



DIRO
IFT 1215

DÉMONSTRATION N° 4
– Correction –

Max Mignotte

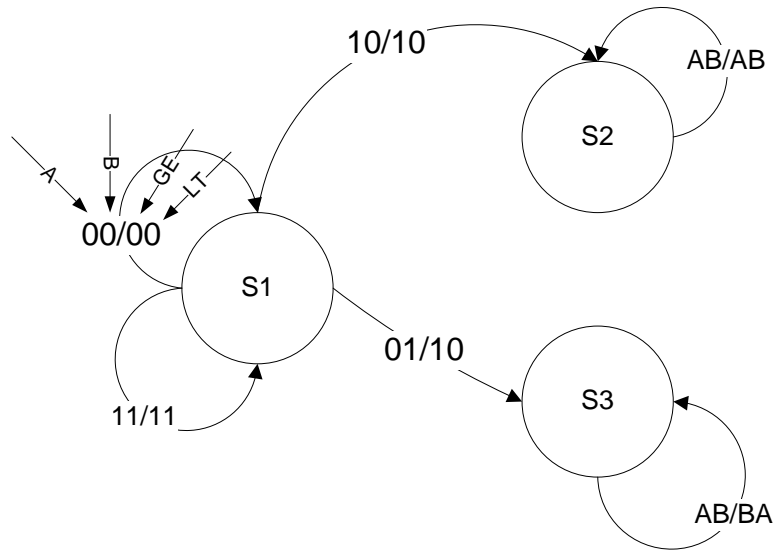
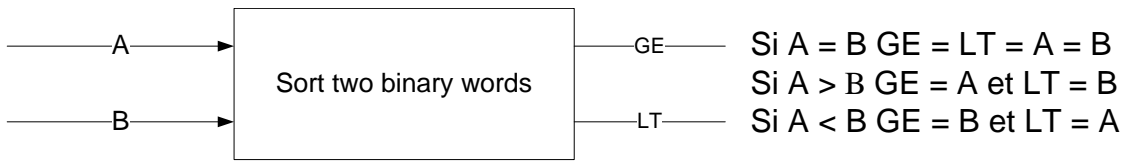
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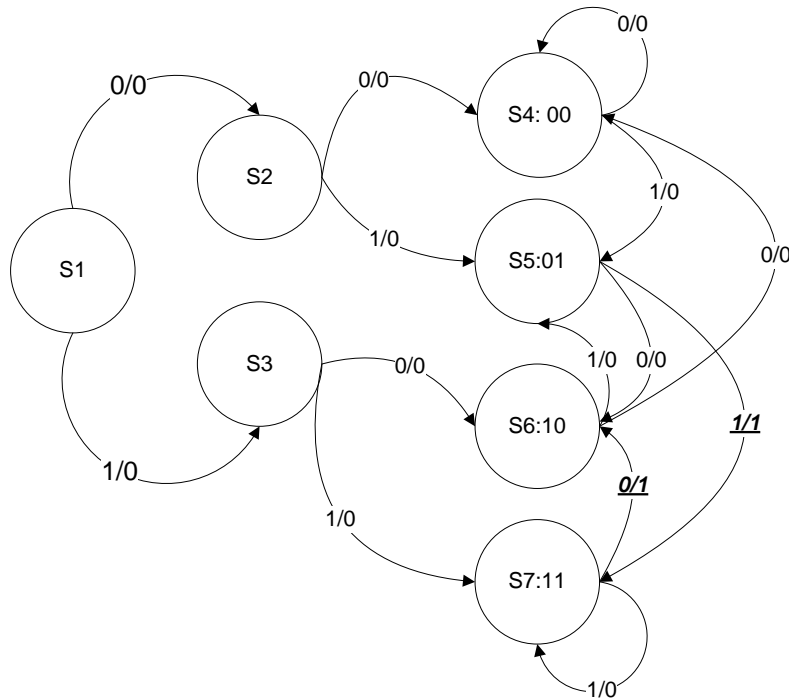
Démo 4

Exercice A.32



Exercice A.34

Design un FSM qui produit 1 si les 3 derniers bits sont 011 ou 110.



