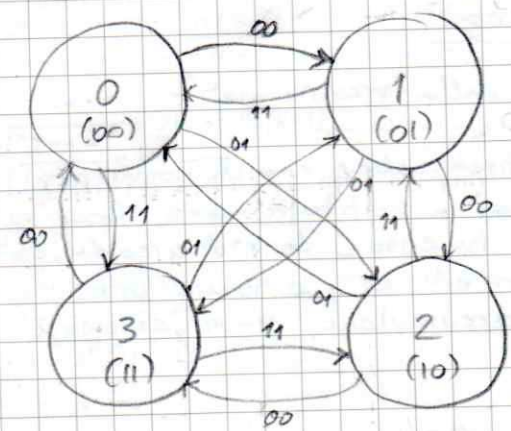
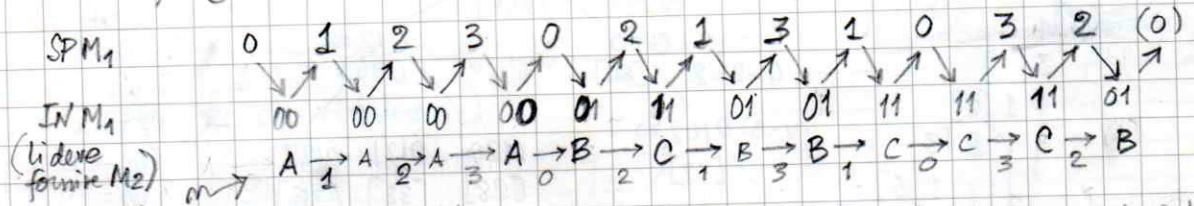


21/1/19



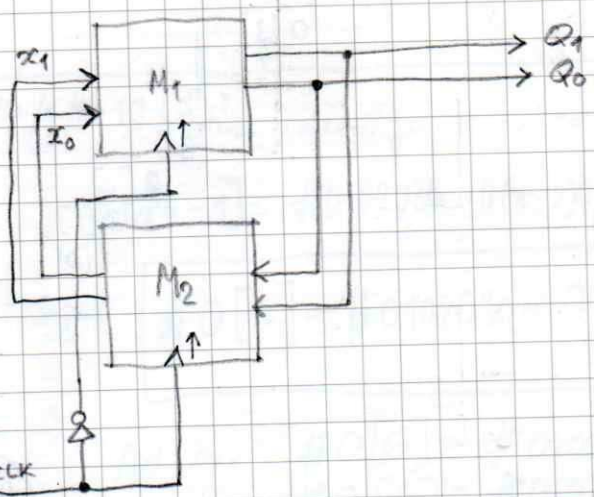
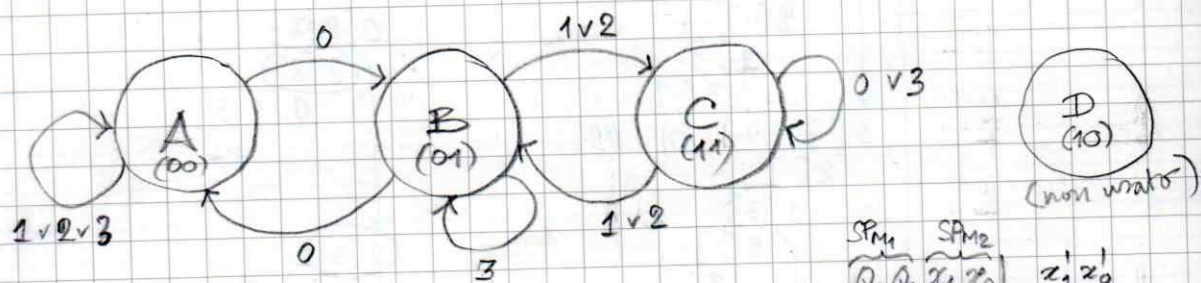
specifica di  $M_1$

Sequenza da realizzare:



Codifica stati di  $M_2$ :  
 A ↔ 00  
 B ↔ 01  
 C ↔ 11

scelti identici agli input necessari per pilotare  $M_1$



| SPM <sub>1</sub>              | SPM <sub>2</sub>              | z <sub>1</sub> z <sub>0</sub> |
|-------------------------------|-------------------------------|-------------------------------|
| Q <sub>1</sub> Q <sub>0</sub> | x <sub>1</sub> x <sub>0</sub> | z <sub>1</sub> z <sub>0</sub> |
| 0                             | A                             | B                             |
| 0                             | B                             | A                             |
| 0                             | D                             | xx                            |
| 0                             | C                             | C                             |
| 1                             | A                             | A                             |
| 1                             | B                             | C                             |
| 1                             | D                             | xx                            |
| 1                             | C                             | B                             |
| 2                             | A                             | A                             |
| 2                             | B                             | C                             |
| 2                             | D                             | xx                            |
| 2                             | C                             | B                             |
| 3                             | A                             | A                             |
| 3                             | B                             | B                             |
| 3                             | D                             | xx                            |
| 3                             | C                             | C                             |

