

8 August 2013

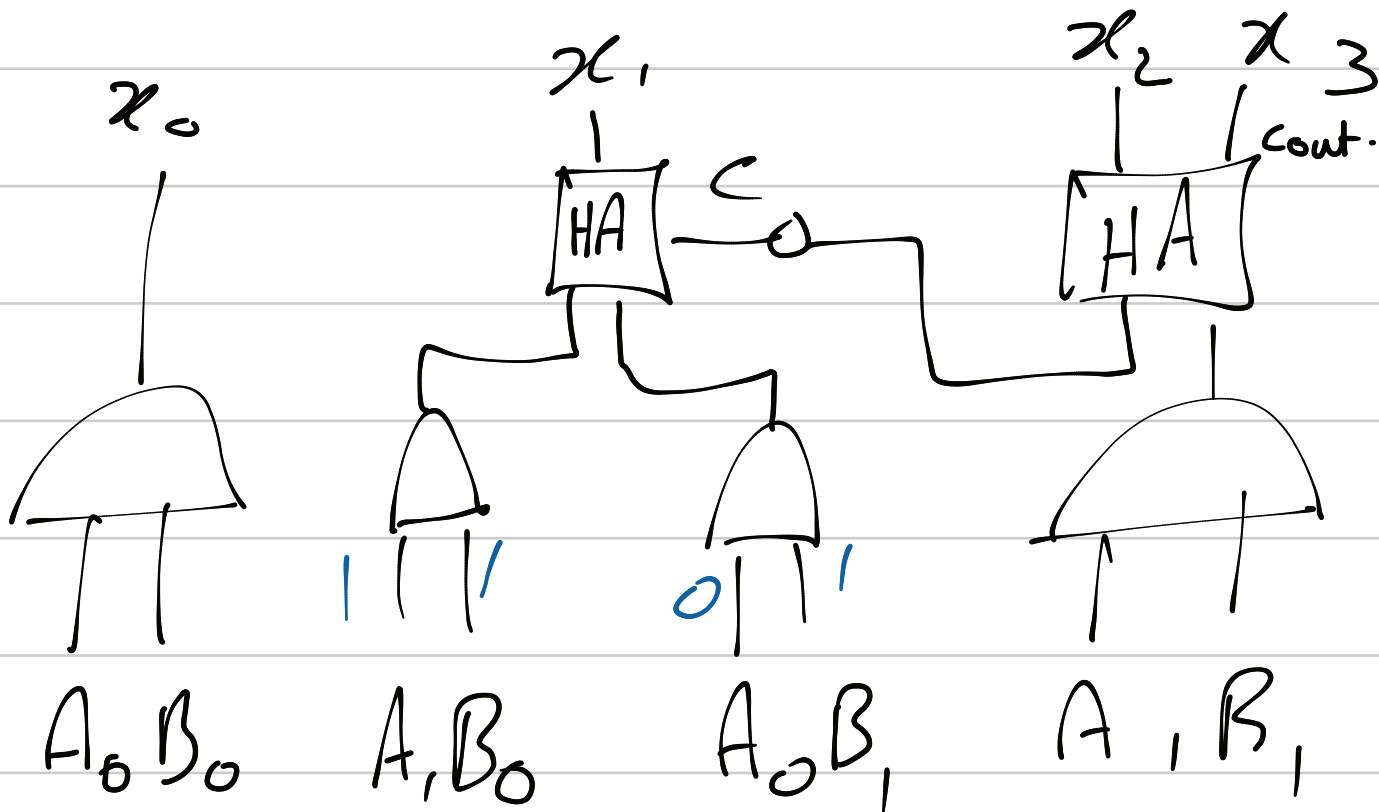
