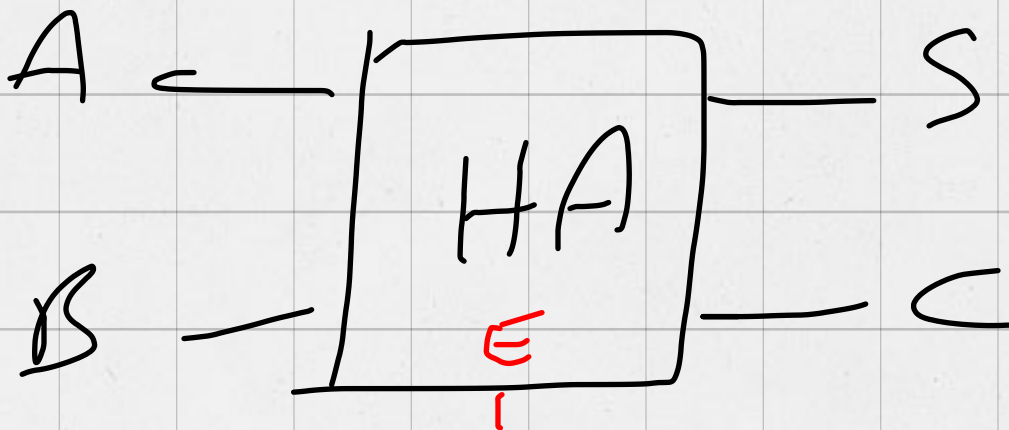
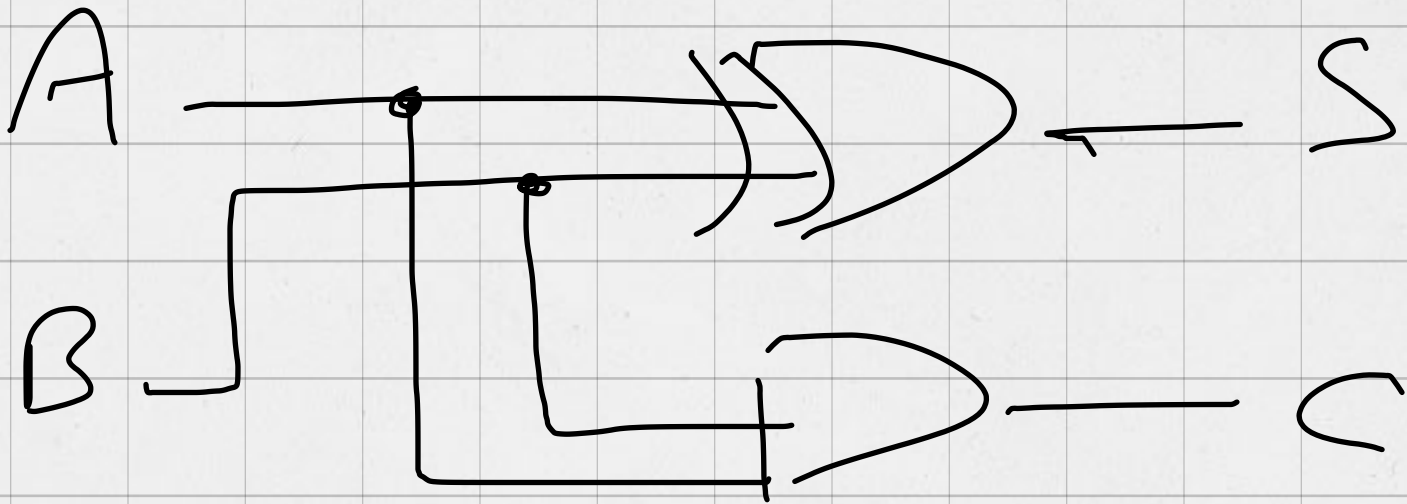
