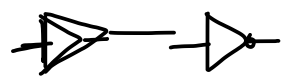
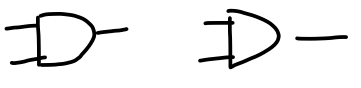
Hardware + Peripheral devices!

27 July 2011

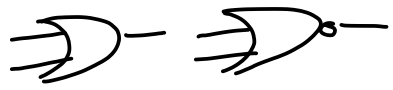
Gates →



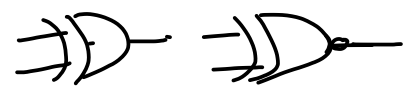
=1 or 1=0



0+0=0 | 0+0=1
0+1=0 | 0+1=1
1+1=1 | 1+1=0



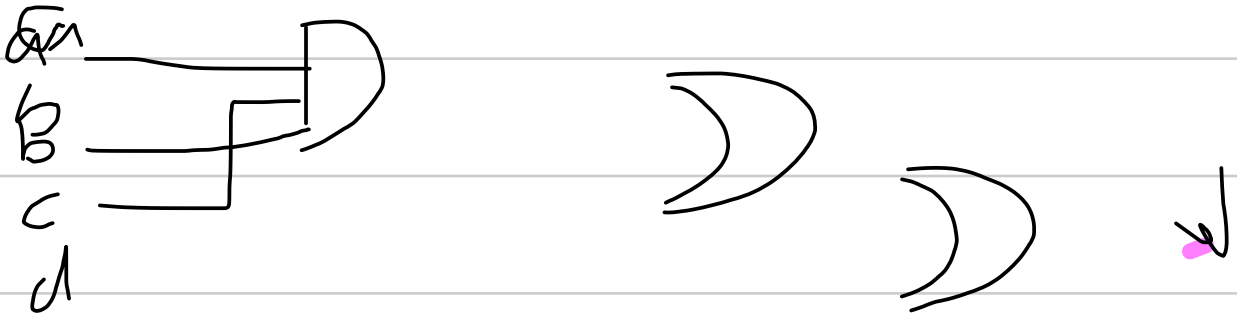
+0=0 | 0+0=1
1+0=1 | 1+0=0
1+1=1 | 1+1=0.



0+0=0 | 0+0=01
1+0=1 | 1+0=0
1+1=a | 1+1=1 en ..

$$F = abc + a\bar{b}c + d.$$

Lo draw this circuit



$f = abc + a\bar{b}c + d$ +

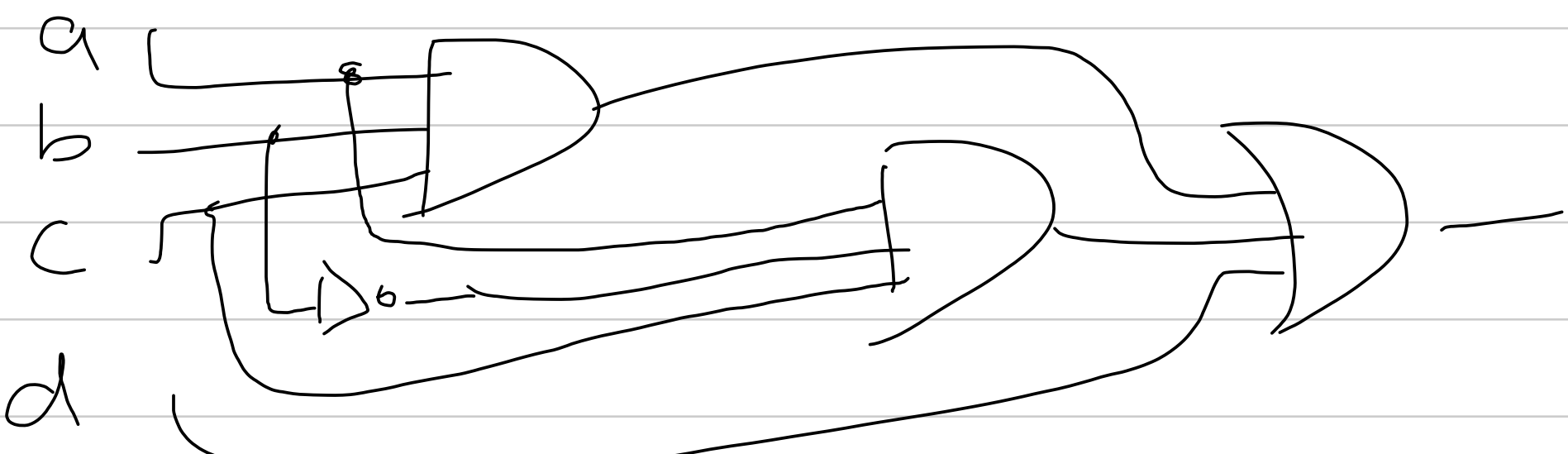
Definitions are important here !!

