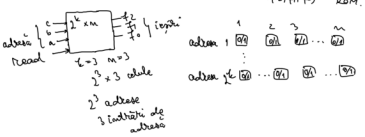
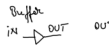
Seminar nr. 6:

Read-Only Memory.



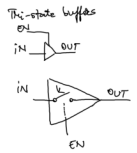
Implementarea a 3 funcții (f_2, f_1, f_0) folosind ROM.

Buffer



OUT = IN

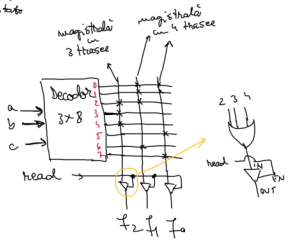
Tri-state buffer



EN	IN	OUT
0	0	high-z
0	1	high-z
-	-	high-z
1	0	0
1	1	1

3 funcții stocate în ROM.

a	b	c	f_2	f_1	f_0	
0	0	0	0	1	1	(0)
0	0	1	0	1	1	(1)
0	1	0	1	1	0	(2)
0	1	1	1	0	0	(3)
1	0	0	1	0	0	(4)
1	0	1	0	0	1	(5)
1	1	0	0	1	0	(6)
1	1	1	0	0	1	(7)



Random access memory (RAM):

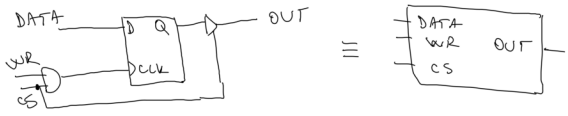
k ieșiri address
m output (nr de biți / adresă).
Dimensiunea $2^k \times m$

Schema bloc:

$\not\rightarrow$ magistrală cu m fire.

CS	WR	operație:
0	X	None
1	0	Read
1	1	Write.

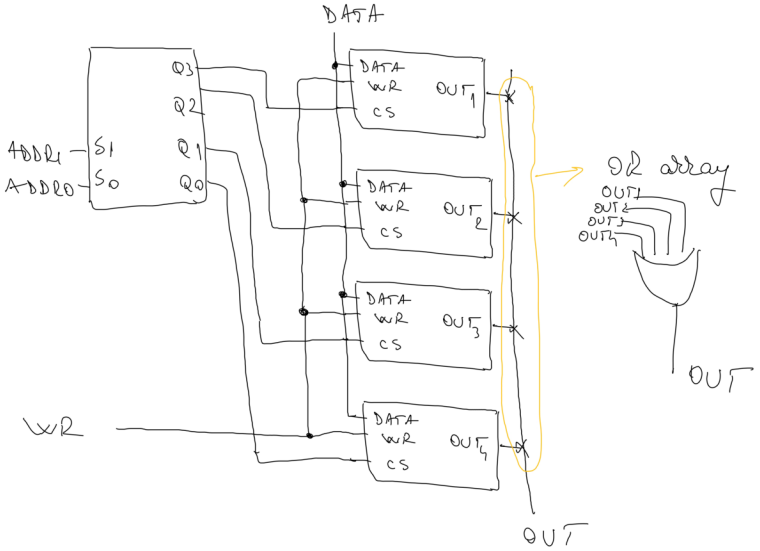
celulă RAM de 1 bit



Construcția unei memorii RAM 4x1 (4 biți).

ADDR	Data / 1 bit
0	0/1
1	0/1
2	0/1
3	0/1

→ decodor de adresă + 4 celule RAM de 1 bit.



Temă: Realizați o RAM 4x4 biți folosind un decodor 2x4 și celule RAM de 1 bit.
(schemă bloc + implementare în Logisim)