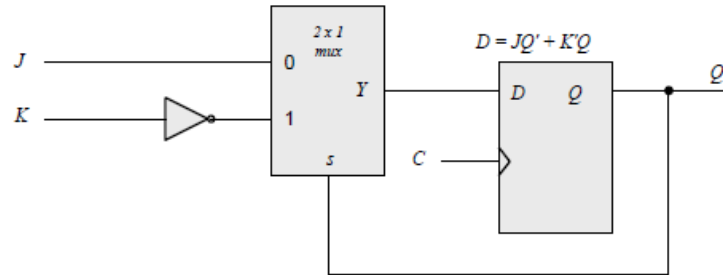


ITI1500
Devoir # 5
SOLUTIONS

5.2



Question 5.6 du devoir#5 Traduit en Français

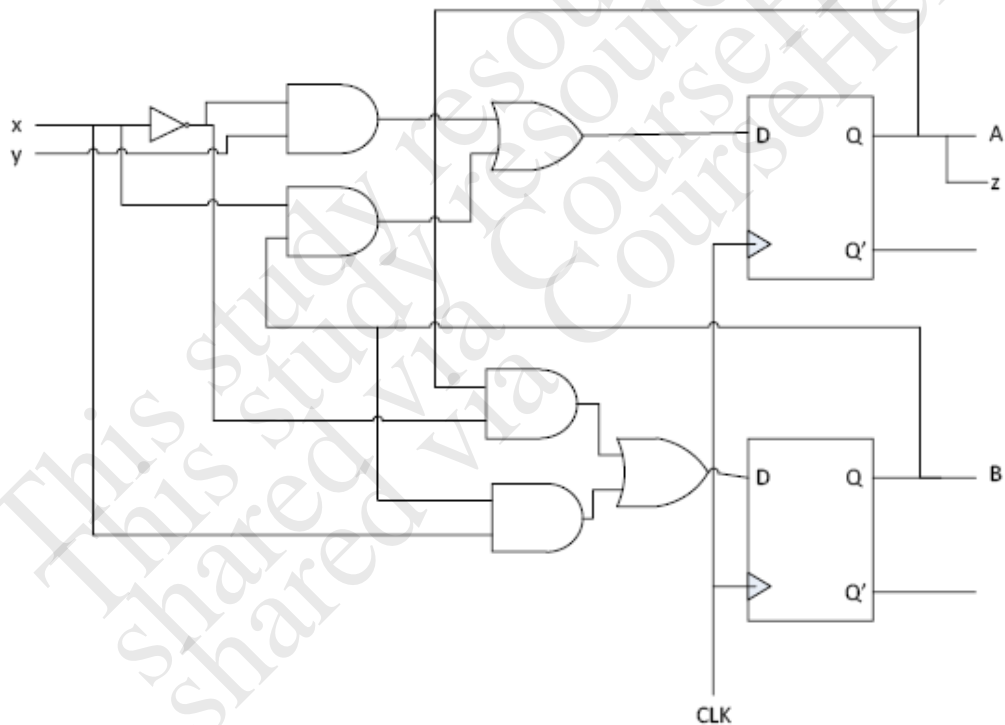
Question 5.6

$$A(t+1) = x'y + xB$$

$$B(t+1) = x'A + xB$$

$$Z = A$$

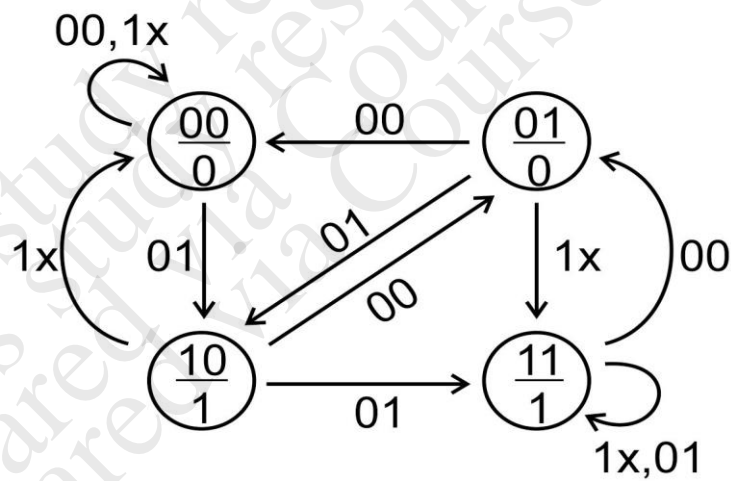
a)



b)

