Alan Talayid
Homework - 6

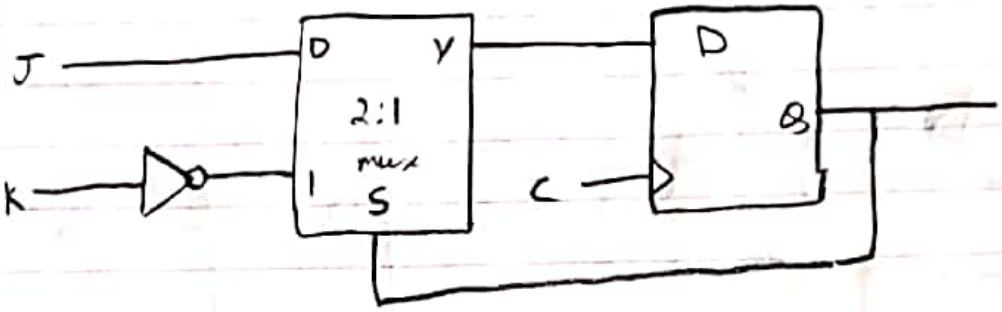
5.2)

D	$Q_s(t+1)$
0	0 (reset)
1	1 (set)

J	K	$Q_s(t+1)$
0	0	$Q_s(t)$
0	1	0
1	0	1
1	1	$Q_s'(t)$

⇒

J	K	$Q(t)$	$Q(t+1)$	D
0	0	0	0	0
0	0	1	1	1
0	1	0	0	0
0	1	1	0	0
1	0	0	1	1
1	0	1	1	1
1	1	0	1	1
1	1	1	0	0



5.4) a)

P	N	$Q_s(t+1)$
0	0	0
0	1	$Q_s(t)$
1	0	$Q_s'(t)$
1	1	1

b)

P	N	$Q_s(t)$	$Q_s(t+1)$
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	1

P \ NQ_s	00	01	11	10
0	0	0	1	0
1	1	0	1	1

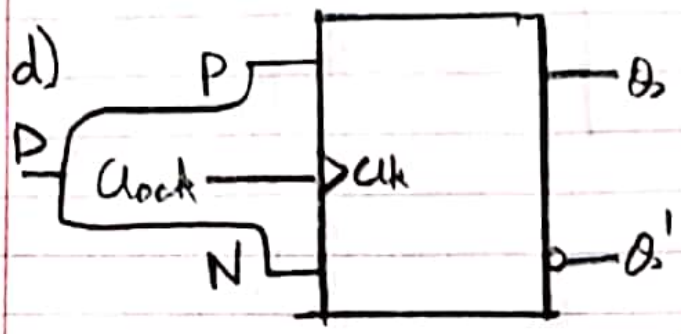
PQ_s'

$Q_s(t+1) = PQ_s' + NQ_s$

c)

$Q_3(t)$	$Q(t+1)$	P	N
0	0	0	X
0	1	1	X
1	0	X	0
1	1	X	1

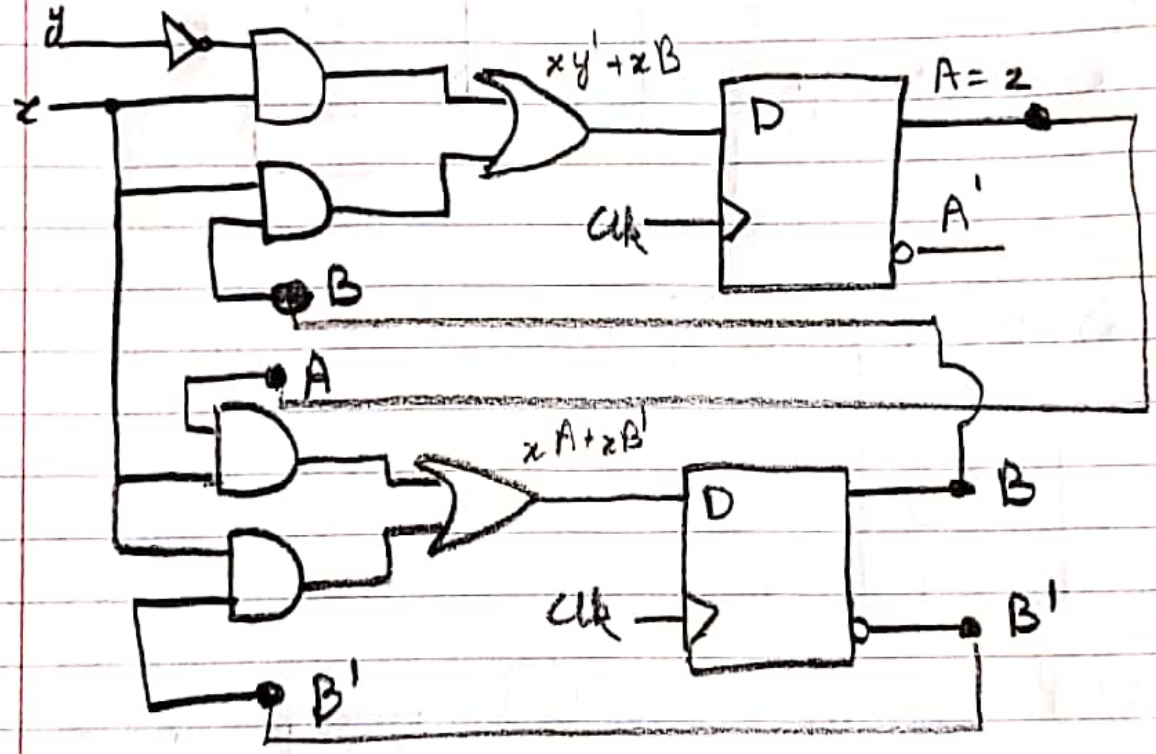
d)



D	$Q_3(t)$	$Q_3(t+1)$	P	N
0	0	0	0	X
0	1	0	X	0
1	0	1	1	X
1	1	1	X	1

P = D & N = D.

5.b) a)



b)

PS		NS				Z			
A	B	xy 00	01	11	10	00	01	11	10
S_0 0	0	00	00	01	11	0	0	0	1
S_1 0	1	00	00	10	10	0	0	1	1
S_2 1	1	00	00	11	11	0	0	1	1
S_3 1	0	00	00	01	11	0	0	0	1

c)