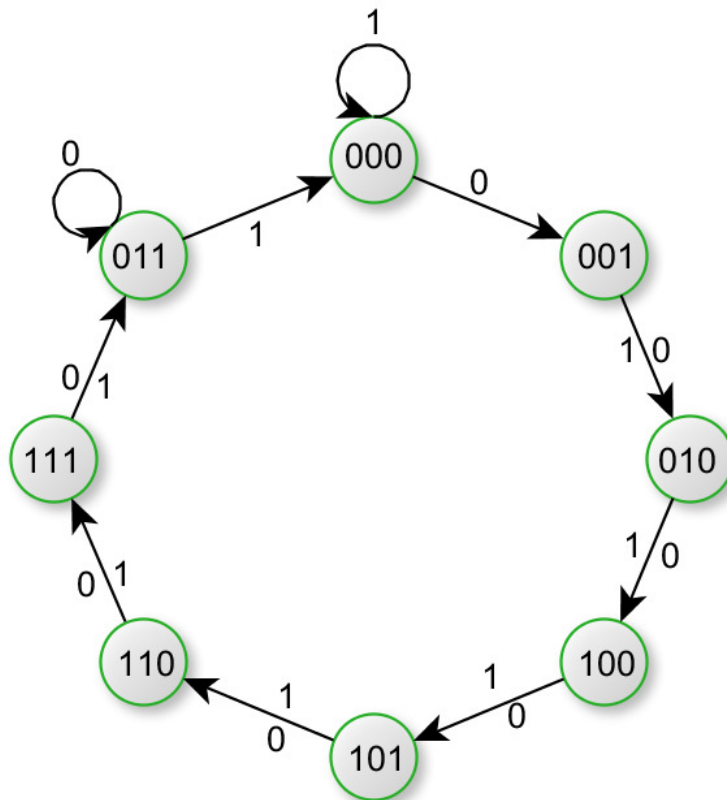


Answers

6) State Diagram

Symbology CS



Minterm	Present State			Input	Next State			OUTPUTs		
	A	B	C		A	B	C	X	Y	Z
0	0	0	0	0	0	0	1	0	0	1
	0	0	0	1	0	0	0	0	0	0
1	0	0	1	0	0	1	0	0	1	0
	0	0	1	1	0	1	0	0	1	0
2	0	1	0	0	1	0	0	1	0	0
	0	1	0	1	1	0	0	1	0	0
3	0	1	1	0	0	1	1	0	1	1
	0	1	1	1	0	0	0	0	0	0
4	1	0	0	0	1	0	1	1	0	1
	1	0	0	1	1	0	1	1	0	1
5	1	0	1	0	1	1	0	1	1	0
	1	0	1	1	1	1	0	1	1	0
6	1	1	0	0	1	1	1	1	1	1
	1	1	0	1	1	1	1	1	1	1
7	1	1	1	0	0	1	1	0	1	1
	1	1	1	1	0	1	1	0	1	1