$f = ac + d$.

2-port gates

3-port gates.

Unlimited



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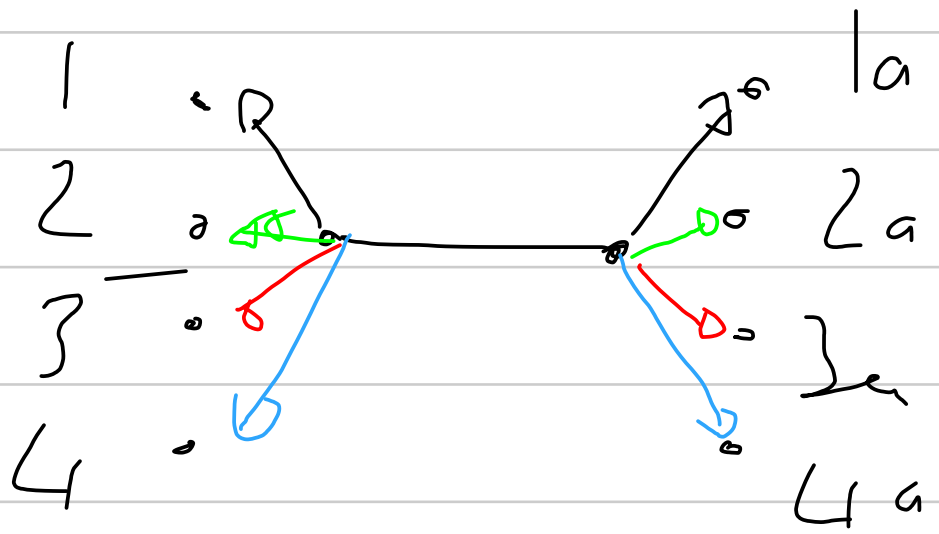
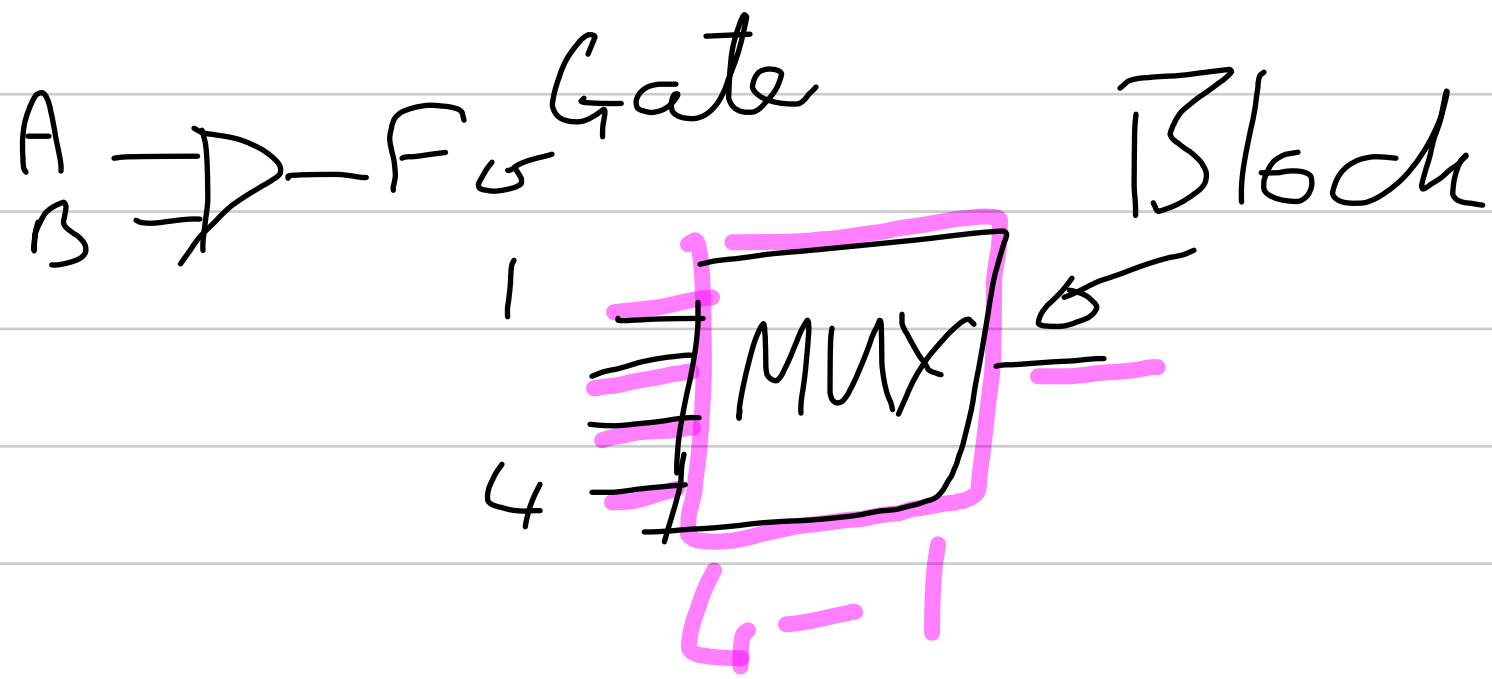
MUXs & DeMUXs - recap

