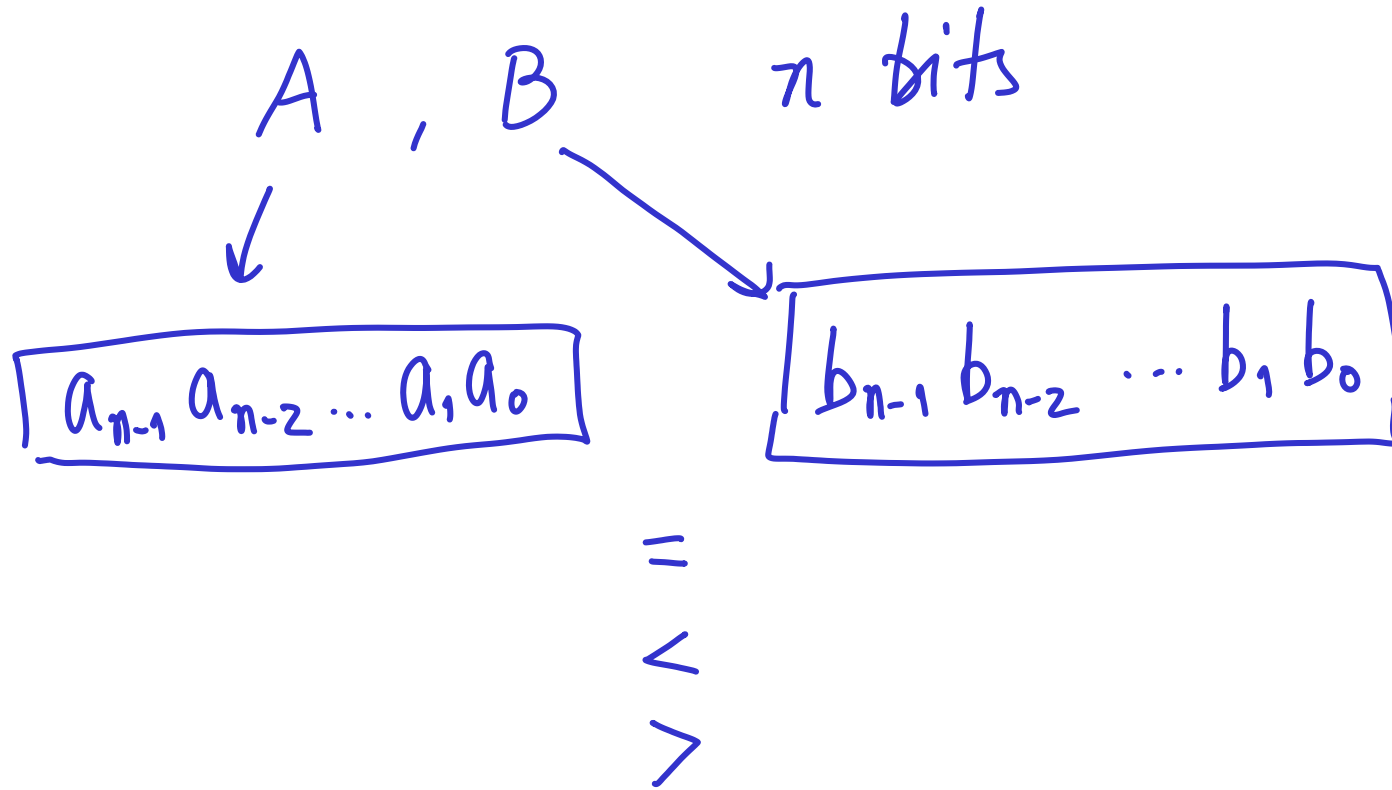


MAC0329

17 / junho / 2021

Circuitos combinacionais  
sequenciais

