

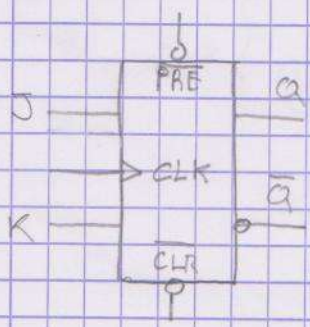
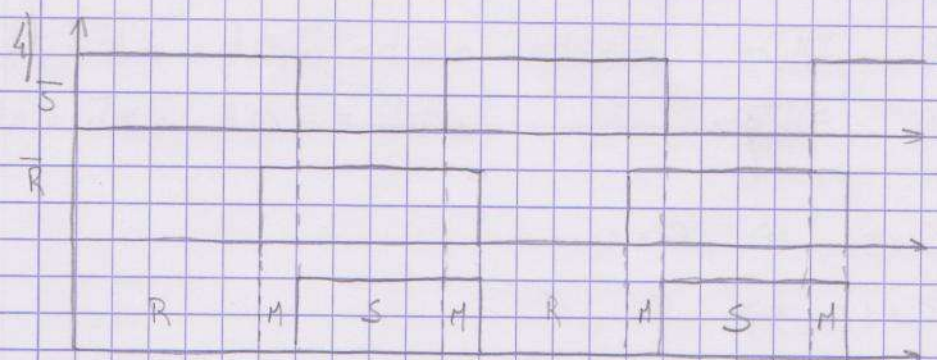
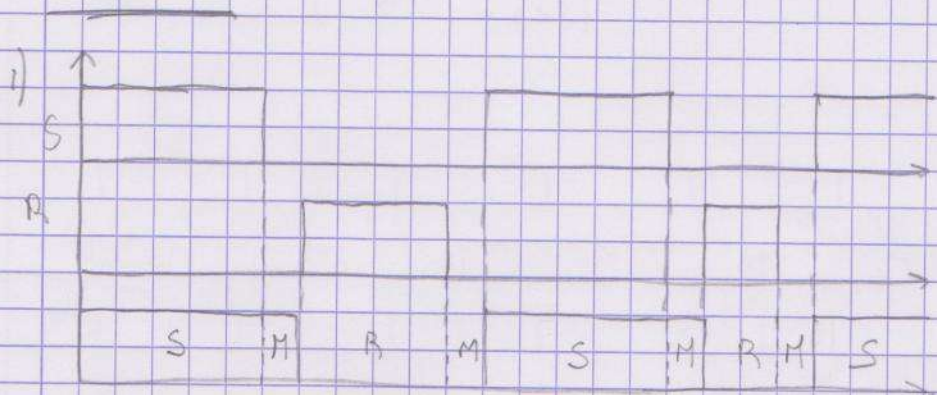
a	b	$\overline{a+b}$	R	S	F	Q_r
0	0	1	0	0	M	$Q_r = Q_{r-1}$
0	1	0	0	1	S	1
1	0	0	1	0	R	0
1	1	0	1	1	X	$Q = \overline{Q} = 0$

← Bascule RS

a	b	$\overline{a \cdot b}$	\overline{R}	\overline{S}	F	Q_r
0	0	1	0	0	X	$Q = \overline{Q} = 1$
0	1	1	0	1	R	0
1	0	1	1	0	S	1
1	1	0	1	1	M	$Q_r = Q_{r-1}$