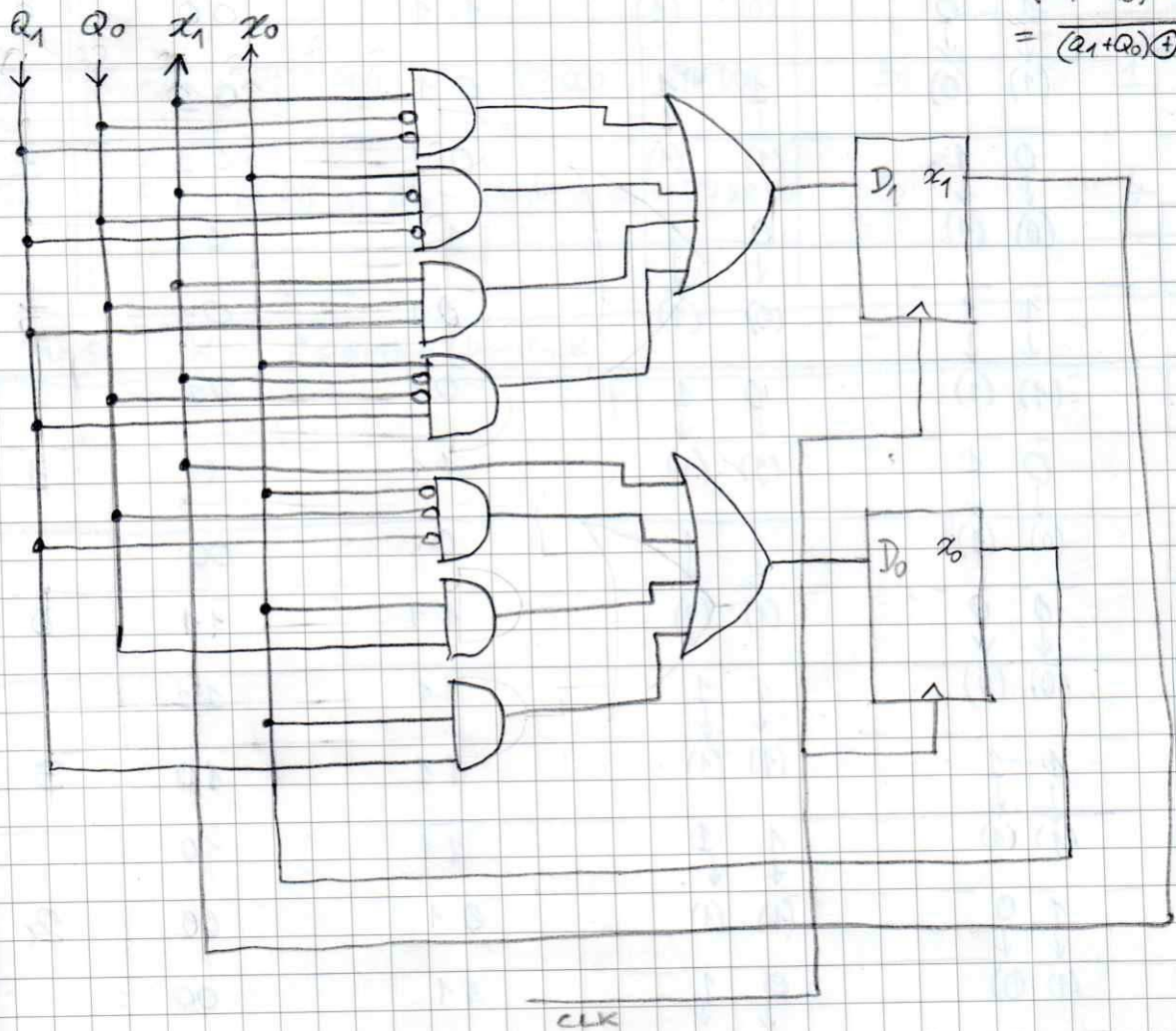
Esprimendo gli stati di  $M_1$  e  $M_2$  in binario :

| $Q_1 Q_0 x_1 x_0$ | $x'_1 x'_0$ |
|-------------------|-------------|
| 0000              | 01          |
| 0001              | 00          |
| 0010              | XX          |
| 0011              | 11          |
| 0100              | 00          |
| 0101              | 11          |
| 0110              | XX          |
| 0111              | 01          |
| 1000              | 00          |
| 1001              | 11          |
| 1010              | XX          |
| 1011              | 01          |
| 1100              | 00          |
| 1101              | 01          |
| 1110              | XX          |
| 1111              | 11          |