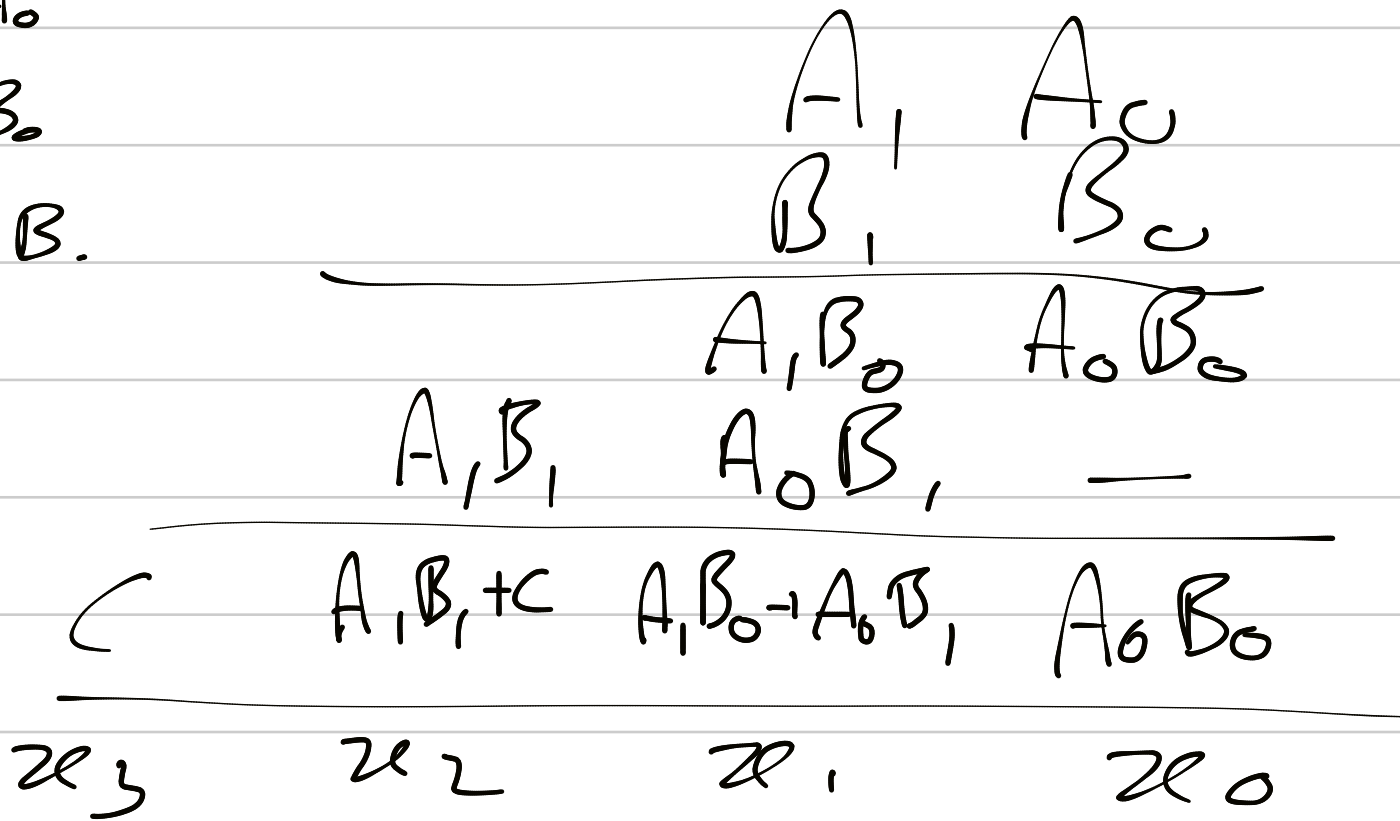
RECAP