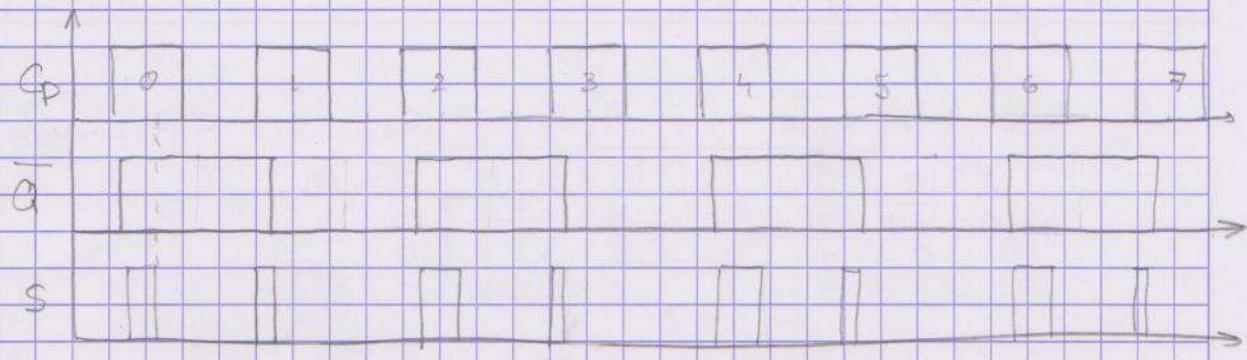
← Bascule $\overline{R}\overline{S}$

Exo 1



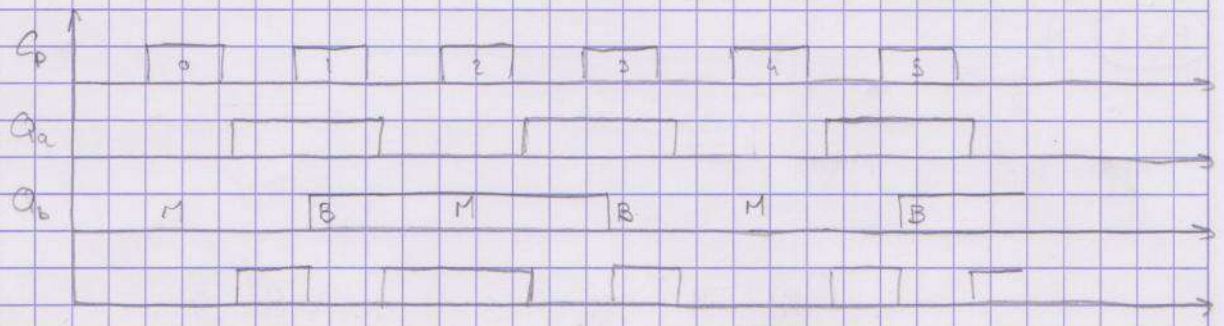
J	K	F	Q_r
0	0	M	$Q_r = Q_{r-1}$
0	1	S	} $Q_r = 0$
1	0	S	
1	1	B	} $Q_r = \overline{Q_{r-1}}$
		T	

Exo 2



Exo 3

$J_A = K_A = 1 \Rightarrow B \text{ sur } \downarrow$
 $J_B = K_B = Q_A \Rightarrow \left. \begin{matrix} Q_A = 0 & M \\ Q_A = 1 & B \end{matrix} \right\} \text{ sur } \uparrow$