| $x_1 x_0$ | $Q_1 Q_0$ |    |    |    | $x_1 x_0$ | $Q_1 Q_0$ |    |    |    |
|-----------|-----------|----|----|----|-----------|-----------|----|----|----|
|           | 00        | 01 | 11 | 10 |           | 00        | 01 | 11 | 10 |
| 00        | 0         | 0  | 1  | X  | 00        | 1         | 0  | 1  | X  |
| 01        | 0         | 1  | 0  | X  | 01        | 0         | 1  | 1  | X  |
| 11        | 0         | 0  | 1  | X  | 11        | 0         | 1  | 1  | X  |
| 10        | 0         | 1  | 0  | X  | 10        | 0         | 1  | 1  | X  |

$$\begin{aligned}
 x'_1 &= \bar{Q}_1 \bar{Q}_0 x_1 + \bar{Q}_1 Q_0 \bar{x}_1 x_0 \\
 &+ Q_1 Q_0 x_1 + Q_1 \bar{Q}_0 \bar{x}_1 x_0 = \\
 &= (\bar{Q}_1 \oplus \bar{Q}_0) x_1 + (Q_1 \oplus Q_0) \bar{x}_1 x_0
 \end{aligned}$$

$$\begin{aligned}
 x'_0 &= \bar{Q}_1 \bar{Q}_0 \bar{x}_0 + x_1 + \\
 &Q_0 x_0 + Q_1 x_0 = \\
 &= (\bar{Q}_1 + \bar{Q}_0) \bar{x}_0 + \\
 &(Q_1 + Q_0) x_0 + x_1 \\
 &= (\bar{Q}_1 + \bar{Q}_0) \oplus x_0 + x_1
 \end{aligned}$$



|    | $Q_1(0)$ | $Q_0(0)$ | $x_1(0)$ | $x_0(0)$ | $x_1'$ | $x_0'$ | $Q_1'$ | $Q_0'$ | $S(t)$ |
|----|----------|----------|----------|----------|--------|--------|--------|--------|--------|
| 1  | (0)      | (0)      | 0        | 0        | 0      | 0      | 0      | 1      | 0      |
| 2  | 0        | 1        | (0)      | (0)      | 0      | 0      | 1      | 0      | 1      |
| 3  | 1        | 0        | (0)      | (0)      | 0      | 0      | 1      | 1      | 2      |
| 4  | (1)      | (0)      | 0        | 0        | 0      | 0      | 1      | 1      |        |
| 5  | 1        | 1        | (0)      | (0)      | 0      | 0      | 0      | 0      | 3      |
| 6  | (1)      | (1)      | 0        | 0        | 0      | 0      | 0      | 0      |        |
| 7  | 0        | 0        | (0)      | (0)      | 0      | 1      | 0      | 1      | 0      |
| 8  | (0)      | (0)      | 0        | 1        | 0      | 0      | 1      | 0      |        |
| 9  | 1        | 0        | (0)      | (1)      | 1      | 1      | 0      | 0      | 2      |
| 10 | (1)      | (0)      | 1        | 1        | 0      | 1      | 0      | 1      |        |
| 11 | 0        | 1        | (1)      | (1)      | 0      | 1      | 0      | 1      | 1      |
| 12 | (0)      | (1)      | 0        | 1        | 1      | 1      | 1      | 1      |        |
| 13 | 1        | 1        | (0)      | (1)      | 0      | 1      | 0      | 1      | 3      |
| 14 | (1)      | (1)      | 0        | 1        | 0      | 1      | 0      | 1      |        |
| 15 | 0        | 1        | (0)      | (1)      | 1      | 1      | 1      | 1      | 1      |
| 16 | (0)      | (1)      | 1        | 1        | 0      | 1      | 0      | 0      |        |
| 17 | 0        | 0        | (1)      | (1)      | 1      | 1      | 1      | 1      | 0      |
| 18 | (0)      | (0)      | 1        | 1        | 1      | 1      | 1      | 1      |        |
| 19 | 1        | 1        | (1)      | (1)      | 1      | 1      | 1      | 0      | 3      |
| 20 | (1)      | (1)      | 1        | 1        | 1      | 1      | 1      | 0      |        |
| 21 | 1        | 0        | (1)      | (1)      | 0      | 1      | 1      | 0      | 2      |
| 22 | (1)      | (0)      | 0        | 1        | 1      | 1      | 0      | 0      |        |

0 0 → (0)(0) etc.    (0) (1) → 00 etc.    00 → 01 etc.    10 → 01 etc.    0 → 1 etc.