Assume D type flipflops

		A B			
		0 0	0 1	1 1	1 0
C CS	0 0	0	1	1	1
	0 1	0	1	1	1
	1 1	0	0	0	1
	1 0	0	0	0	1

$$D_a = B./C + A./B$$

		A B			
		0 0	0 1	1 1	1 0
C CS	0 0	0	0	1	0
	0 1	0	0	1	0
	1 1	1	0	1	1
	1 0	1	1	1	1

$$D_b = A.B + C./CS + /B.C$$

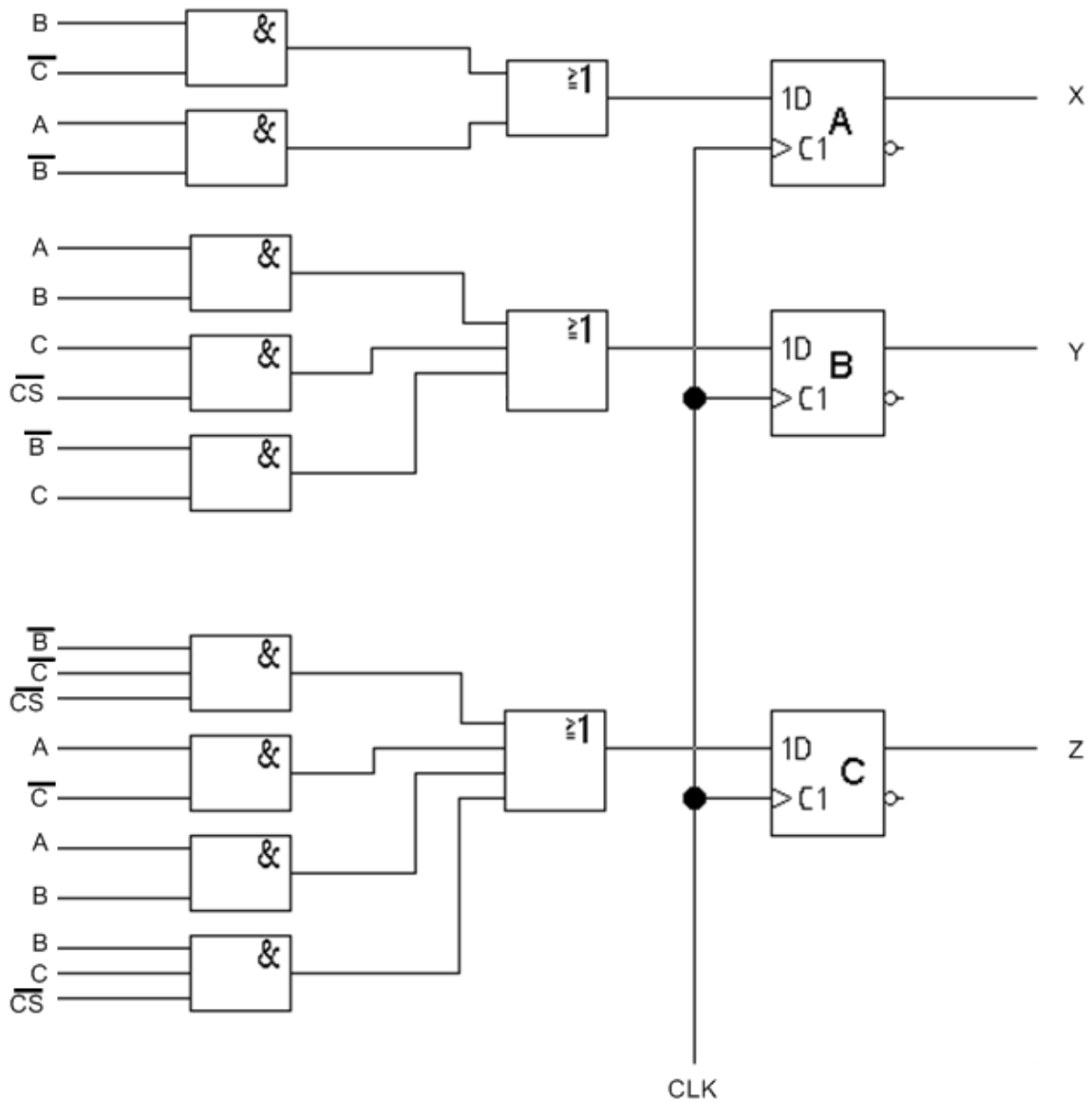
		A B			
		0 0	0 1	1 1	1 0
C CS	0 0	1	0	1	1
	0 1	0	0	1	1
	1 1	0	0	1	0
	1 0	0	1	1	0

$$D_c = /B./C./CS + A./C + A.B + B.C./CS$$

$$D_a = B./C + A./B$$

$$D_b = A.B + C./CS + /B.C$$

$$D_c = /B./C./CS + A./C + A.B + B.C./CS$$



7)

	AB			
CD	1	1	0	0
	L	1	$\bar{H}+L$	$H+L$
	0	$\bar{H}+\bar{L}$	$\bar{H}$	H.L
	$H.\bar{L}$	$\bar{L}$	0	0

$$\bar{A}.\bar{B}.\bar{L} + \bar{C}.\bar{D}.\bar{L} + A.\bar{B}./C.D.H + B.D./H + A./B.D.H.L + /A.C./D.H./L$$