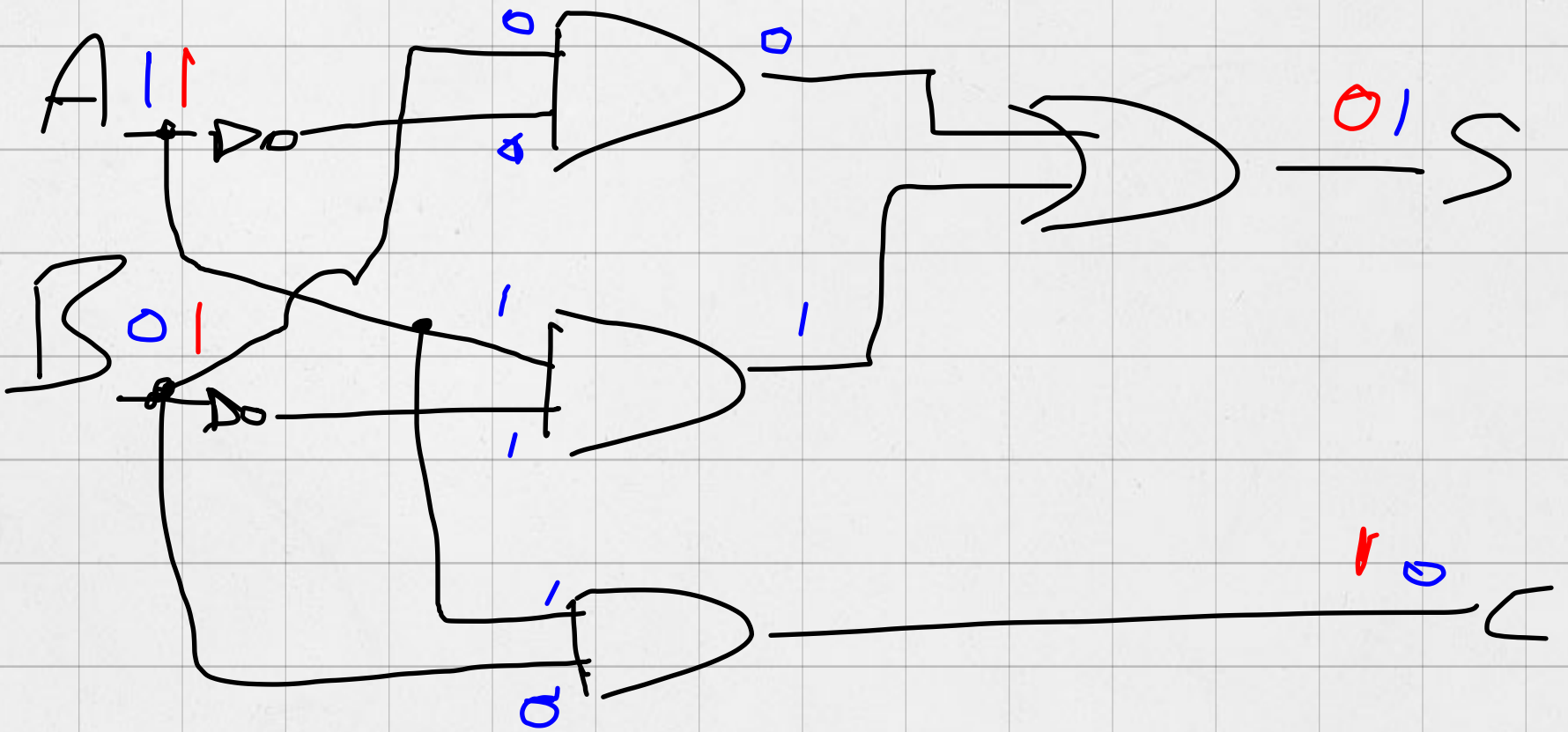


