

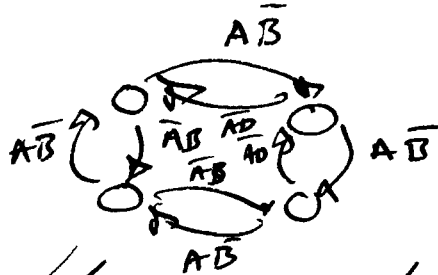
Dis Elec Q2 Answer

p2q3  
IML

a) 4

b)  $16 = 2^4$  (2 state vars, 2 inputs)

c) attached



d)

e) 2 bit up/down counter doesn't count if  $A = B$ .  
 $A = \text{up}$   
 $B = \text{down}$

		D <sub>15</sub> Elcd Q2		<u>Answer</u>		p2q3 IML	
A	B	X	Y	X'	Y'	J <sub>x</sub> K <sub>x</sub>	J <sub>y</sub> K <sub>y</sub>
0	0	0	0	0	0	0	0
0	1	0	0	<del>0</del> 1	1	1	1
<del>0</del>	0	0	0	0	1	0	1
1	1	0	0	0	0	0	0
0	0	0	1	0	1	0	0
0	1	0	1	0	0	0	1
1	0	0	1	1	0	1	1
1	1	0	1	0	1	0	0
0	0	<del>0</del>	0	<del>0</del>	0	0	0
0	1	1	0	0	1	1	1
1	0	1	0	1	1	0	1
1	1	1	0	1	0	0	0
0	0	1	1	1	1	0	0
<del>0</del>	<del>0</del>	1	1	1	0	0	1
1	0	1	1	0	0	1	1
1	1	1	1	1	1	0	0

$$J_x = K_x = \bar{A}B\bar{Y} + A\bar{B}Y \quad J_y = K_y = \bar{A}B + A\bar{B}$$