Gated circuits

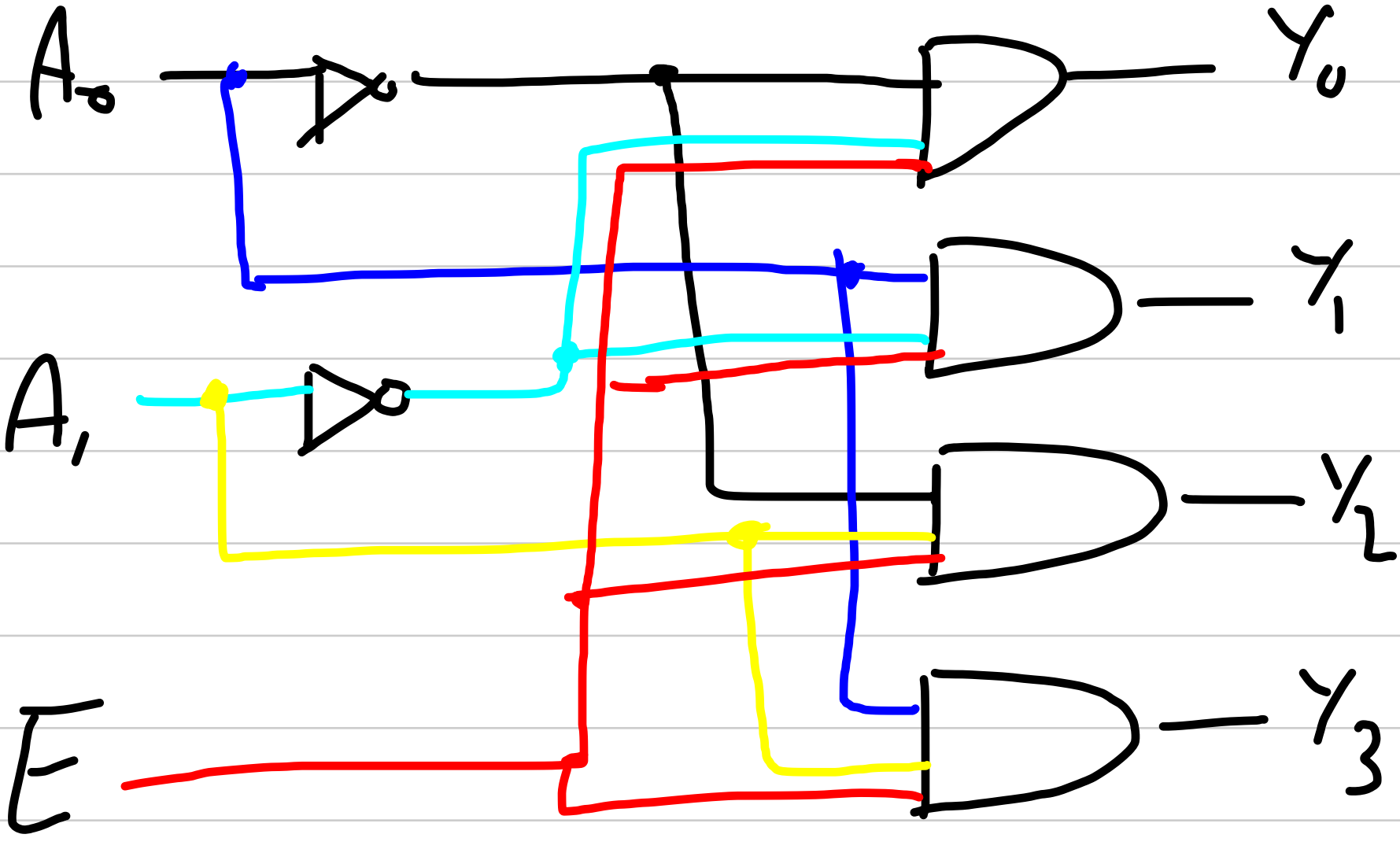
Block diagrams -> black box

Decoders & Encoders.