Input Present State	X	
	0	1
S1	S2/0	S3/0
S2	S4/0	S5/0
S3	S6/0	S7/0
S4	S4/0	S5/0
S5	S6/0	S7/1
S6	S4/0	S5/0
S7	S6/1	S7/0

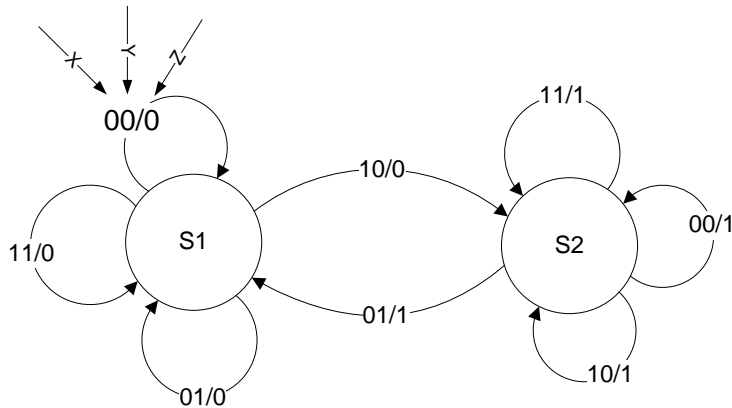
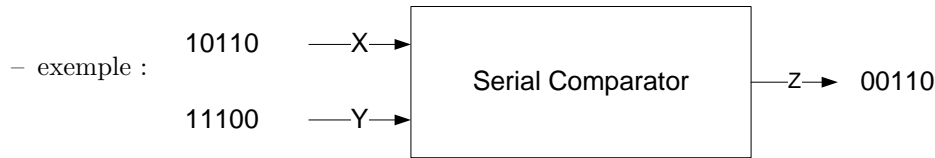
Input Present State	X	
	0	1
000	001/0	010/0
001	011/0	100/0
010	101/0	110/0
011	011/0	100/0
100	101/0	110/1
101	011/0	100/0
110	101/1	S7/0

Exercice A.35

- X et Y : entrées en série. LSB bit en premier.
- Sortie :

$$Z = \begin{cases} 1 & \text{if } X > Y \\ 0 & \text{if } X \leq Y \end{cases}$$

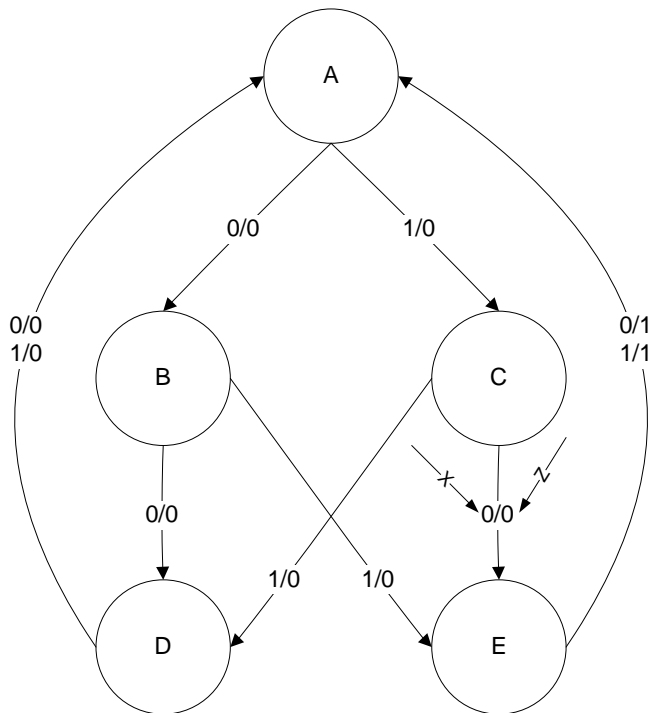
- Quand la machine commence, elle suppose que $X = Y$. Ainsi elle produit 0 jusqu'à ce que $X > Y$.
 \Rightarrow La valeur actuelle de X et Y n'influe sur Z que dans le prochain état.



Input Present State	XY			
	00	01	10	11
S1	S1/0	S1/0	S2/0	S1/0
S2	S2/1	S1/1	S2/1	S2/1

Input Present State	XY			
	00	01	10	11
0	0/0	0/0	1/0	0/0
1	1/1	0/1	1/1	1/1

Exercice A.38



Input Present State	X	
	0	1
A	B/0	C/0
B	D/0	E/0
C	E/0	D/0
D	A/0	A/0
E	A/1	A/1

Input Present State	X	
	0	1
000	001/0	010/0
001	011/0	100/0
010	100/0	011/0
011	000/0	000/0
100	000/1	000/1

s_2	s_1	s_0	X	s_2	s_1	s_0	Z
0	0	0	0	0	0	1	0
0	0	0	1	0	1	0	0
0	0	1	0	0	1	1	0
0	0	1	1	1	0	0	0
0	1	0	0	1	0	0	0
0	1	0	1	0	1	1	0
0	1	1	0	0	0	0	0
0	1	1	1	0	0	0	0
1	0	0	0	0	0	0	1
1	0	0	1	0	0	0	1
1	0	1	0	d	d	d	d
1	0	1	1	d	d	d	d
1	1	0	0	d	d	d	d
1	1	0	1	d	d	d	d
1	1	1	0	d	d	d	d
1	1	1	1	d	d	d	d