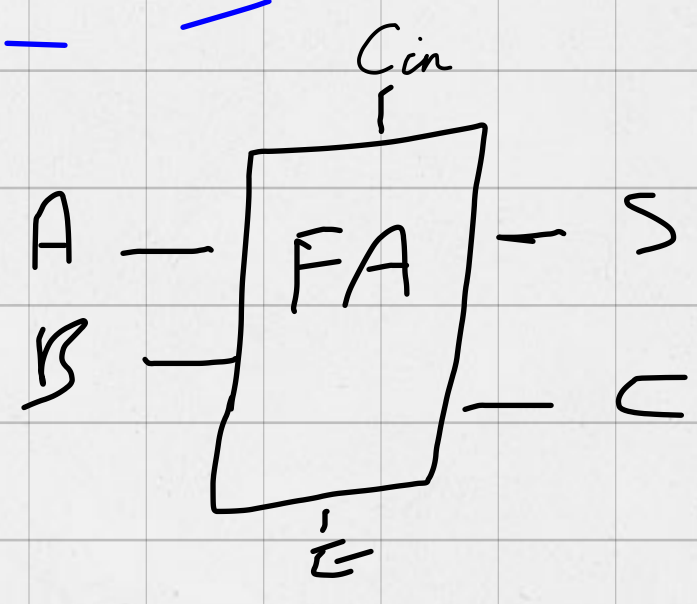
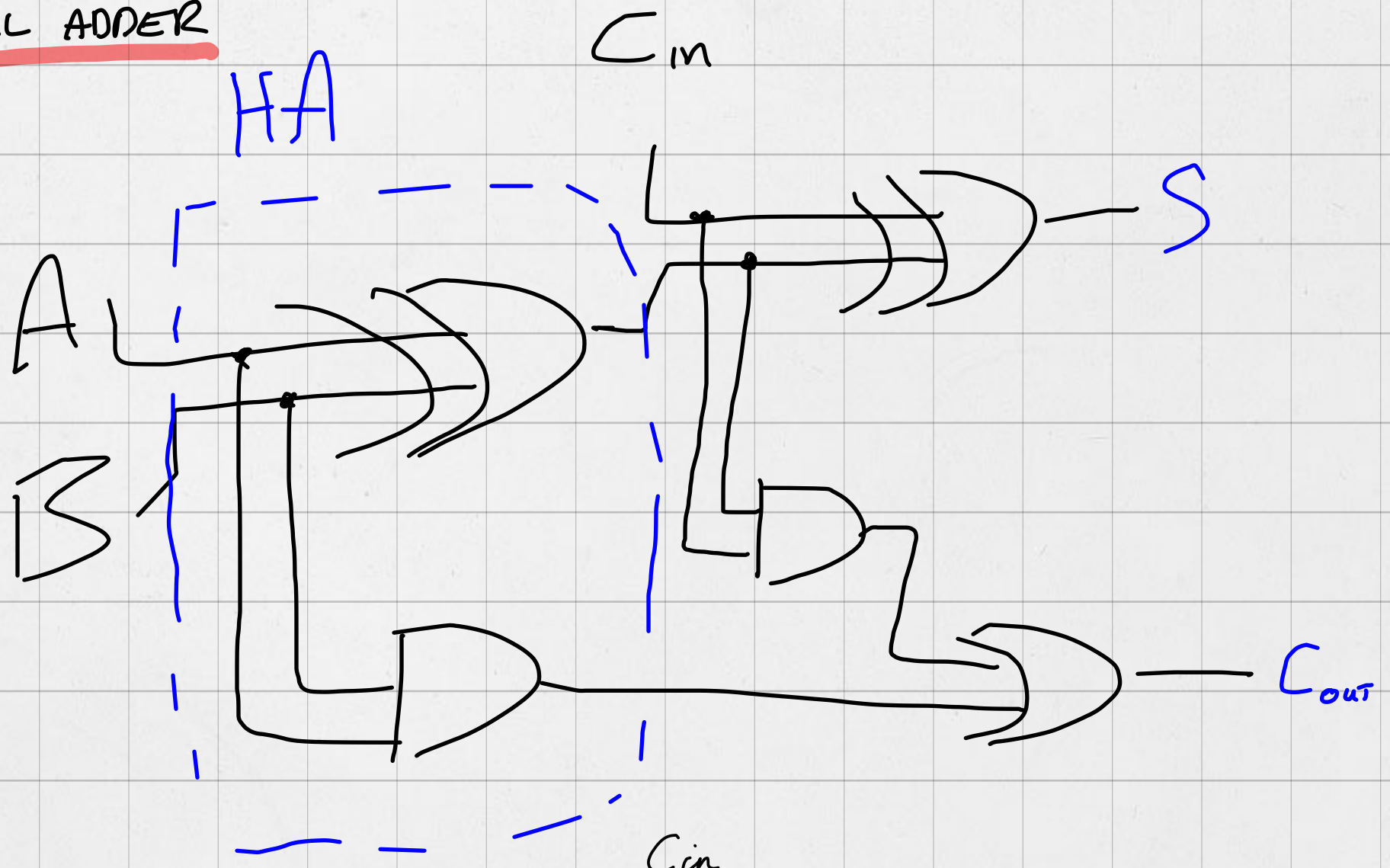
1 August 2012