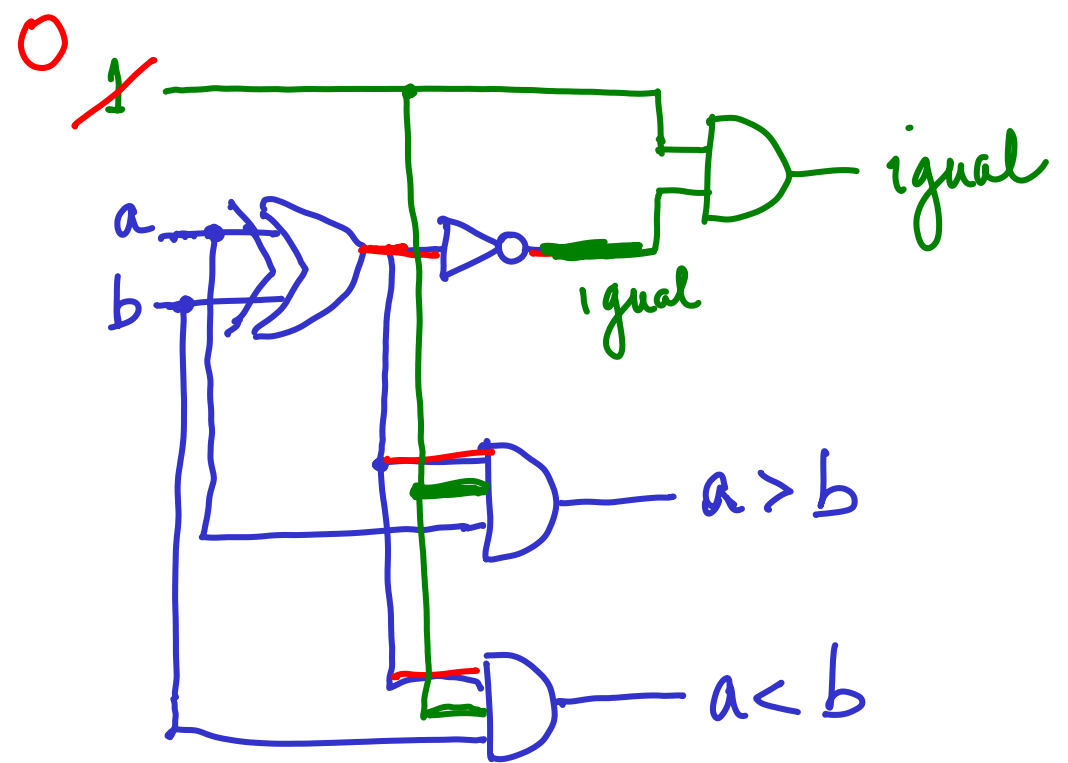
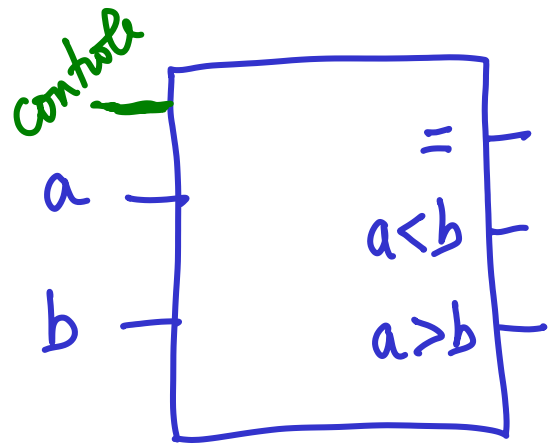
# Comparadores