1. MUXs
2. Half adders, full adders
3. Subtractor

$A = A_1, A_0$

$B = B_1, B_0$

$X = A \times B$



$$A = A_0 A_1 A_2$$

$$B = B_0 B_1 B_2$$

$$\begin{array}{r} A_0 A_1 A_2 \\ \times B_0 B_1 B_2 \\ \hline \end{array}$$

$$\begin{array}{r} A_0 B_2 \quad A_1 B_2 \quad A_2 B_2 \\ A_0 B_1 \quad A_1 B_1 \quad A_2 B_1 \quad - \end{array}$$

$$\begin{array}{r} A_0 B_0 \quad A_1 B_0 \quad A_2 B_0 \quad - \quad - \end{array}$$

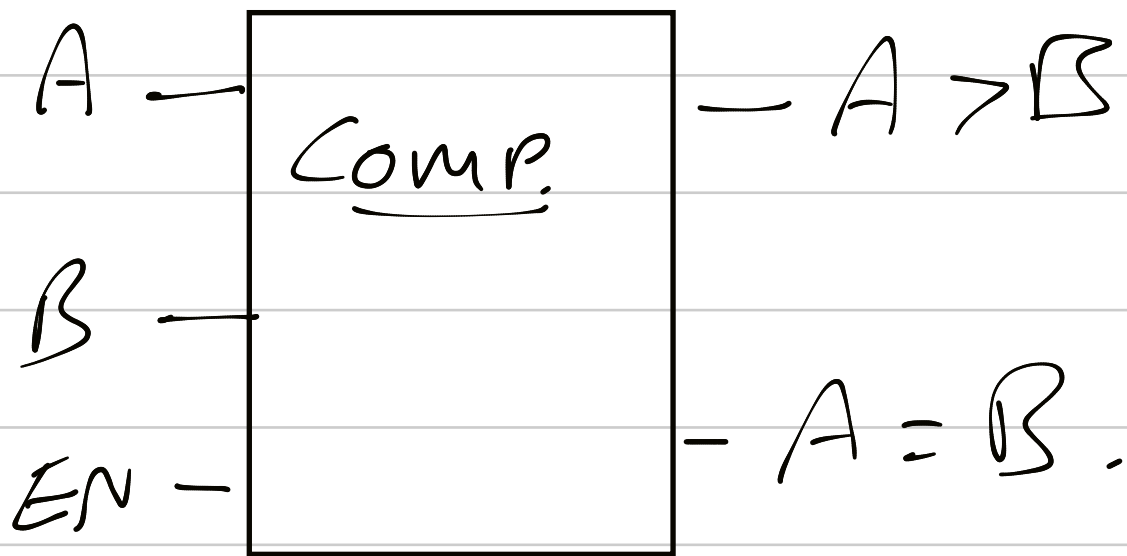
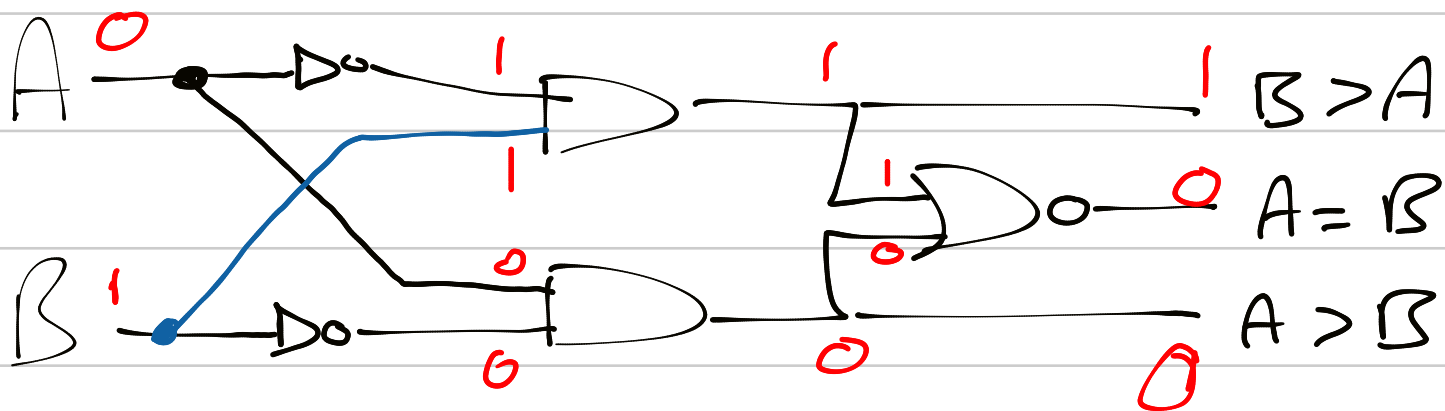
$$\begin{array}{r} \hline FC \quad FC \quad FC \end{array}$$