$$A + B = X$$

Half adder



FULL ADDER

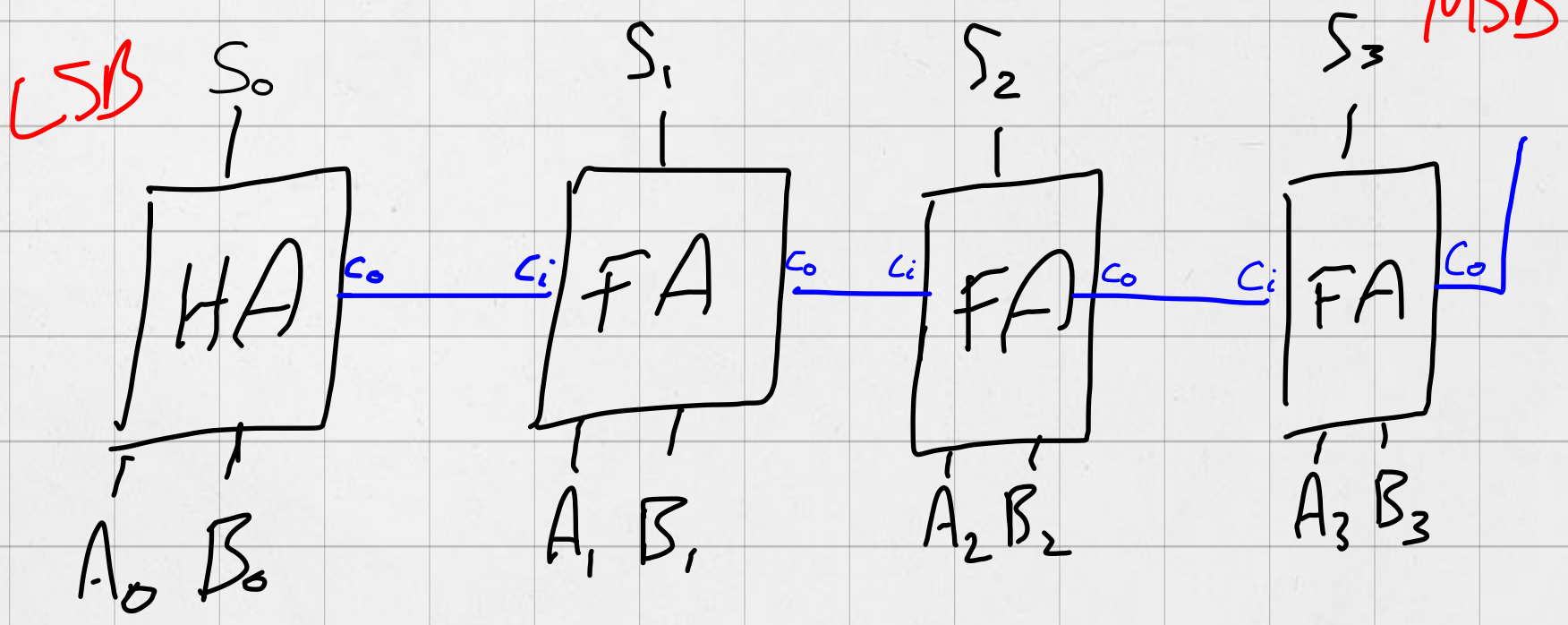


4 bit adder

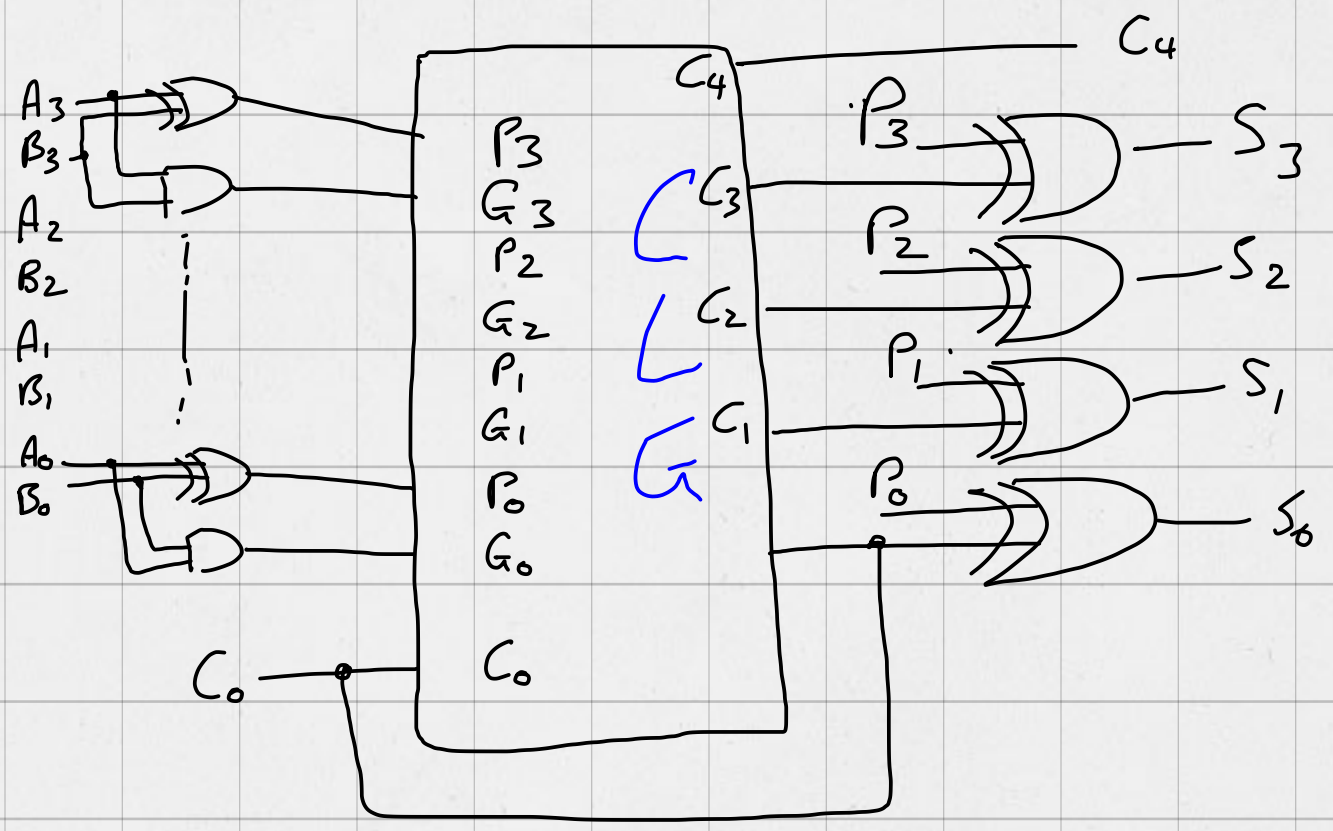
$$A = A_0 A_1 A_2 A_3$$

$$B = B_0 B_1 B_2 B_3$$