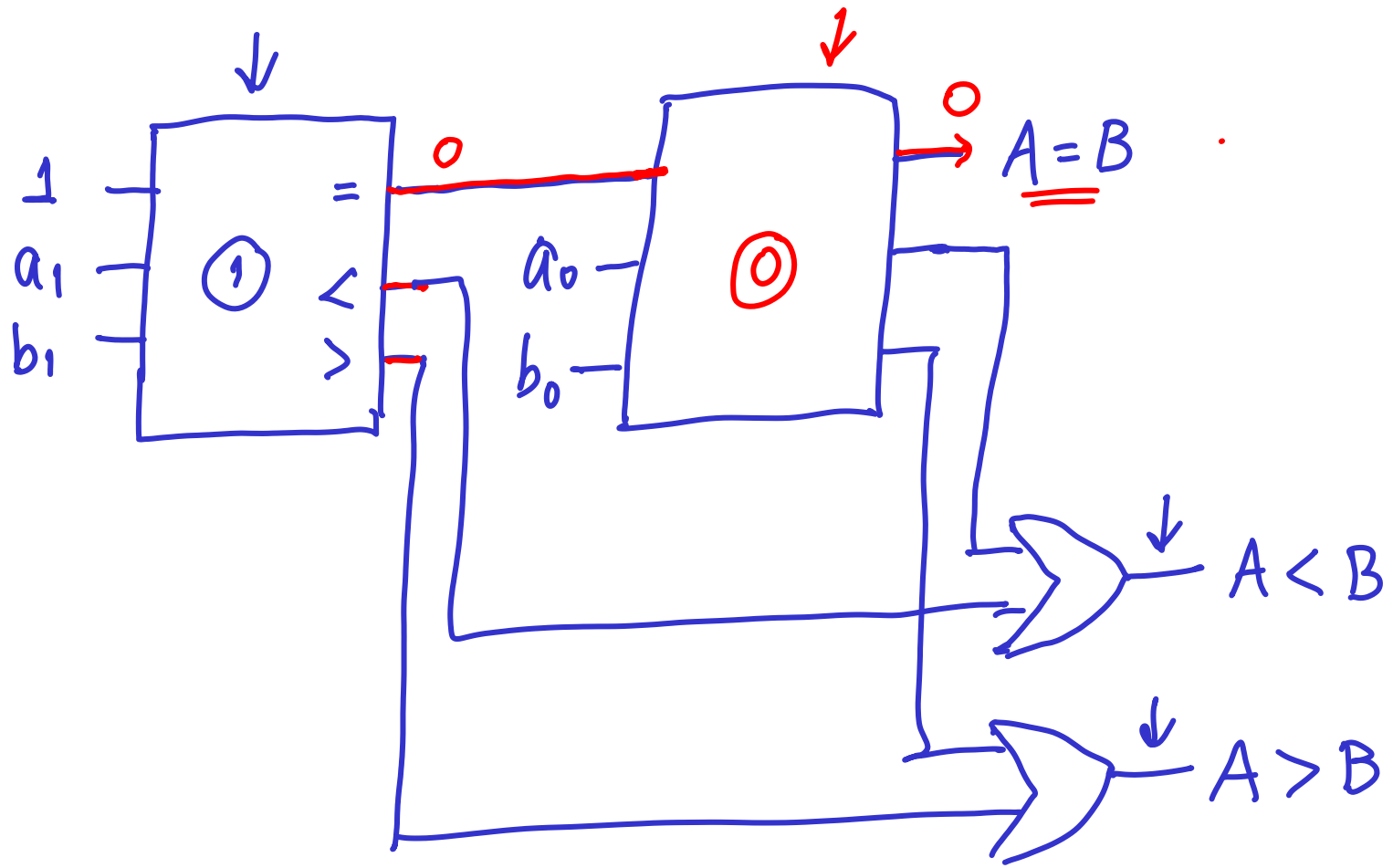
9582  
↑ ↑

9438  
↑ ↑

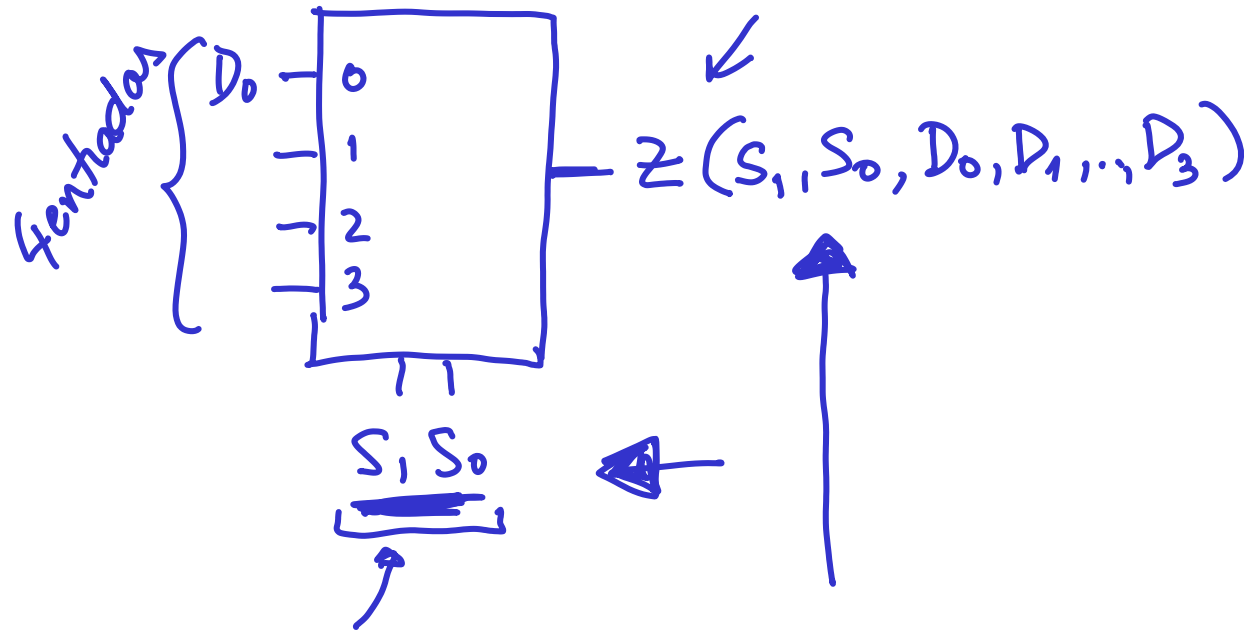
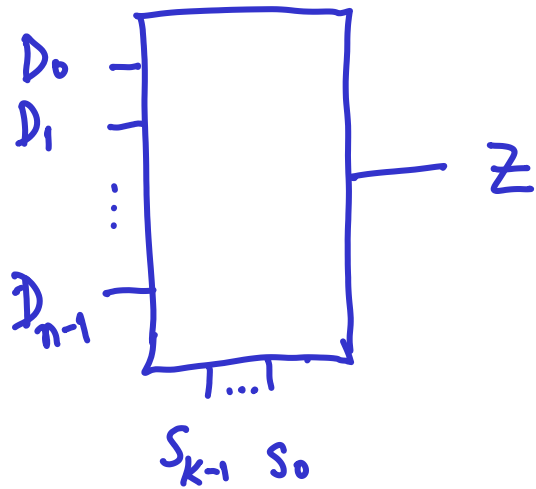
a      b  
     $\wedge \vee =$