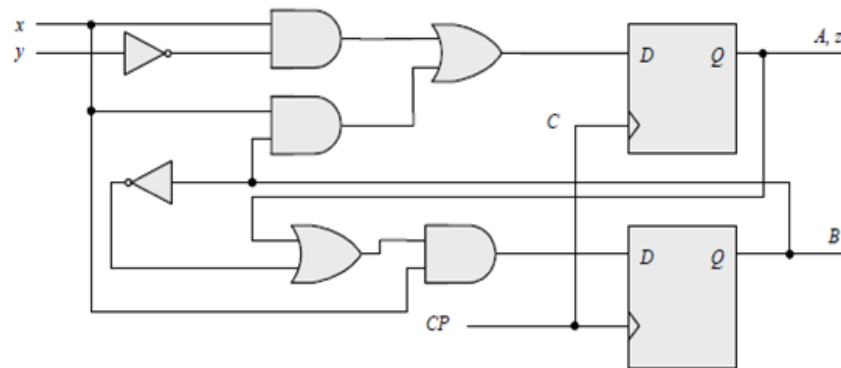
Previous State		Inputs		Next State		Output
A	B	x	y	A	B	z
0	0	0	0	0	0	0
0	0	0	1	1	0	0
0	0	1	0	0	0	0
0	0	1	1	0	0	0
0	1	0	0	0	0	0
0	1	0	1	1	0	0
0	1	1	0	1	1	0
0	1	1	1	1	1	0
1	0	0	0	0	1	1
1	0	0	1	1	1	1
1	0	1	0	0	0	1
1	0	1	1	0	0	1
1	1	0	0	0	1	1
1	1	0	1	1	1	1
1	1	1	0	1	1	1
1	1	1	1	1	1	1

c)



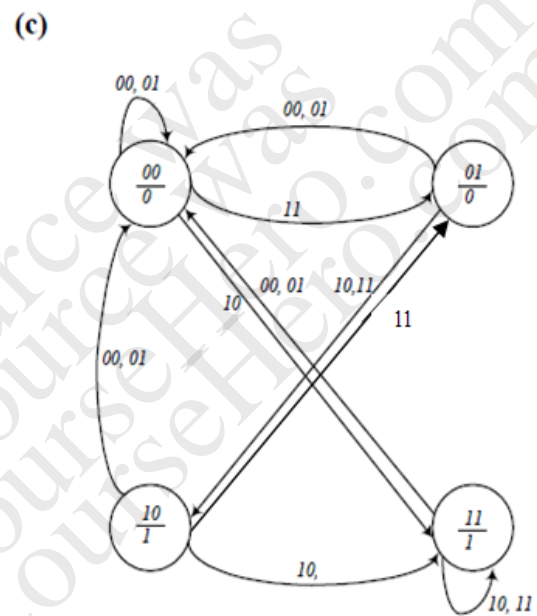
Question 5.6 du livre

5.6



(b) $A(t+1) = xy' + xB$
 $B(t+1) = xA + xB'$
 $z = A$

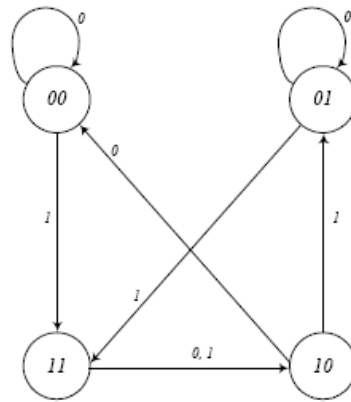
Present state		Inputs		Next state		Output
A	B	x	y	A	B	z
0	0	0	0	0	0	0
0	0	0	1	0	0	0
0	0	1	0	1	1	0
0	0	1	1	0	1	0
0	1	0	0	0	0	0
0	1	0	1	0	0	0
0	1	1	0	1	0	0
0	1	1	1	1	0	0
1	0	0	0	0	0	1
1	0	0	1	0	0	1
1	0	1	0	1	1	1
1	0	1	1	0	1	1
1	1	0	0	0	0	1
1	1	0	1	0	0	1
1	1	1	0	1	1	1
1	1	1	1	1	1	1



