

b)

A B C	N_2, N_1, N_0	O_2, O_1, O_0	output
Present	Next	Out	
000	001	001	001
001	010	001	001
010	011	001	001
011	100	111	111
100	101	000	000
101	110	000	000
110	111	100	100
111	000	110	110

c) $N_2 = \bar{A}\bar{B}C + \bar{A}B\bar{C} + A\bar{B}C + A\bar{B}\bar{C} = \bar{A}BC + A\bar{C} + A\bar{B} = \bar{A}BC + A(\bar{B} + \bar{C}) = A \oplus (BC)$

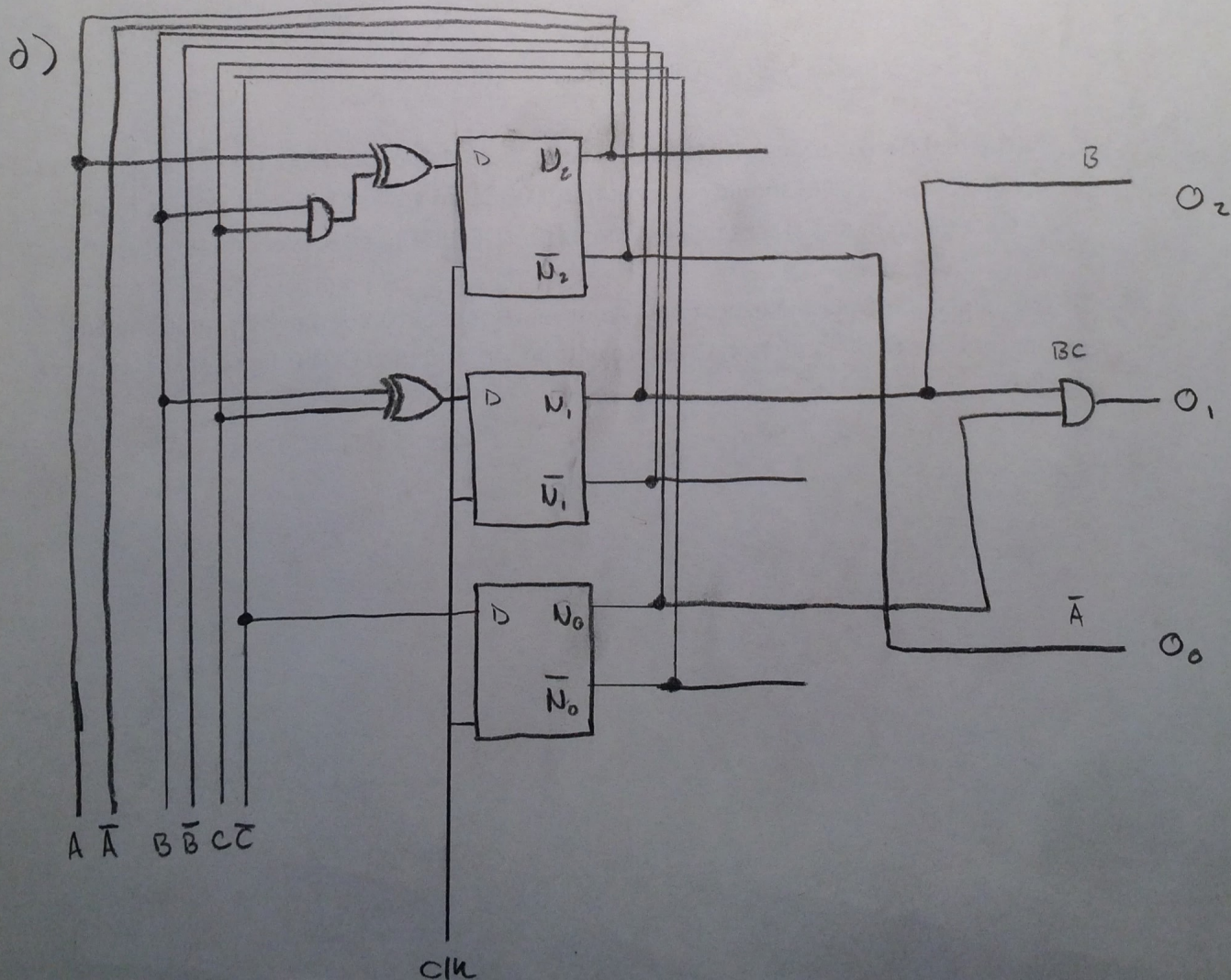
$N_1 = \bar{A}\bar{B}C + \bar{A}B\bar{C} + A\bar{B}C + A\bar{B}\bar{C} = \bar{B}C + B\bar{C} = B \oplus C$

$N_0 = \bar{A}\bar{B}C + \bar{A}B\bar{C} + A\bar{B}C + A\bar{B}\bar{C} = \bar{A}\bar{C} + A\bar{C} = \bar{C}$

$O_2 = \bar{A}B\bar{C} + \bar{A}BC + A\bar{B}C + A\bar{B}\bar{C} = \bar{A}B + A\bar{B} = B$