$$A = a_1 a_0 \quad B = b_1 b_0$$



# Multiplexador (seletor de dados)



0	0	0
0	1	1
1	0	2
1	1	3

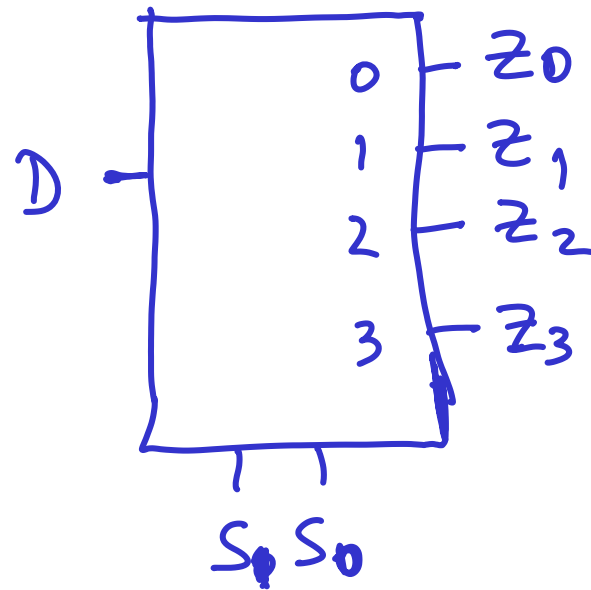
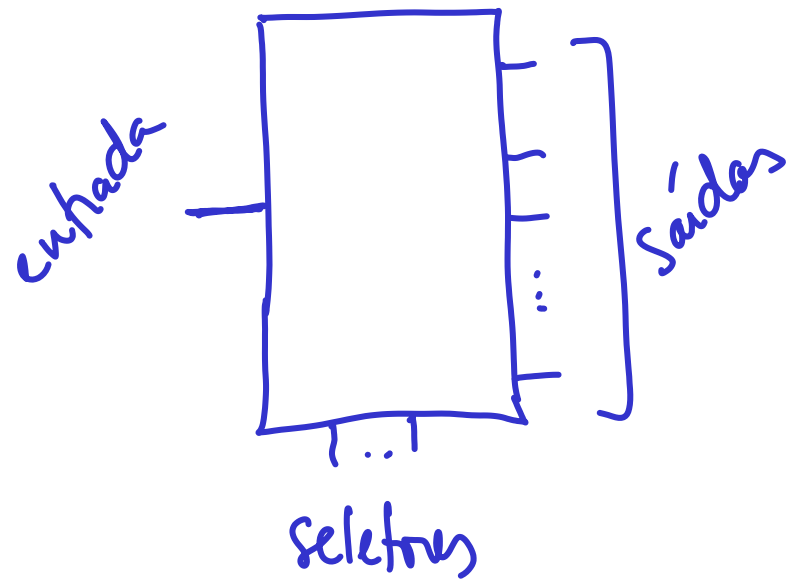
$$S_1 = 0 \quad S_0 = 0 \Rightarrow Z = D_0$$

$$\underline{D_0 \bar{S}_1 \bar{S}_0} = D_0 \Leftrightarrow \begin{matrix} S_1 = 0 \\ S_0 = 0 \end{matrix}$$