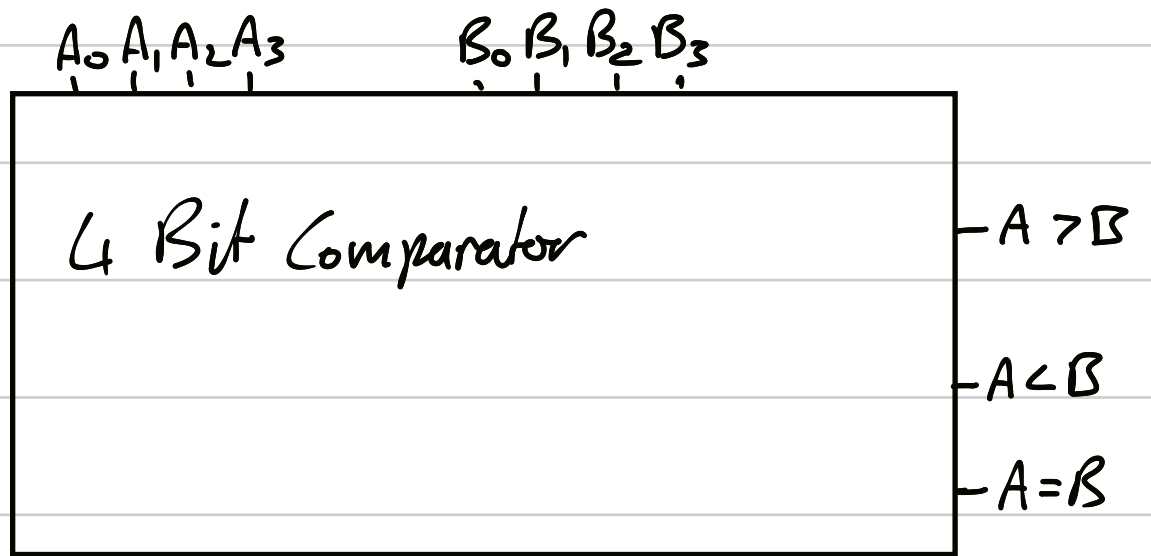
# Comparator

0 0  $\rightarrow$  =  
0 1  $\rightarrow$  <  
1 0  $\rightarrow$  >

A	B	Q
0	0	0
0	1	1
1	0	1
1	1	0

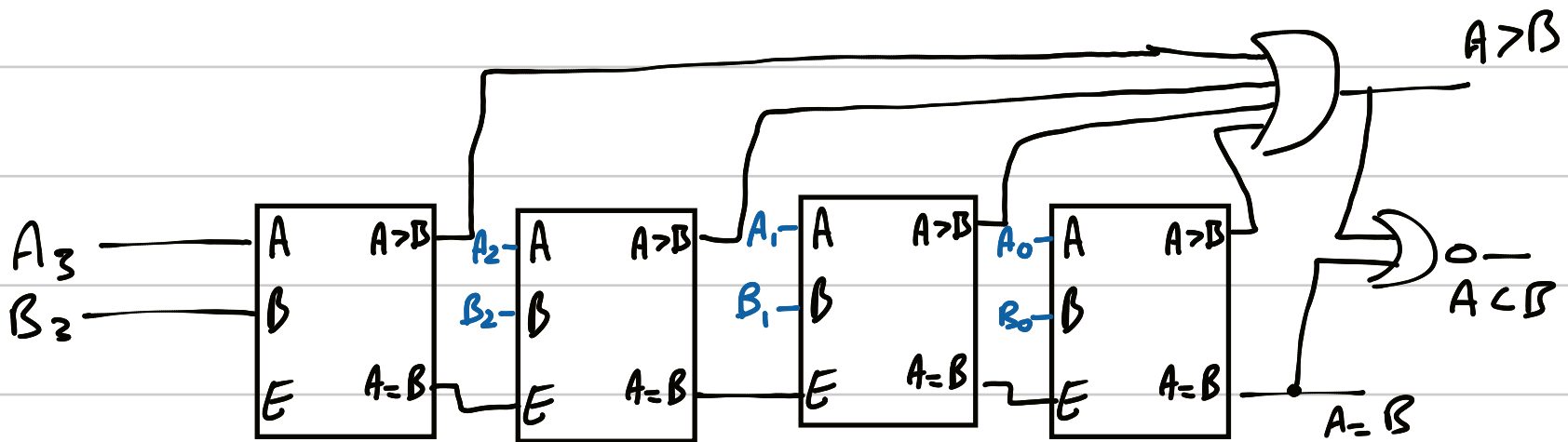
A B  $\Rightarrow$  Q





MSB                      LSB  
 $A = 1101$

$B = 1011$



Perform the signed multiplication of the following two binary numbers:

$$01,0110 * 110,11$$

Check your answer in decimal format.