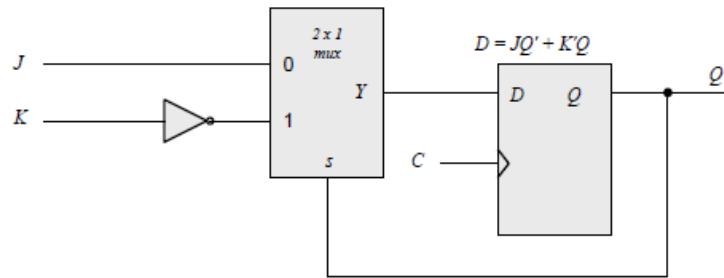


ITI1500
Devoir # 5
SOLUTIONS

5.2



Question 5.6 du devoir#5 Traduit en Français

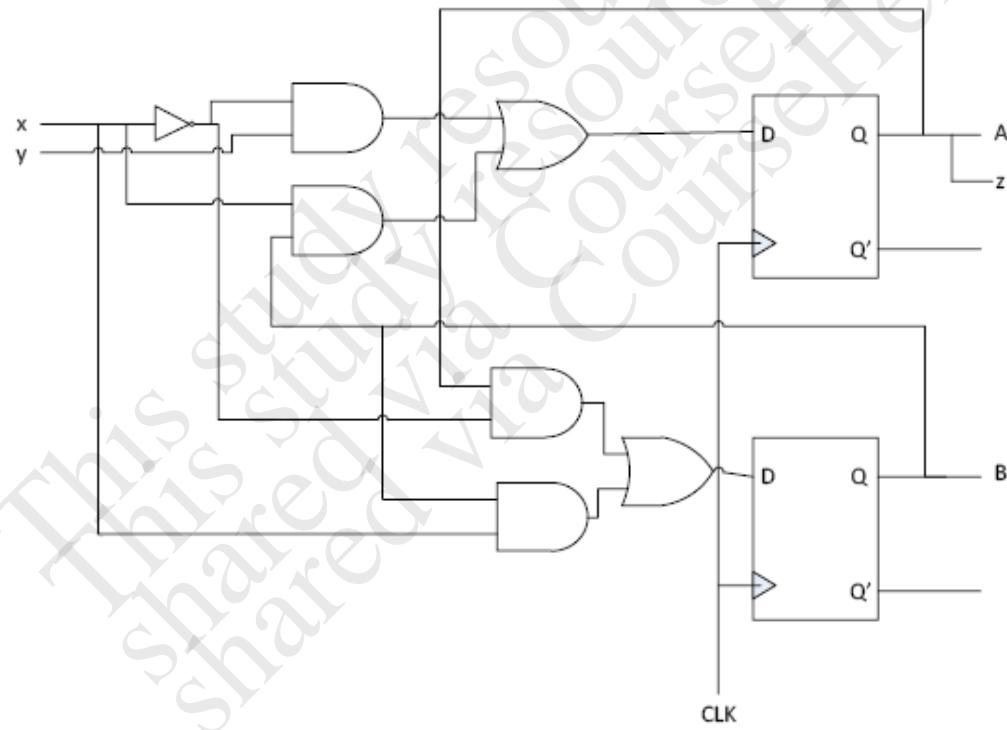
Question 5.6

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

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

$$Z = A$$

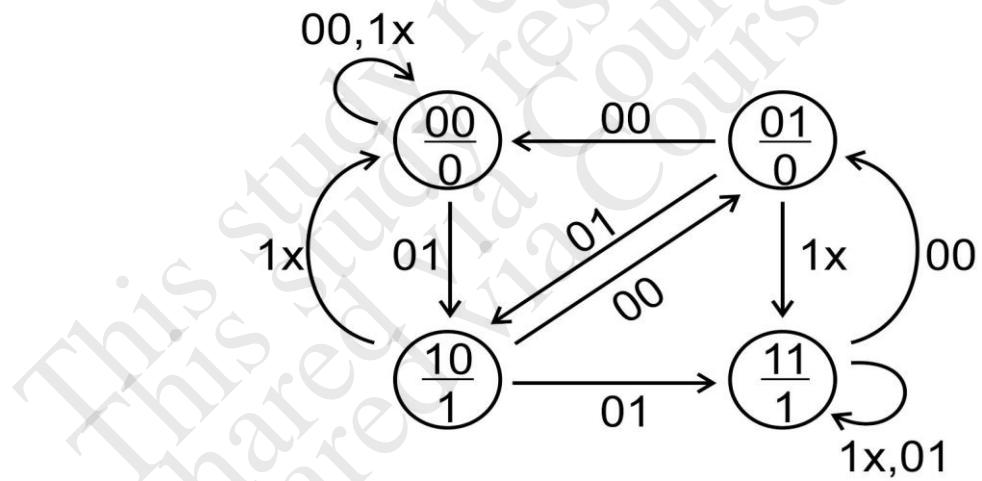
a)



b)