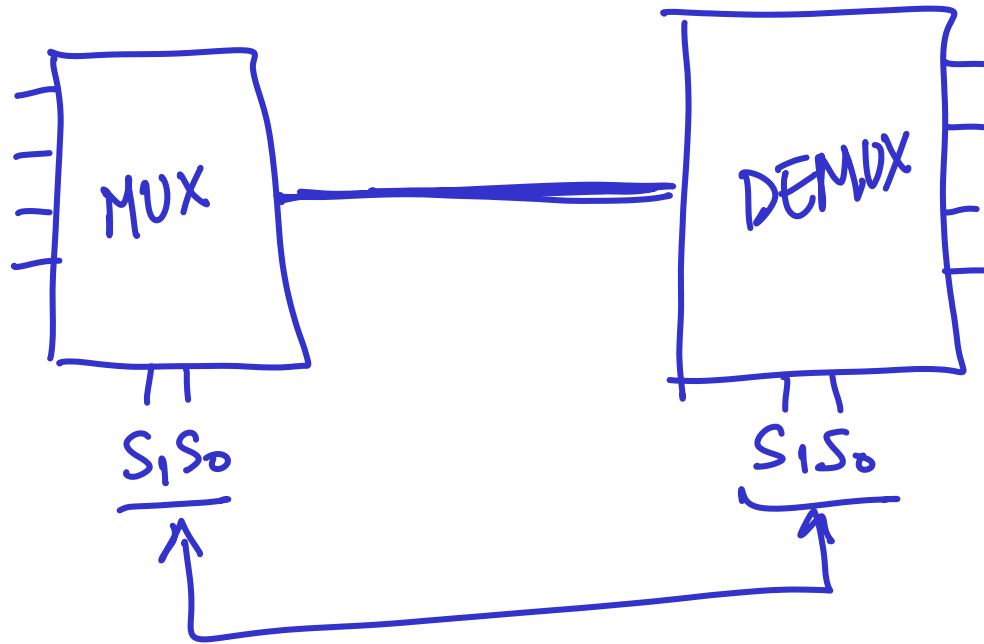
Multiplexador 2 4-1

$$Z = D_0 \underbrace{\bar{S}_1 \bar{S}_0} + D_1 \underbrace{\bar{S}_1 S_0} + D_2 \underbrace{S_1 \bar{S}_0} + D_3 \underbrace{S_1 S_0}$$