$$S = S_0 S_1 S_2 S_3 \rightarrow C_{OUT}$$



CLG - Carry look ahead
Generator

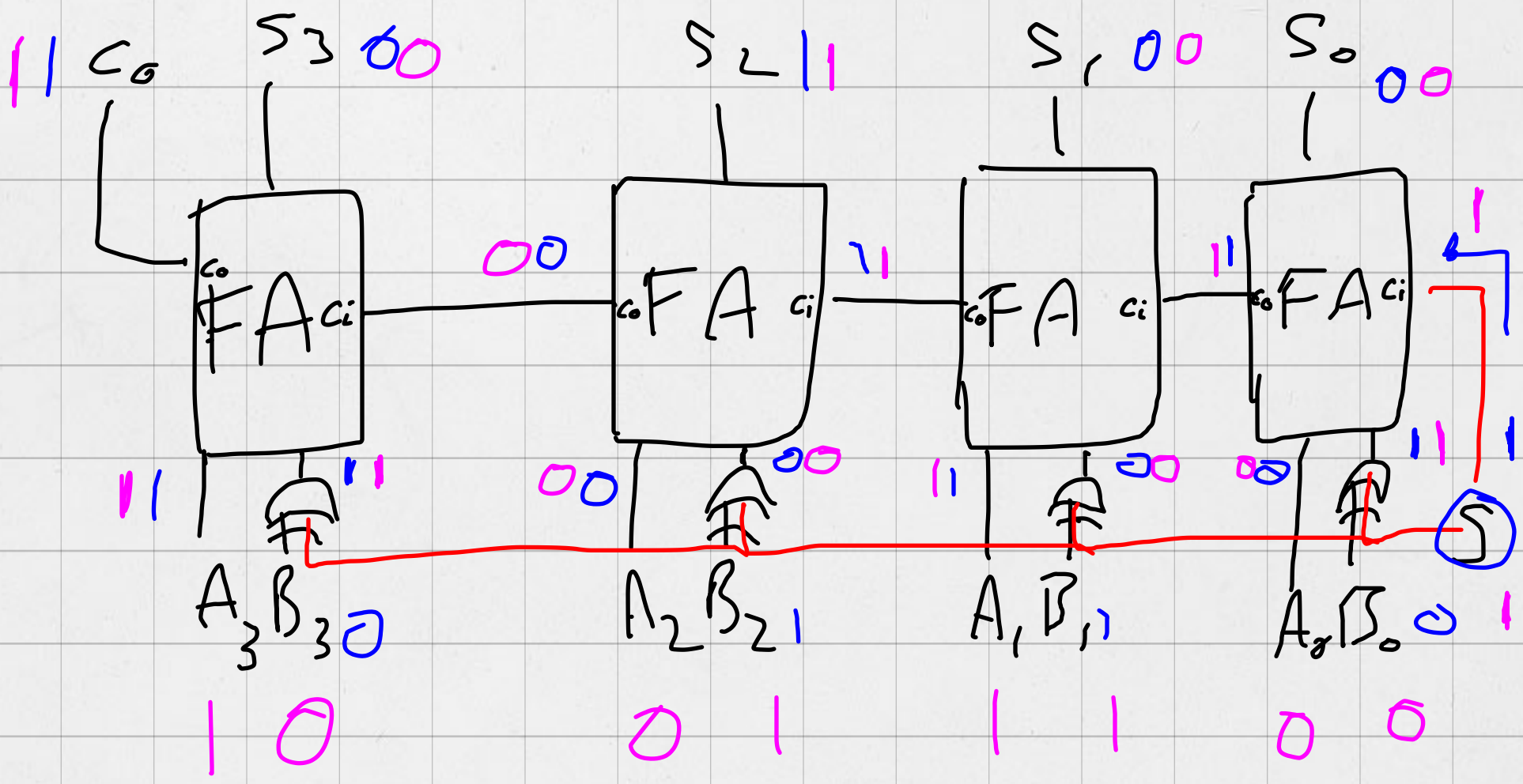


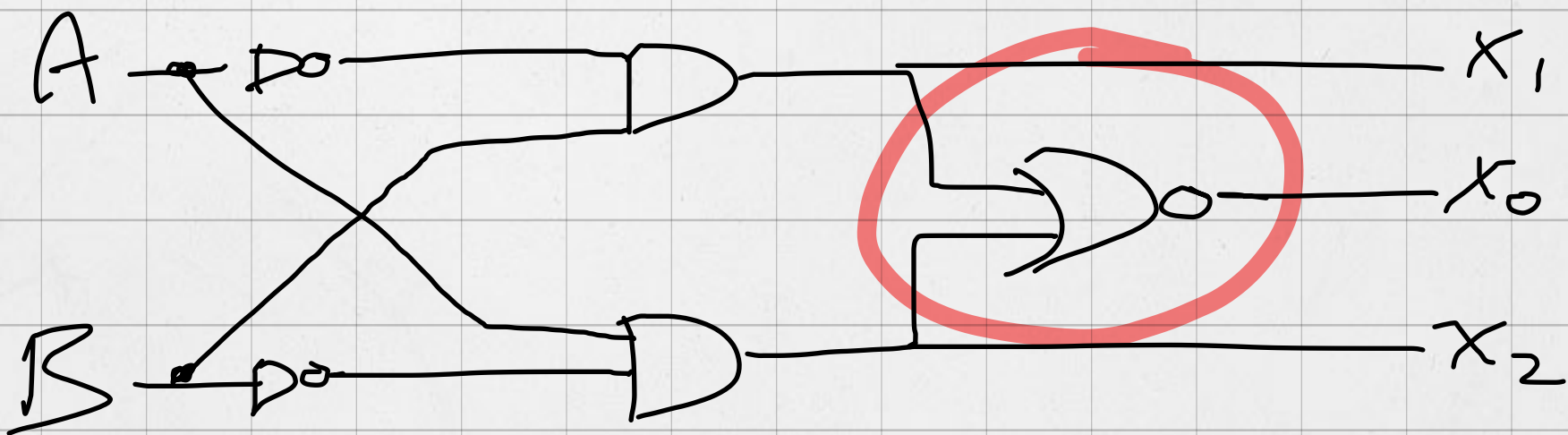
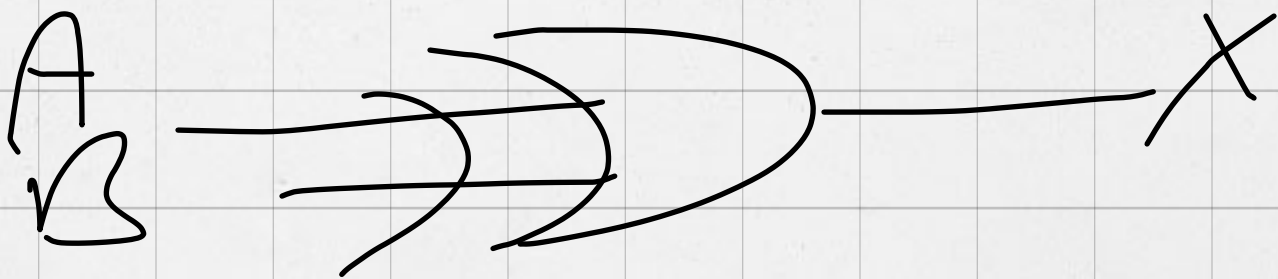
$A = 1010 \rightarrow 10$
 $B = 0110 \rightarrow 6$
 $\rightarrow 1001$ 1's
 $\rightarrow 1010$ 2's

$$\begin{array}{r} 1010 \text{ } A \\ + 1010 \text{ } B \\ \hline 0100 \\ \hline = 4 \end{array}$$

XOR:

