1
z1=0
z2=1
o/p=100
S_100
x=0
z1=~possible
z2=1
o/p=100
x=0
o/p=100
z1=0
z2=1
S_101
x=1
o/p=101
z1,z2=0
x=1
o/p=110
z2=0
S_110
x=1
o/p=110
z2=0
x=1
z2=0
o/p=111
S_111
x=0
o/p=111
z2=0
x=1
z2=0
o/p=111
S_rest
z1=1 not possible anymore