5.9

$$A(t+1) = J_A A' + K' A = xA' + BA$$

$$B(t+1) = J_B B' + K' B = xB' + A'B$$

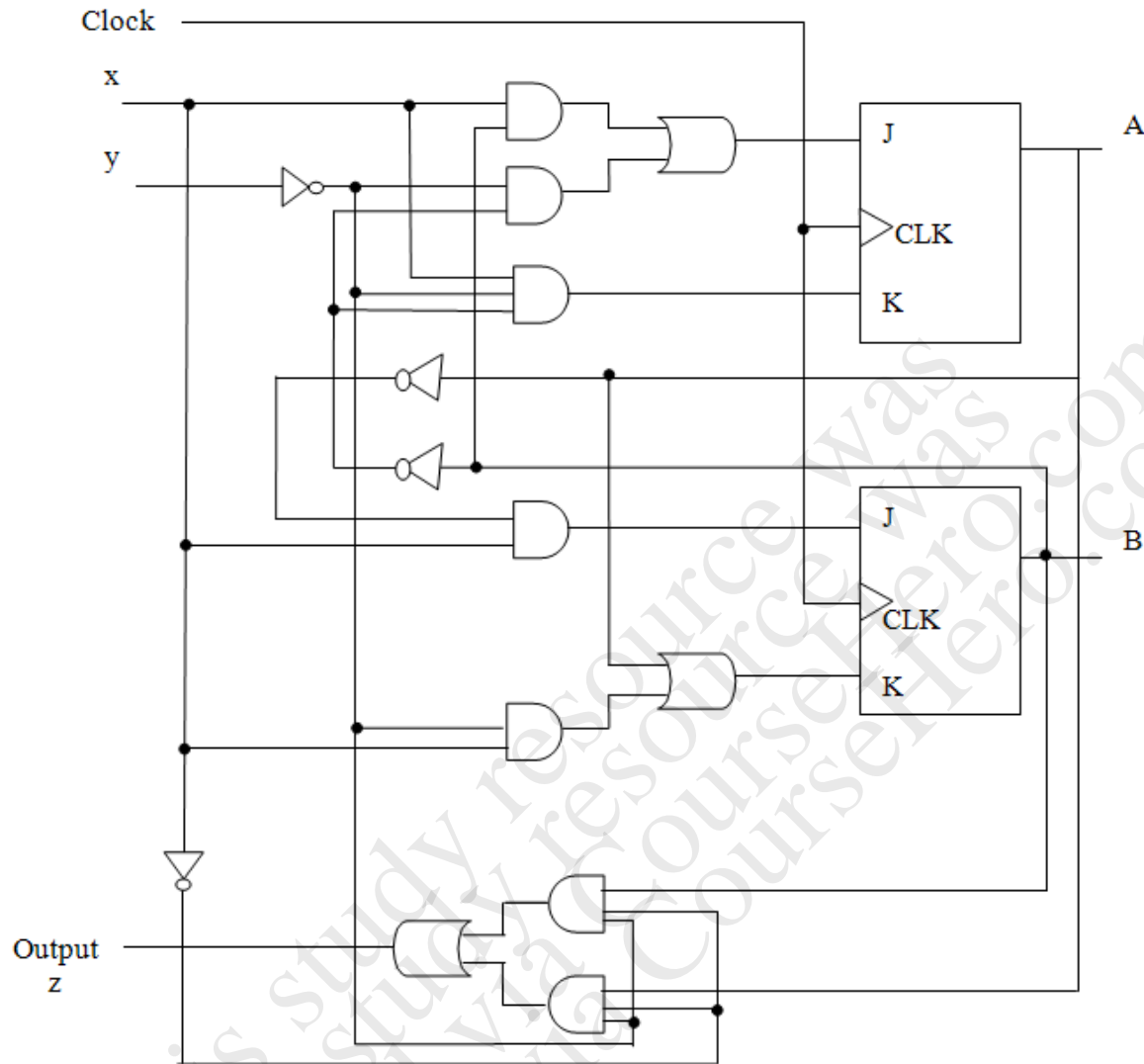


5.10

(a) $J_A = Bx + B'y'$
 $K_A = B'xy'$

$J_B = A'x$
 $K_B = A + xy'$

$Z = Ax'y' + Bx'y'$



$$A(t+1) = (Bx + B'y')A' + (B'xy')'A$$

$$B(t+1) = A'xB' + (A + xy')'B$$

(b)

Present state		Inputs		Next state		Output	FF Inputs			
A	B	x	y	A	B	z	J_A	K_A	J_B	K_B
0	0	0	0	1	0	0	1	0	0	0
0	0	0	1	0	0	0	0	0	0	0
0	0	1	0	1	1	0	1	1	1	1
0	0	1	1	0	1	0	0	0	1	0
0	1	0	0	0	1	1	0	0	0	0
0	1	0	1	0	1	0	0	0	0	0
0	1	1	0	1	0	0	1	0	1	0
0	1	1	1	1	1	1	1	0	1	0
1	0	0	0	1	0	1	1	0	0	1
1	0	0	1	1	0	0	0	0	0	1
1	0	1	0	0	0	0	1	1	0	1
1	0	1	1	1	0	0	0	0	0	1
1	1	0	0	1	0	1	0	0	0	1
1	1	0	1	1	0	0	0	0	0	1
1	1	1	0	1	0	0	1	0	0	1
1	1	1	1	1	0	0	1	0	0	1

(c)

AB		x			
		00	01	11	10
A	00	m_0 1	m_1	m_3	m_2 1
	01	m_4	m_5	1	1
	11	m_{12} 1	m_{13} 1	m_{15} 1	m_{14} 1
	10	m_8 1	m_9 1	m_{11} 1	m_{10}

$$A(t+1) = Ax' + Bx + Ay + A'B'y'$$

AB		x			
		00	01	11	10
A	00	m_0	m_1	m_3 1	m_2 1
	01	m_4 1	m_5 1	m_7 1	m_6
	11	m_{12}	m_{13}	m_{15}	m_{14}
	10	m_8	m_9	m_{11}	m_{10}

$$B(t+1) = A'B'x + A'B'(x' + y)$$

5.12

Present state	Next state		Output	
	0	1	0	1
<i>a</i>	<i>f</i>	<i>b</i>	0	0
<i>b</i>	<i>d</i>	<i>a</i>	0	0
<i>d</i>	<i>g</i>	<i>a</i>	1	0
<i>f</i>	<i>f</i>	<i>b</i>	1	1
<i>g</i>	<i>g</i>	<i>d</i>	0	1