0	0	\rightarrow	0
1	0	\rightarrow	1
0	1	\rightarrow	1
1	1	\rightarrow	0





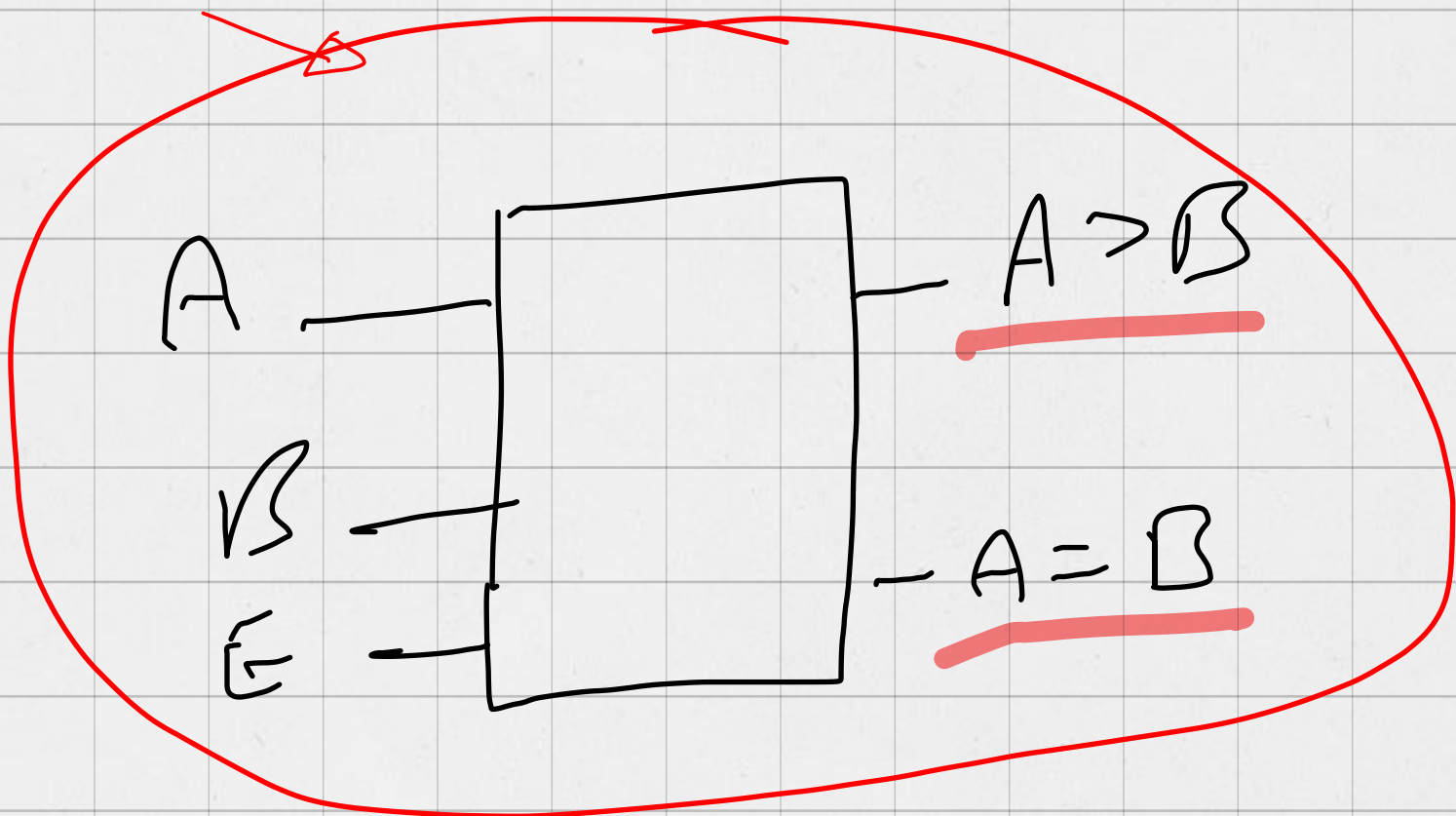
$A = B \rightarrow$

$$X_1 = \overline{A}B \rightarrow B > A$$

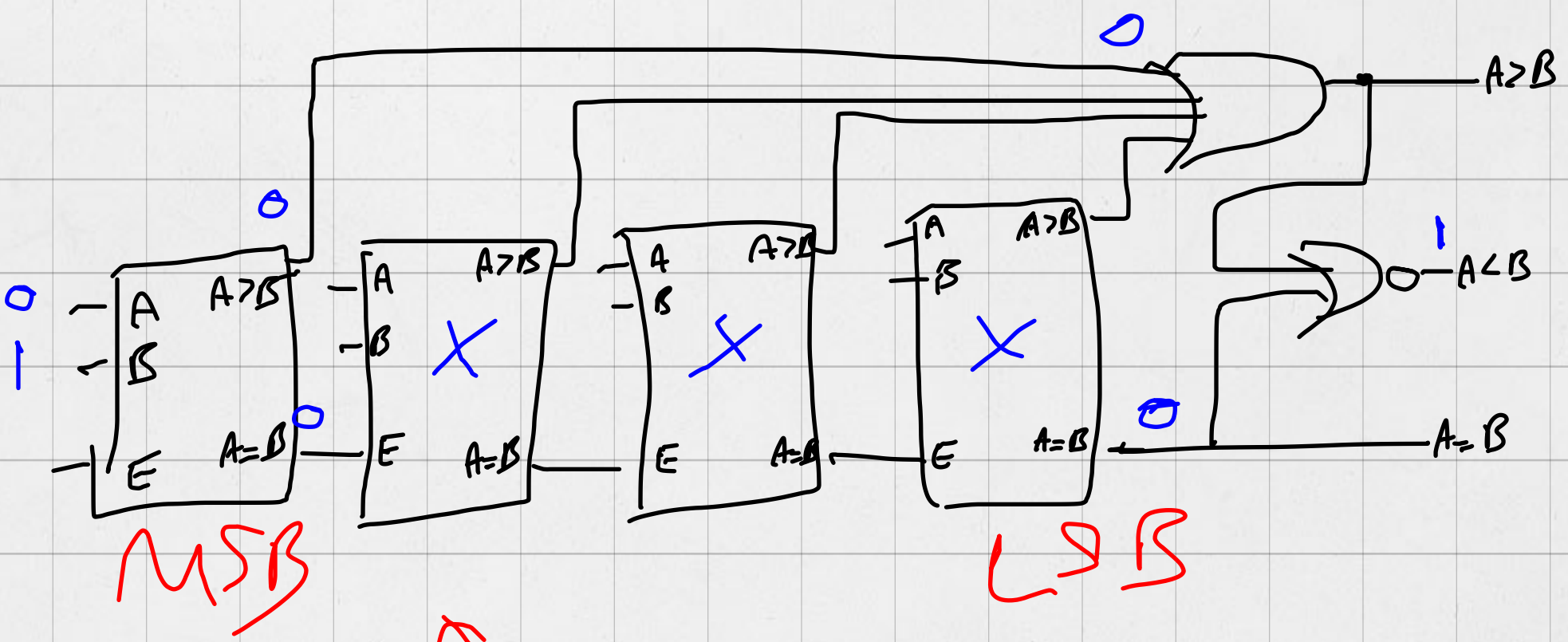