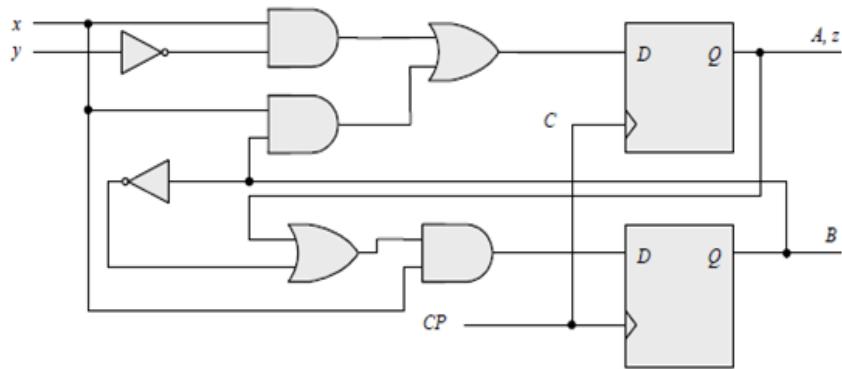
Previous State		Inputs		Next State		Output
A	B	x	y	A	B	z
0	0	0	0	0	0	0
0	0	0	1	1	0	0
0	0	1	0	0	0	0
0	0	1	1	0	0	0
0	1	0	0	0	0	0
0	1	0	1	1	0	0
0	1	1	0	1	1	0
0	1	1	1	1	1	0
1	0	0	0	0	1	1
1	0	0	1	1	1	1
1	0	1	0	0	0	1
1	0	1	1	0	0	1
1	1	0	0	0	1	1
1	1	0	1	1	1	1
1	1	1	0	1	1	1
1	1	1	1	1	1	1

c)

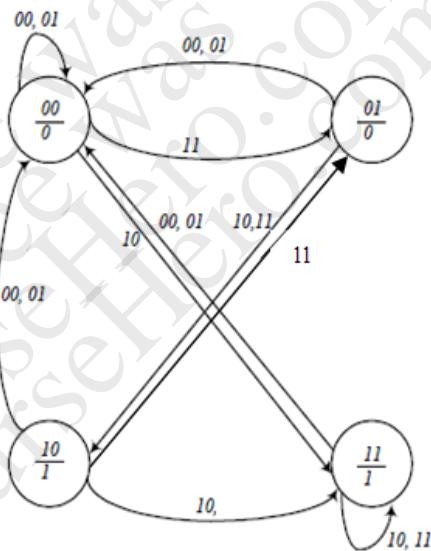


Question 5.6 du livre

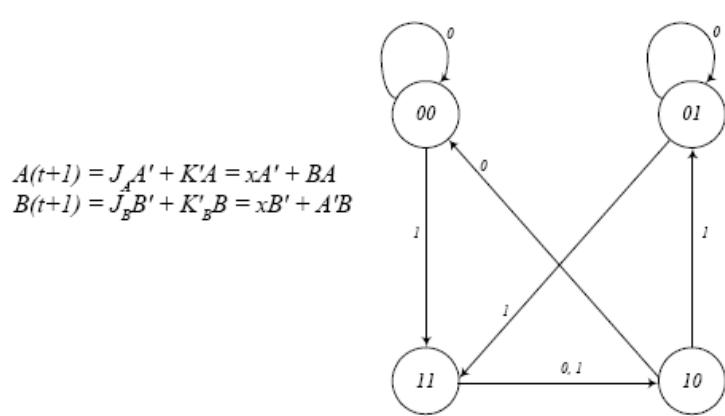
5.6



$$\begin{array}{ll} \text{(b)} & A(t+1) = xy' + xB \\ & B(t+1) = xA + xB' \\ & z = A \end{array} \quad \text{(c)}$$