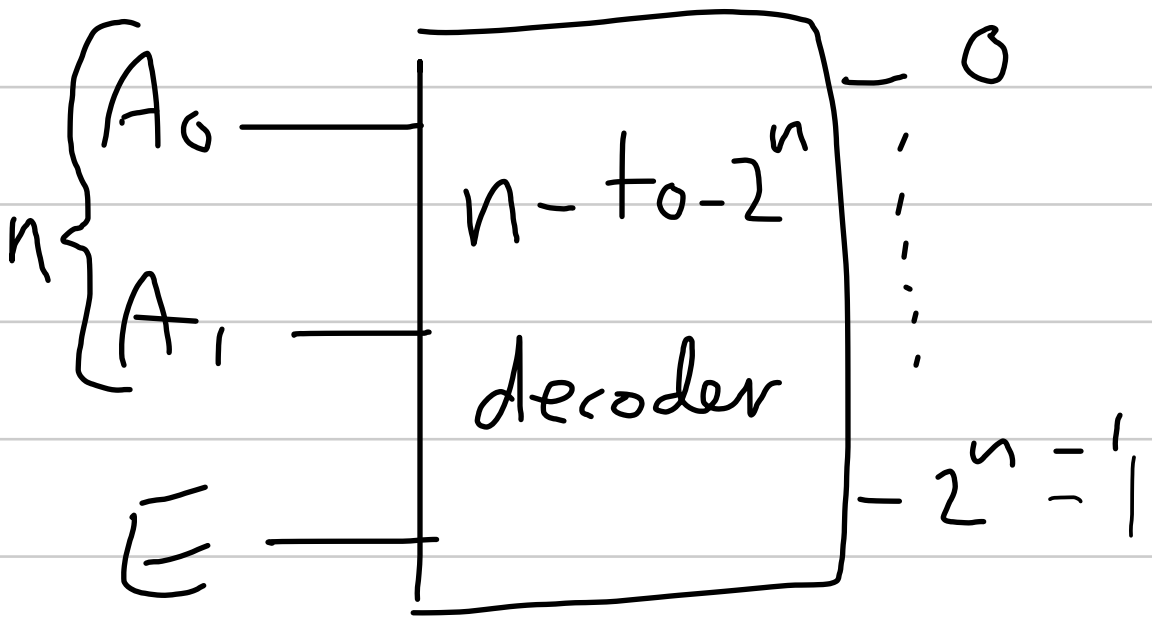


DECODERS



TRUTH TABLE

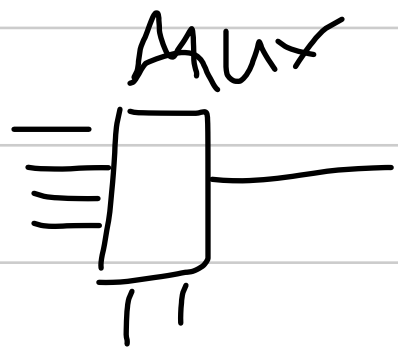
E	A_0	A_1	Y_0	Y_1	Y_2	Y_3
0	X	X	0	0	0	0
1	0	0	1	0	0	0
1	1	0	0	1	0	0
1	0	1	0	0	1	0
1	1	1	0	0	0	1