$O_1 = \bar{A}BC + A\bar{B}C = BC$

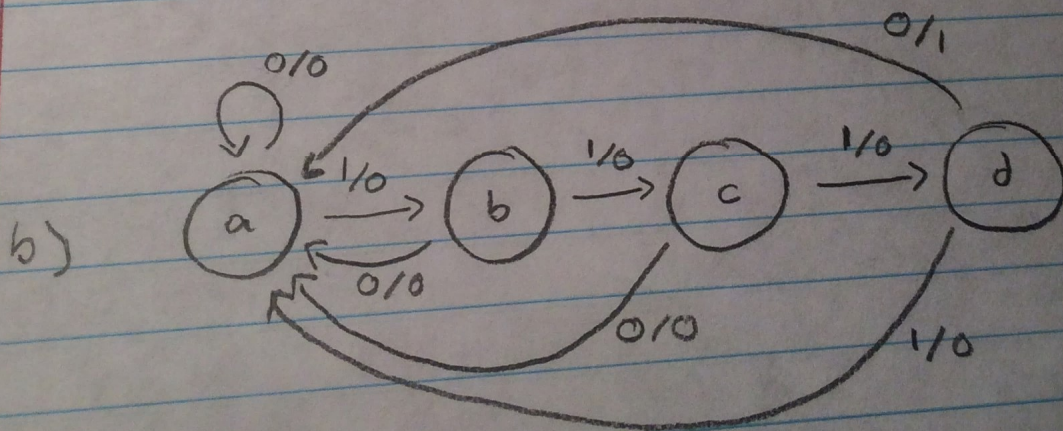
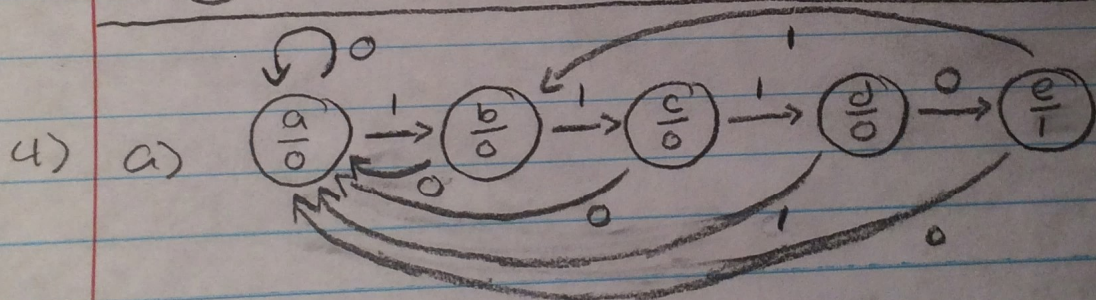
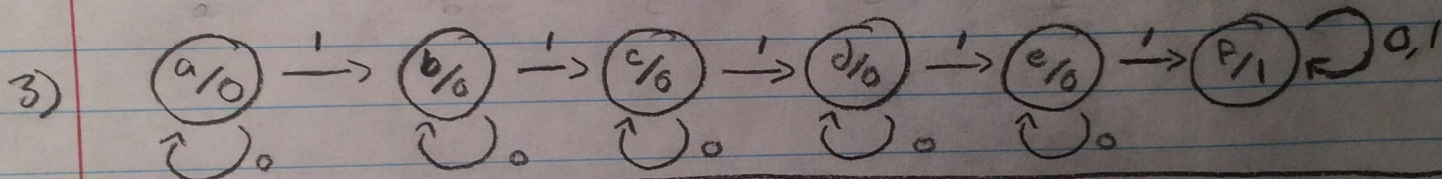
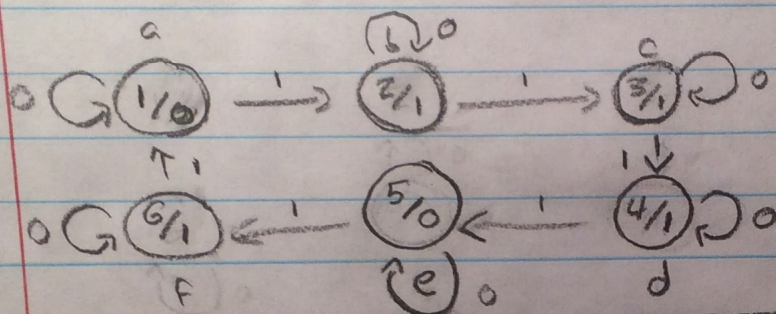
$O_0 = \bar{A}\bar{B}C + \bar{A}B\bar{C} + A\bar{B}C + A\bar{B}\bar{C} = \bar{A}$

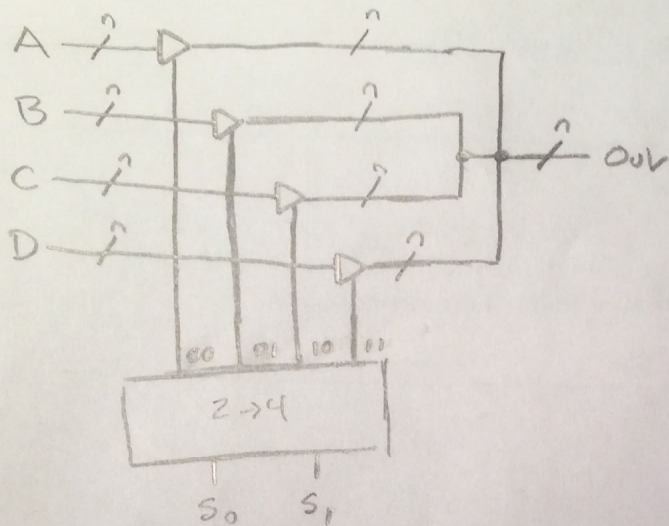


Class 32, 33, 34

1) $k = (\log_2 n)! \Rightarrow \boxed{k!}$ possible state assignments

2) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18





Class 36

D	After	CT	Reg A	Reg B	Reg P
		0	X	X	X
		1	0000 1001	1101	0000 0000
		2	0001 0010	0110	0000 1001
		3	0010 0100	0011	0000 1001
		4	0100 1000	0001	0010 1101
		5	1001 0000	0000	0111 0101
		6	0010 0000	0000	0111 0101
		7	0100 0000	0000	0111 0101
		8	1000 0000	0000	0111 0101

