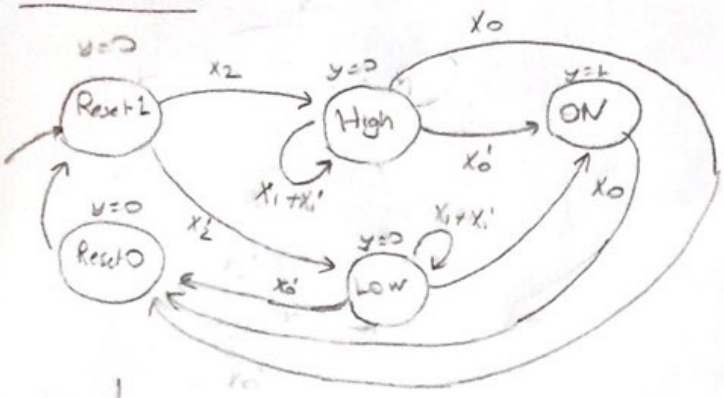
Question 1



States	Next States						Outputs
	X_2	X_2'	X_1	X_1'	X_0	X_0'	
Reset 0	Reset L	Reset L	Reset L	Reset L	Reset L	Reset L	0
Reset L	High	Low	X	X	X	X	0
High	X	X	High	High	Reset 0	ON	0
Low	X	X	Low	Low	ON	Reset 0	0
ON	Reset 0	Reset 0	Reset 0	Reset 0	Reset 0	Reset 0	1

Question 2

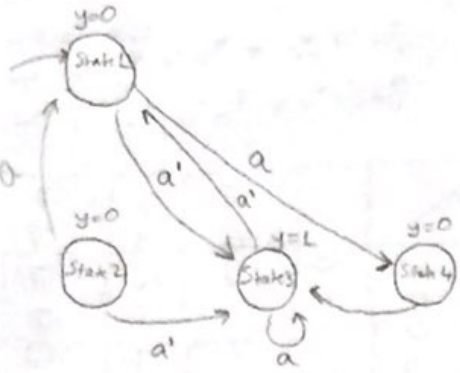
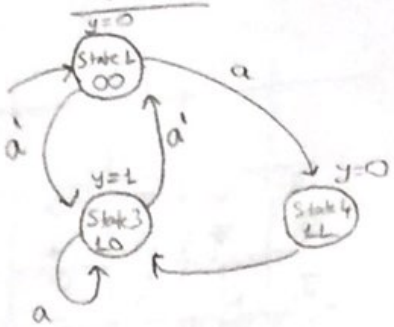
$y = S_1 S_0'$

$n_1 = (aS_1'S_0 + a'S_1S_0')'$

$n_0 = (aS_1'S_0')'$

	S_1	S_0	a	n_1	n_0	y
State 1	0	0	0	1	0	0
	0	0	1	1	1	0
State 2	0	1	0	1	0	0
	0	1	1	0	0	0
State 3	1	0	0	0	0	1
	1	0	1	1	0	1
State 4	1	1	0	1	0	0
	1	1	1	1	0	0

State 1	00
State 2	01
State 3	10
State 4	11



Reduced