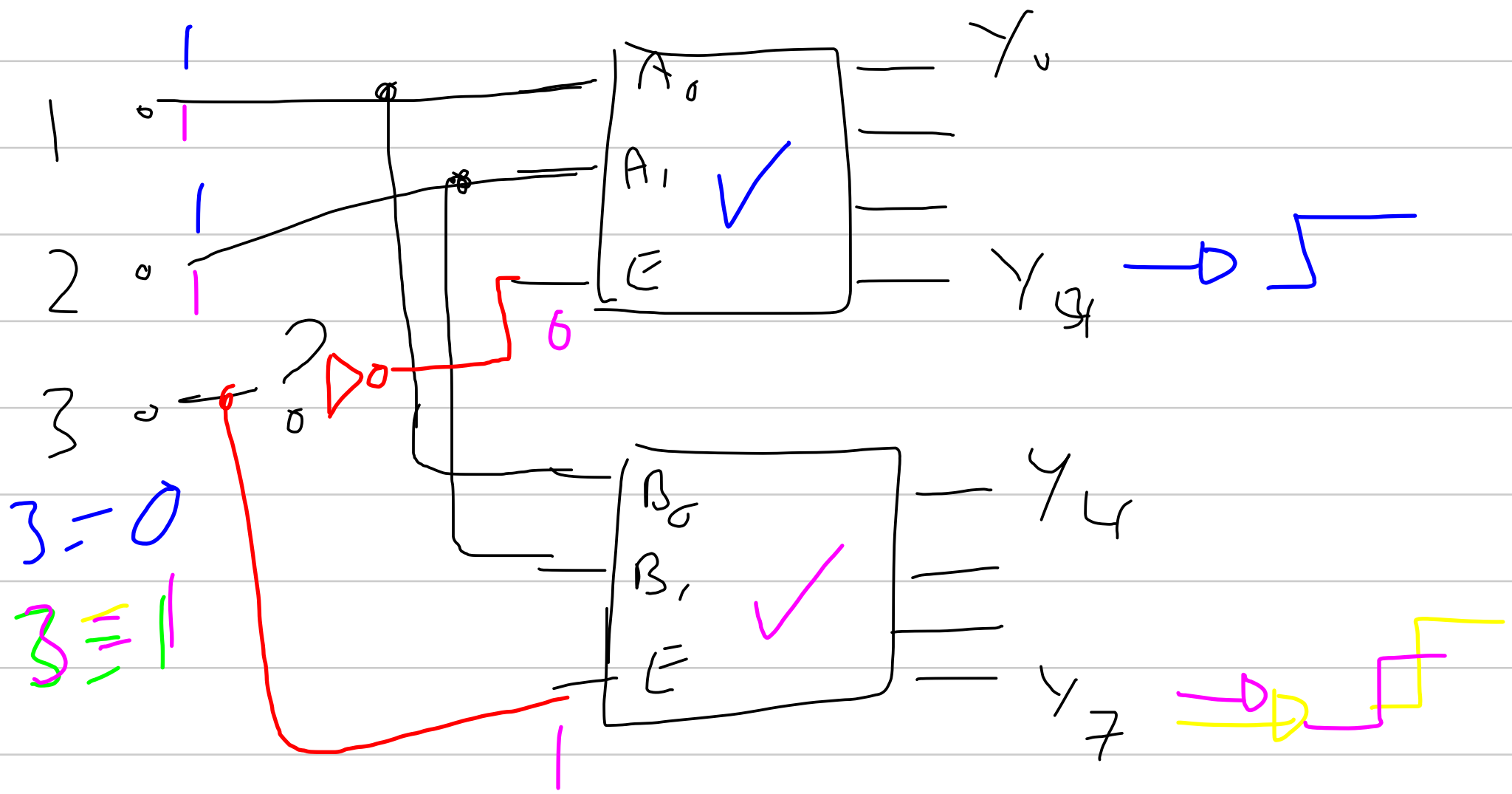
$n = 2$

$2^n = 4 = m.$

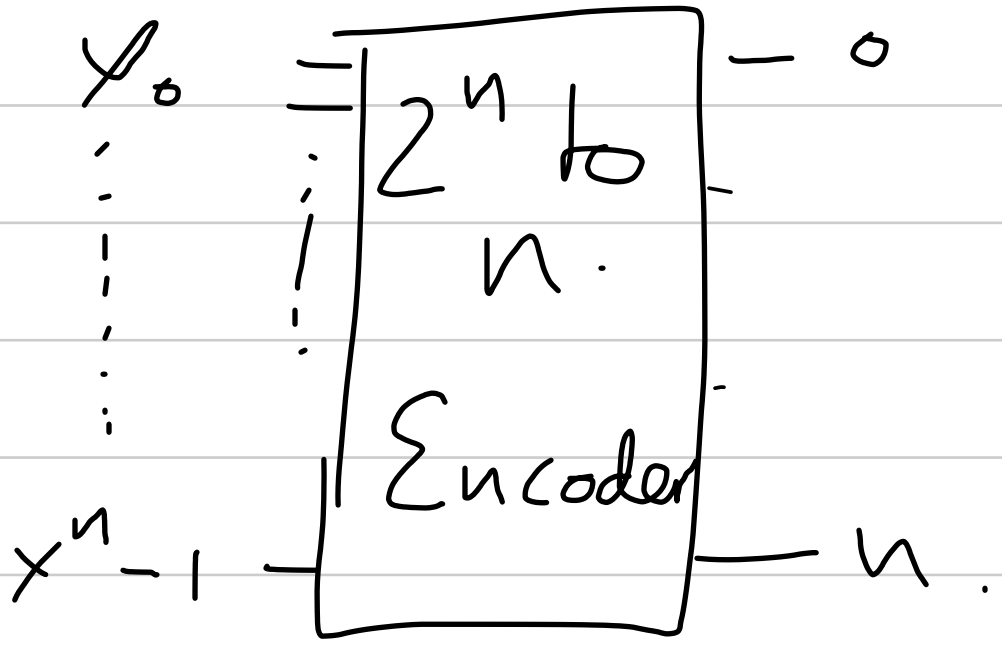
2 to 4 bit decoder



3 to 8 decoder using 2 → 2 to 4 bit decoders



Encoders.



X_0	X_1	X_2	X_3	X_4	X_5	X_6	X_7	Y_2	Y_1	Y_0
1	0	0	0	0	0	0	0	0	0	0
0	1	0	—	—	—	—	0	0	0	1
0	0	1	0	—	—	—	0	0	1	0
0	—	0	1	0	—	—	0	0	1	1
0	—	—	0	1	0	0	0	1	0	0
0	—	—	—	0	1	0	0	1	0	1
0	—	—	—	—	0	1	0	1	1	0
0	—	—	—	—	—	0	1	1	1	1

Priority decoder