

①  $-50,5 \rightarrow \text{IEEE 754}$

11 110000100 110010100... -

②  $0x0400800$

1100 0100 1100 0000 1000 0000 0000 0000 = -1540

③

11100000  $\rightarrow$  00011111 +  
 $\frac{1}{00100000} = -32$

④

-100 = 1100100  
 $\frac{0011011}{10011100}$

-100 - 10011100 +  
 $\frac{32}{-132}$  11100000  
 1 01111100

↓

Non esprimibile  
 a 8 bit

⑤

$\frac{(8!/6!)}{2} = 28$

⑥ Duale di  $(A \text{ XOR } B)$

$$A \text{ XOR } B = (A\bar{B}) + (\bar{A}B) = (A + \bar{B})(\bar{A} + B) = (AB) + (\bar{A}\bar{B})$$

$$= m_0 + m_3$$

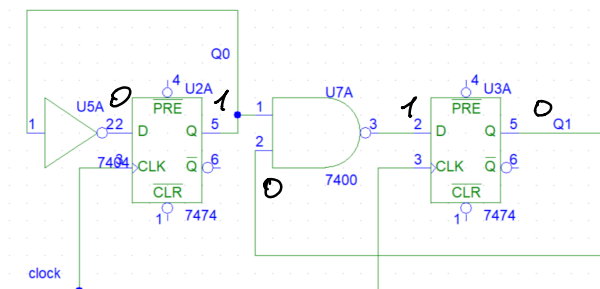
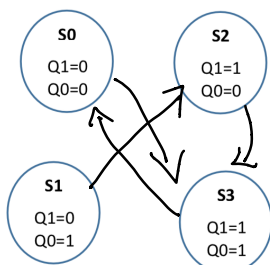
⑦

AB	00	01	11	10
00	X	0	0	X
01	1	1	X	0
11	0	X	0	0
10	X	0	0	X

$$Y = \bar{A}B\bar{C}$$

⑧

8- Si completi il bubble diagram dell'automa a stati finiti il cui schema è riportato di seguito:

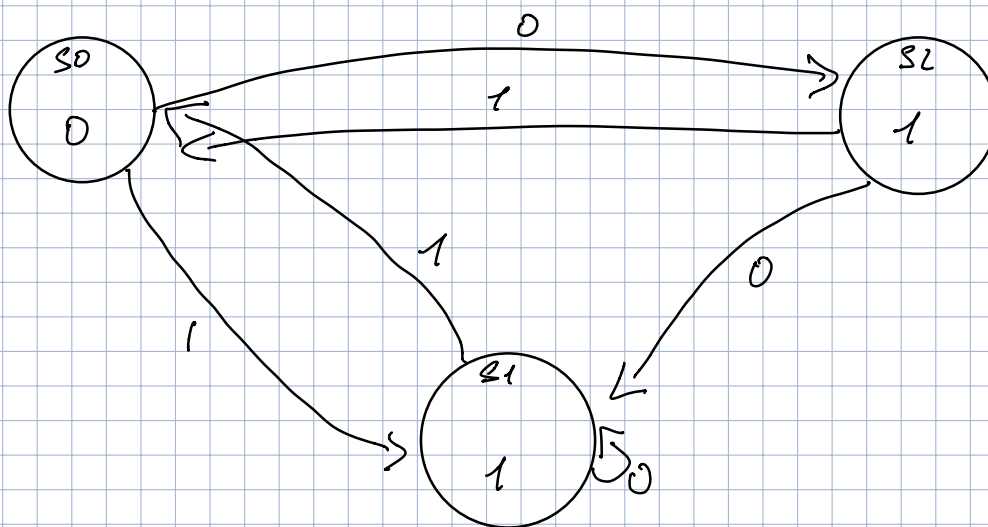


8

$X = S_0$

$Y = S_1$

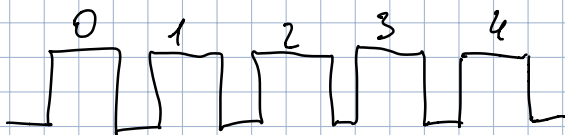
10



Porte 2

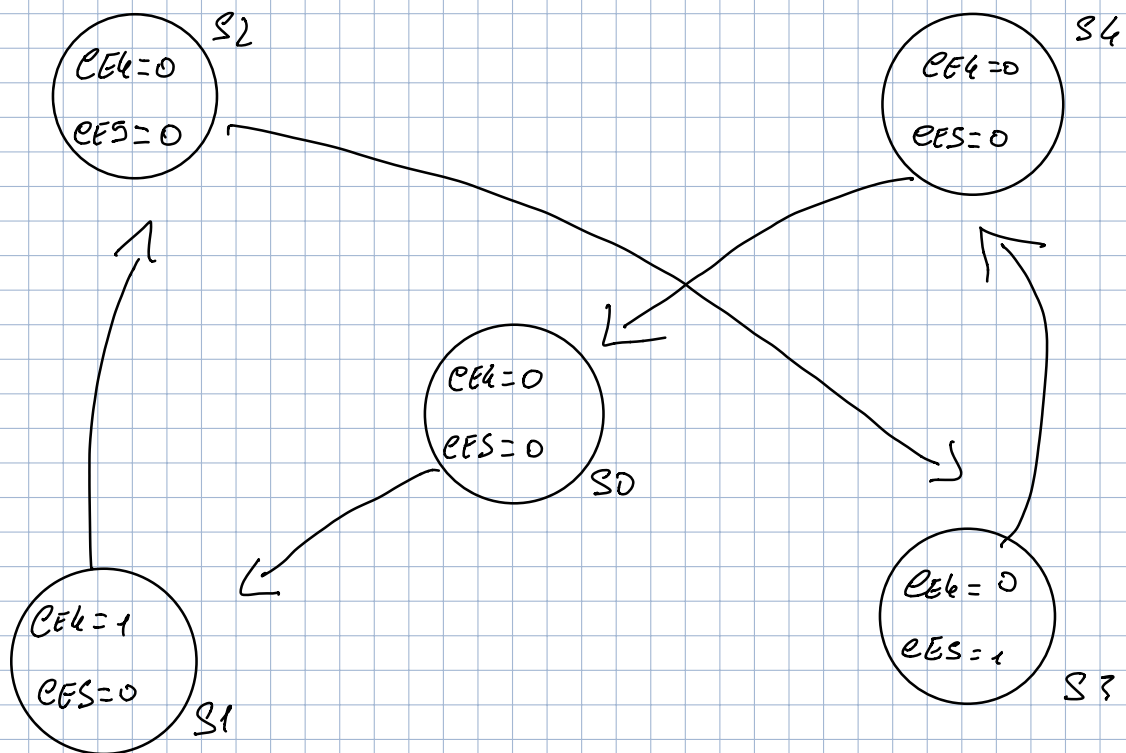
①  $R_{\text{em}} \rightarrow R_4 \text{ à } t_2$

$R_{\text{em}} \rightarrow R_5 \text{ à } t_4$



$CE_4$

$CE_5$



Funzioni di prossimo stato

$Q_2$	$Q_1$	$Q_0$	$Q_2'$	$Q_1'$	$Q_0'$
0	0	0	0	0	1
0	0	1	0	1	0
0	1	0	0	1	1
0	1	1	1	0	0
1	0	0	0	0	0
1	0	1	X	X	X
1	1	0	X	X	X
1	1	1	X	X	X

$$Q_2' = \bar{Q}_2 Q_1 Q_0$$

$$Q_1' = \bar{Q}_2 \bar{Q}_1 Q_0 + \bar{Q}_2 Q_1 \bar{Q}_0 = \bar{Q}_2$$

$$Q_0' = \bar{Q}_2 \bar{Q}_1 \bar{Q}_0 + \bar{Q}_2 Q_1 \bar{Q}_0 = \bar{Q}_2 \bar{Q}_0$$

## Funzioni di uscita

$Q_2$	$Q_1$	$Q_0$	$C_{E4}$	$C_{E5}$
0	0	0	0	0
0	0	1	1	0
0	1	0	0	0
0	1	1	0	1
1	0	0	0	0
1	0	1		
1	1	0		
1	1	1		

$$C_{E4} = \bar{Q}_2 \bar{Q}_1 Q_0$$

$$C_{E5} = \bar{Q}_2 Q_1 Q_0$$

②

• 7 accessi, 4 m e 3 h, 460 ms

• 15 accessi, 5 m e 10 h, 700 ms

$$\begin{cases} 4m + 3h = 460 \\ 5m + 10h = 700 \end{cases}$$

$$\begin{cases} Km = \frac{460 - 3h}{4} \\ 5m + 10h = 700 \end{cases}$$

$$\begin{cases} m = 115 - \frac{3h}{4} \\ 5\left(115 - \frac{3h}{4}\right) + 10h = 700 \end{cases}$$

$$\begin{cases} m = 115 - \frac{3h}{4} \\ -\frac{15h}{4} + 10h = 700 - 575 \end{cases}$$

$$\begin{cases} m = 115 - \frac{3h}{4} \\ -\frac{15h + 60h}{4} = 125 \rightarrow \frac{25h}{4} = 125 \cdot 4 \rightarrow h = \frac{500}{25} \rightarrow h = 20 \end{cases}$$

$$\begin{cases} m = 115 - 15 \rightarrow m = 100 \text{ ms} \\ h = 20 \text{ ms} \end{cases}$$

$$h_{\text{rot}} = \frac{13}{22} = 0.6$$

$$m_{\text{rot}} = 1 - 0.6 = 0.4$$

$$T_{\text{ave}} = (0.6) 20 + (0.4) 100 = 12 + 40 = 52 \text{ ms}$$

③

$$2^{10} = 1024$$

$$2^{12} = 4096$$