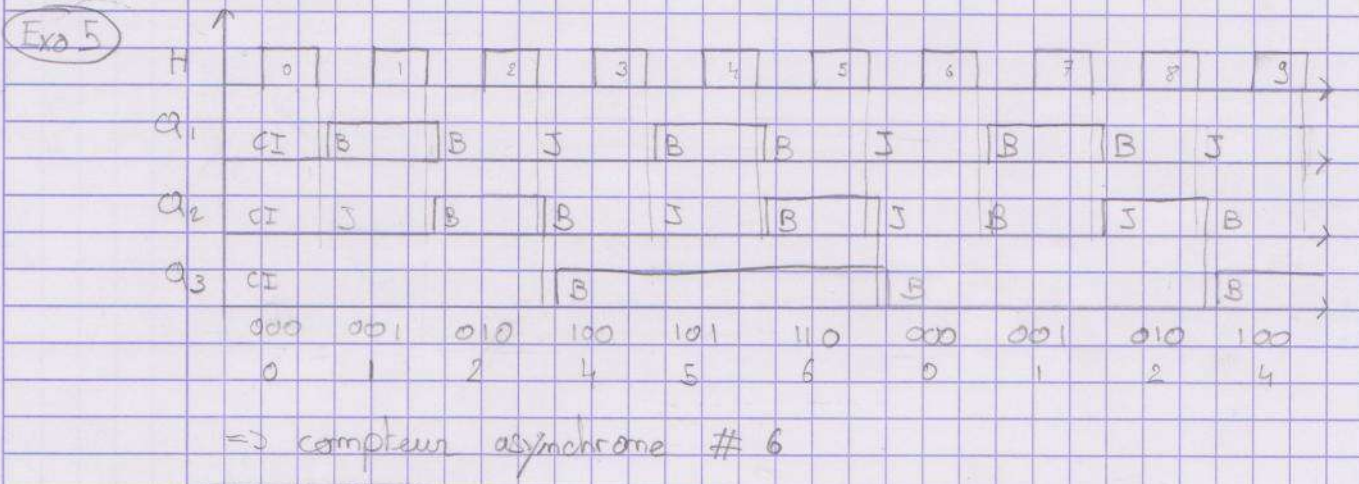
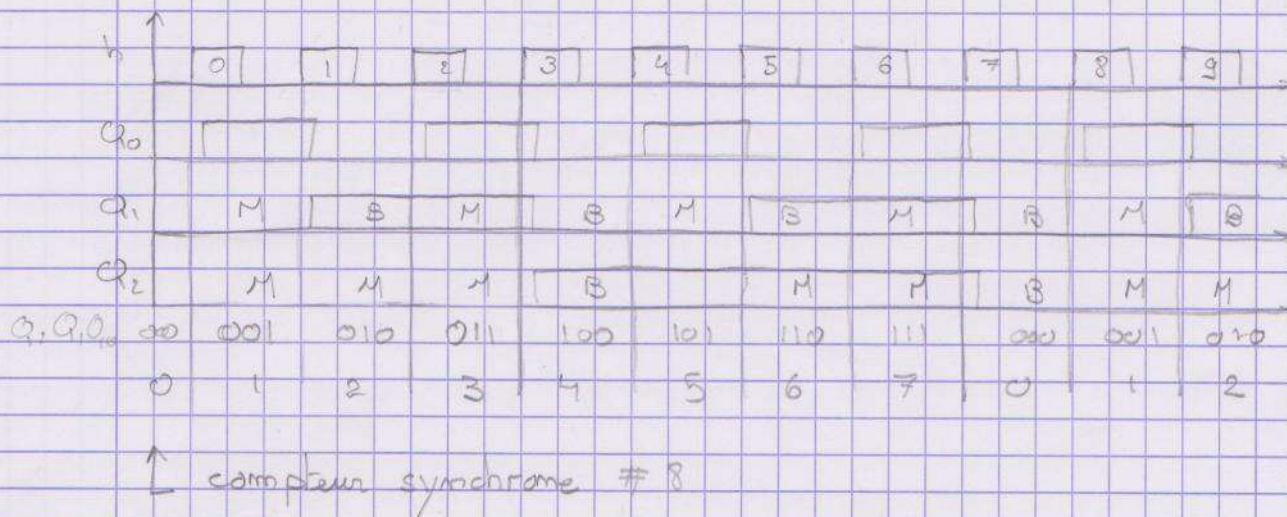


XOR: $\Rightarrow \text{D} \Rightarrow \text{D} = 1$ $a \oplus b = \bar{a}b + a\bar{b}$
 XNOR: $\Rightarrow \text{D} \Rightarrow \text{D} = 0$ $\bar{a} \oplus \bar{b} = \bar{a} \oplus b = a \oplus \bar{b} = ab + a\bar{b}$

Exo 4

1) $RAZ = 0 \Rightarrow a = 0$
 $RAZ = 1 \Rightarrow D \uparrow$
 $D = T \oplus Q = \bar{T}Q + T\bar{Q}$
 $T = 0 \Rightarrow D = Q$ (M)
 $T = 1 \Rightarrow D = \bar{Q}$ (Bascule) } sur \uparrow

2) T_0
 $T_1 = Q_0 \cdot T_0$
 $T_2 = Q_1 \cdot T_1 = Q_1 \cdot Q_0 \cdot T_0$
 si $T_0 = 0 \Rightarrow T_1 = 0, T_2 = 0 \Rightarrow M$
 si $T_0 = 1 \Rightarrow T_1 = Q_0, T_2 = 0, Q_0$



Exo 6

$$\left. \begin{matrix} J_1 = Q_0 \\ K_1 = 1 \end{matrix} \right\} J_1 = Q_0 = 1 \text{ et } C \rightarrow$$