5.9



5.10

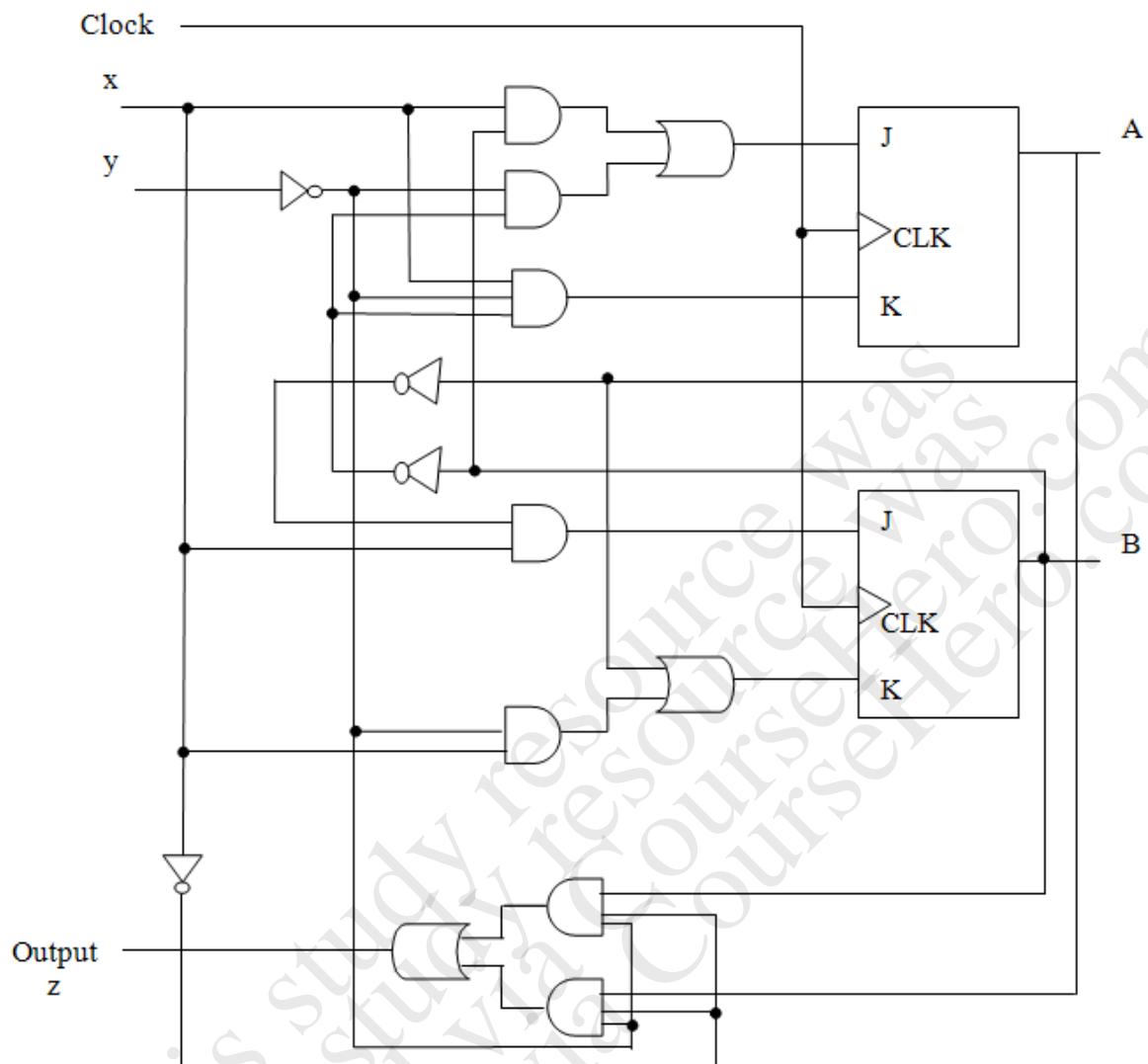
$$(a) J_A = Bx + B'y'$$

$$K_A = B'xy'$$

$$J_B = A'x$$

$$K_B = A + xy'$$

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



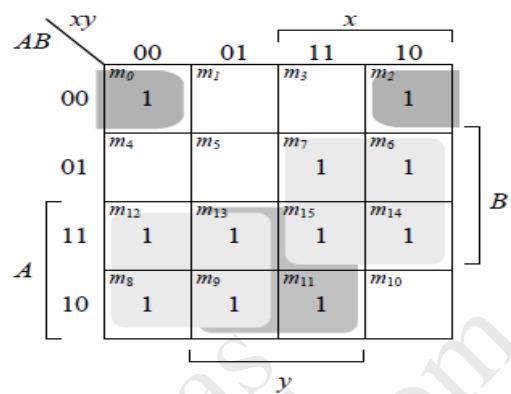
$$A(t+1) = (Bx + B'y')A' + (B'xy')'A$$

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

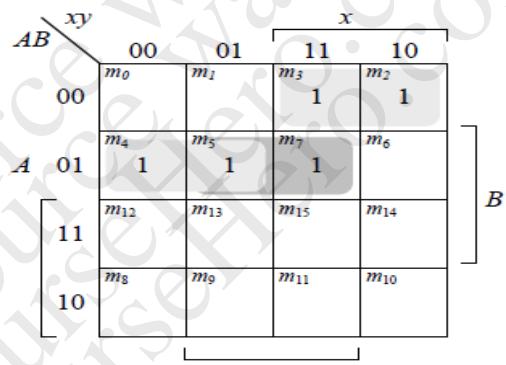
(b)

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



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



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

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