	AB			
CD	1	1	0	0
	0	X	0	0
	0	0	0	0
	0	0	0	0

$$\bar{A}./C./D$$

$$\bar{A}.\bar{B}.\bar{L} + \bar{C}.\bar{D}.\bar{L} + A.\bar{B}./C.D.H + B.D./H + A./B.D.H.L + /A.C./D.H./L + \bar{A}./C./D$$

	AB				
CD		1	1	0	0
	L	1	$\bar{H}+L$	$H+L$	
	0	$\bar{H}+\bar{L}$	$\bar{H}$	$H.L$	
	$H.\bar{L}$	$\bar{L}$	0	0	

Actual terms are

$\bar{A}/\bar{B}/\bar{C}/\bar{D} + \bar{A}/\bar{B}/C/D + \bar{A}/B/\bar{C}/\bar{D} + \bar{A}/B/C/D + \bar{A}/B/\bar{C}/D + \bar{A}/B/C/D + \bar{A}/B/\bar{C}/D + \bar{A}/B/C/D$
 $+ \bar{A}/B/\bar{C}/D + \bar{A}/B/C/D + \bar{A}/B/\bar{C}/D + \bar{A}/B/C/D + \bar{A}/B/\bar{C}/D + \bar{A}/B/C/D + \bar{A}/B/\bar{C}/D + \bar{A}/B/C/D$

Dss tutorial pt2 answers

A	B	C	D	H	L	Term1	Term2	Term 3	Term 4	Term 5	Term 6	Term 7
0	0	0	0	0	0							/A./C./D
0	0	0	0	0	1							/A./C./D
0	0	0	0	1	0							/A./C./D
0	0	0	0	1	1							/A./C./D
0	0	0	1	0	0							
0	0	0	1	0	1		C.D.L					
0	0	0	1	1	0							
0	0	0	1	1	1		C.D.L					
0	0	1	0	0	0							
0	0	1	0	0	1							
0	0	1	0	1	0						A.C./D.H./L	
0	0	1	0	1	1							
0	0	1	1	0	0							
0	0	1	1	0	1							
0	0	1	1	1	0							
0	0	1	1	1	1							
0	1	0	0	0	0	A.B./L						/A./C./D
0	1	0	0	0	1							/A./C./D
0	1	0	0	1	0	A.B./L						/A./C./D
0	1	0	0	1	1							/A./C./D
0	1	0	1	0	0	A.B./L			B.D./H			
0	1	0	1	0	1		C.D.L		B.D./H			
0	1	0	1	1	0	A.B./L						
0	1	0	1	1	1		C.D.L					
0	1	1	0	0	0	A.B./L						
0	1	1	0	0	1							
0	1	1	0	1	0	A.B./L					A.C./D.H./L	
0	1	1	0	1	1							
0	1	1	1	1	0	A.B./L			B.D./H			
0	1	1	1	1	1				B.D./H			
0	1	1	1	1	0	A.B./L						
0	1	1	1	1	1							
1	0	0	0	0	0							
1	0	0	0	0	1							
1	0	0	0	1	0							
1	0	0	0	1	1							
1	0	0	1	0	0							
1	0	0	1	0	1		C.D.L					
1	0	0	1	1	0			A./B./C.D.H				
1	0	0	1	1	1		C.D.L	A./B./C.D.H		A./B.D.H.L		
1	0	1	0	0	0							
1	0	1	0	0	1							
1	0	1	0	1	0							
1	0	1	0	1	1							
1	0	1	1	0	0							
1	0	1	1	1	0					A./B.D.H.L		
1	0	1	1	1	1							
1	1	0	0	0	0							
1	1	0	0	0	1							
1	1	0	0	1	0							
1	1	0	0	1	1							
1	1	0	1	0	0				B.D./H			
1	1	0	1	0	1		C.D.L		B.D./H			
1	1	0	1	1	0							
1	1	0	1	1	1		C.D.L					
1	1	1	0	0	0							
1	1	1	0	0	1							
1	1	1	0	1	0							
1	1	1	0	1	1							
1	1	1	1	1	0				B.D./H			
1	1	1	1	1	0				B.D./H			
1	1	1	1	1	1							
1	1	1	1	1	1							