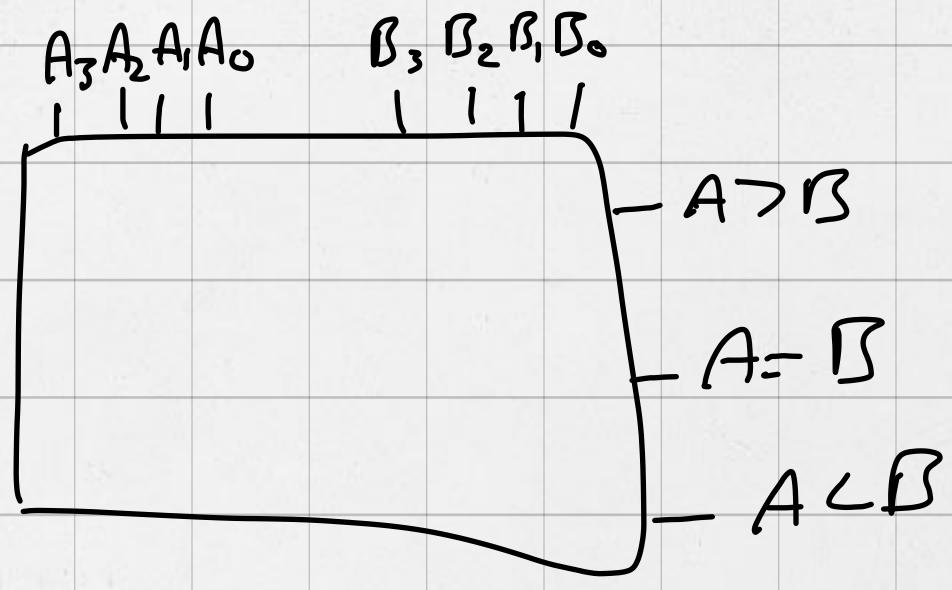
$$X_0 = \overline{A}B + A\overline{B}$$

$$X_2 = A\overline{B} \rightarrow A > B$$

Given



4 BIT COMPARATOR.



$A = 1000$
 $B = 0111$
 $A > B$

$A = 0100$
 $B = 1111$