

Digital Logic Design: Homework 9

Joshua Dong

November 21, 2016

14.12

a)

Current State	Next State		Output
	X=0	X=1	
A	B	A	0
B	C	A	0
C	C	D	0
D	B	A	1

b)

X	current	next	Z
0	A	B	0
0	B	C	0
0	C	C	0
1	A	A	0
1	B	A	0
1	C	A	1

14.18

a)

Current State	Next State		Output	
	X=0	X=1	X=0	X=1
0	0	8	1	1
3	0	8	0	0
4	0	10	0	0
6	3	10	0	0
8	4	12	0	0
10	4	13	0	0
12	6	13	0	0
13	6	13	1	1

b)

Current State	Next State		Output
	X=0	X=1	
0	0	8	1
1	0	8	1
2	1	9	1
3	1	9	0
4	2	10	0
5	2	10	0
6	3	11	0
7	3	11	0
8	4	12	0
9	4	12	0
10	5	13	0
11	5	13	0
12	6	14	0
13	6	14	1
14	7	15	1
15	7	15	1

or

Current State	Next State		Output
	X=0	X=1	
0	0	8	1
3	0	8	0
4	0	10	0
6	3	10	0
8	4	12	0
10	4	15	0
12	6	15	0
15	6	15	1

c)

Yes, it simply outputs the validity of the last state.