# Demultiplexador (distribuidor de dados)

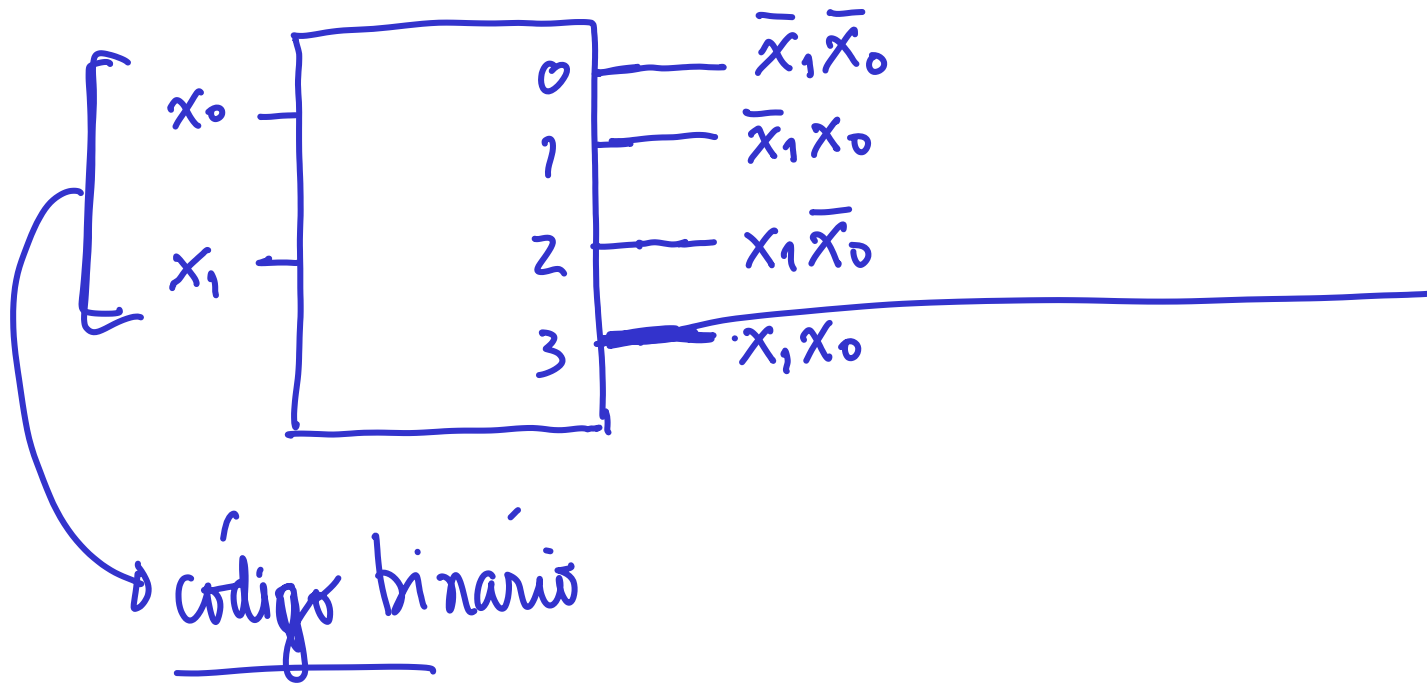


$$Z_0 = \underbrace{\bar{S}_1 \bar{S}_0}_1 D$$



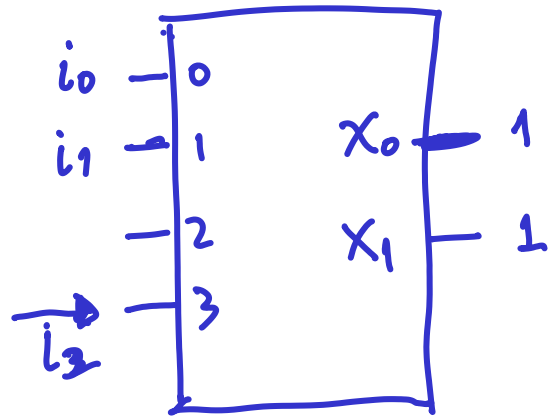


# Decodificador



00  
01  
10  
11

# Codificador



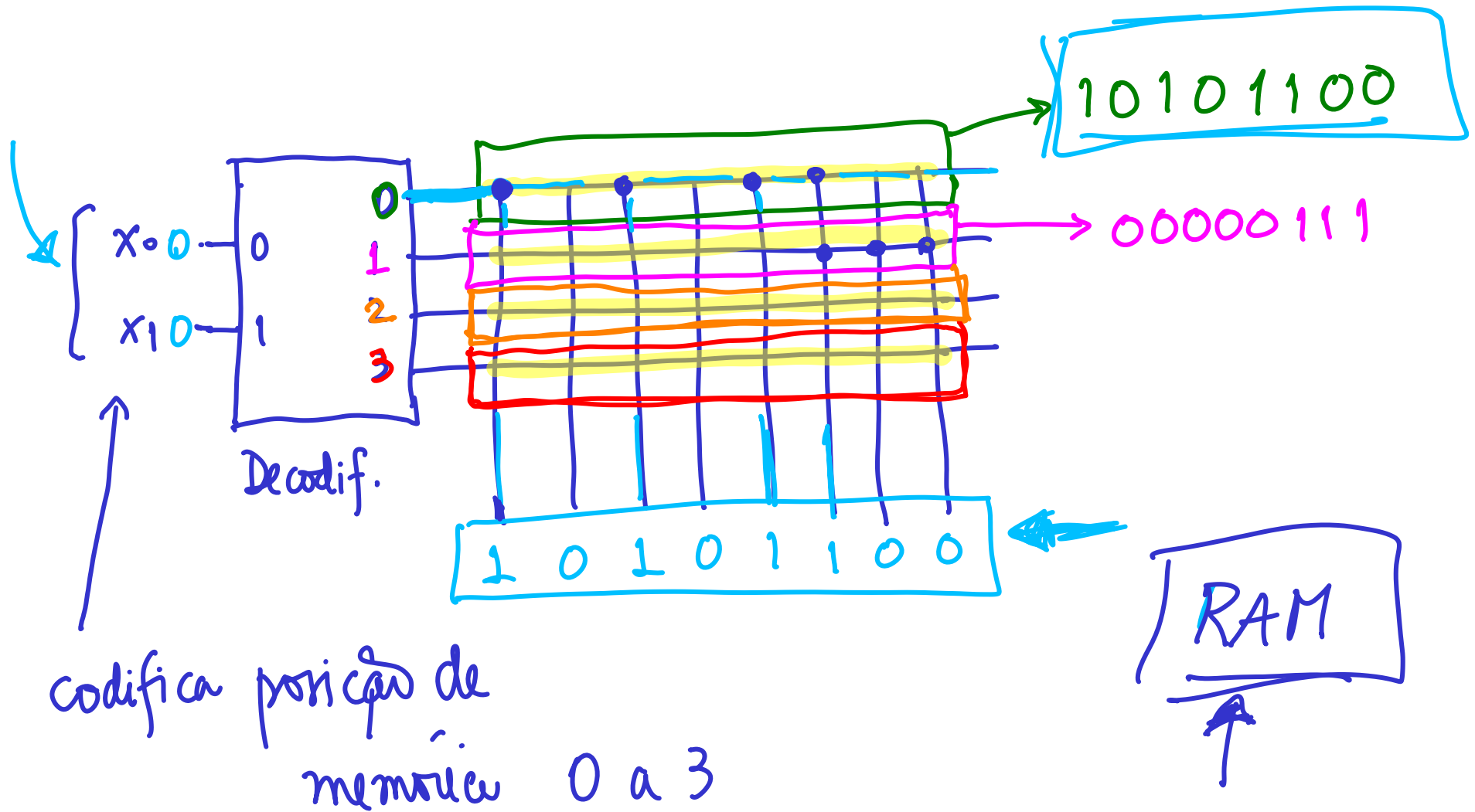
	$x_1$	$x_0$
0	0	0
1	0	1
2	1	0
3	1	1

$$x_0 = \bar{i}_1$$

$$x_0 = \overbrace{i_1 + i_3}$$

$$x_1 = \underbrace{i_2 + i_3}$$

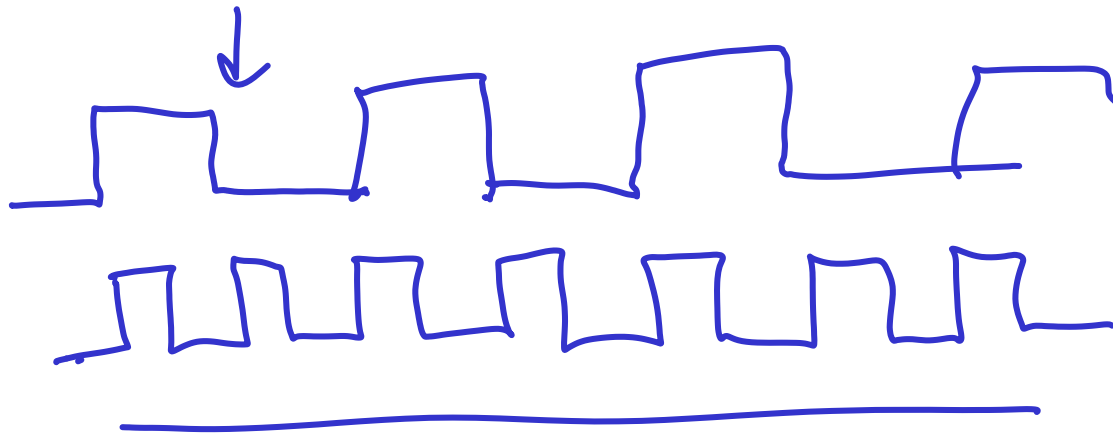
# Memória (ROM) Read-only Memory



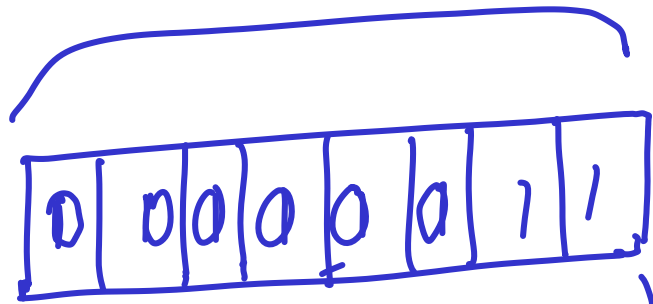
ROM

PROM → Programmable

EPROM → Erasable Programmable



clock.



7 dados

bit correta