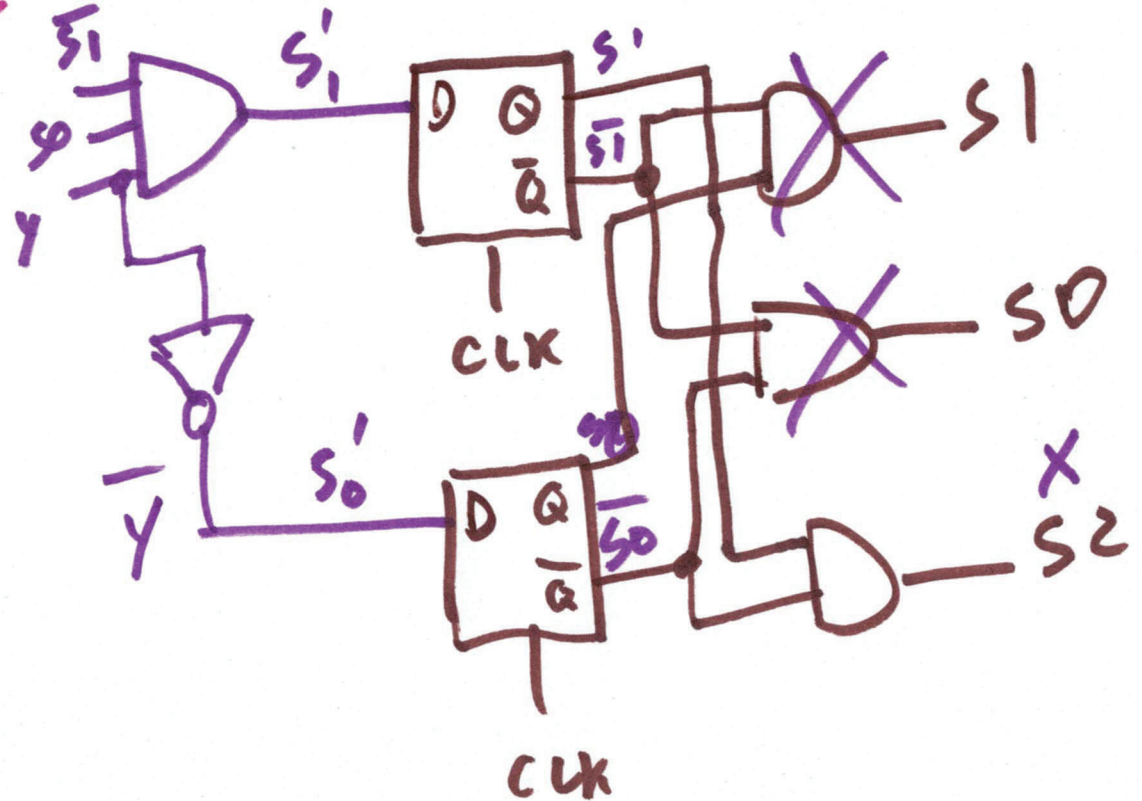


# CPE 100 Digital logic Design

April 14, 2021

## Lecture 21

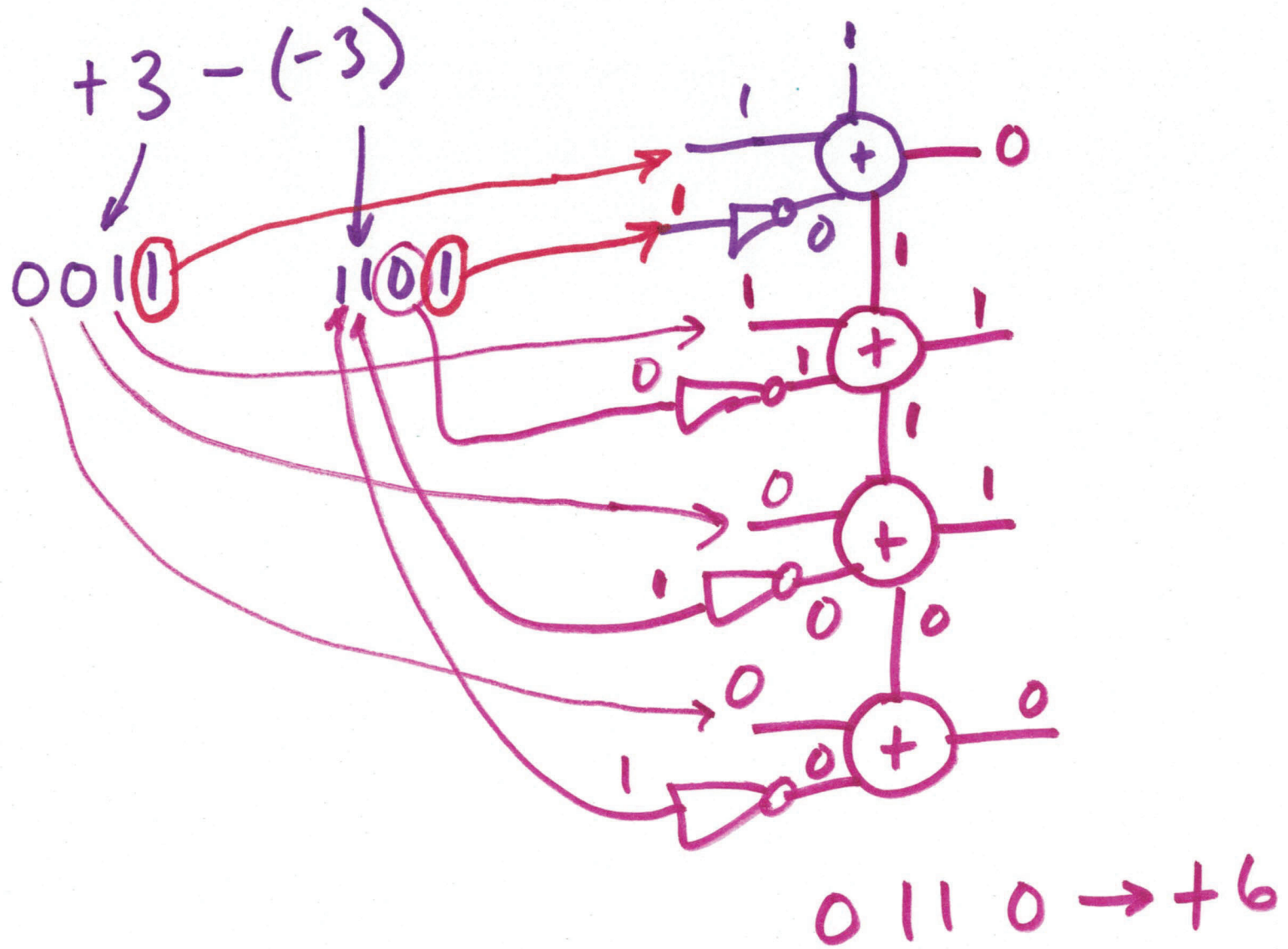
$S_0 \rightarrow 00$   
 $S_1 \rightarrow 01$   
 $S_2 \rightarrow 10$



S1	S0	Y	S' <sub>1</sub>	S' <sub>0</sub>	X
0	0	0	0	1	0
0	1	0	0	1	0
1	0	0	0	1	1
0	0	1	0	0	0
0	1	1	<del>0</del> 1	0	<del>0</del> 1
1	0	1	0	0	1

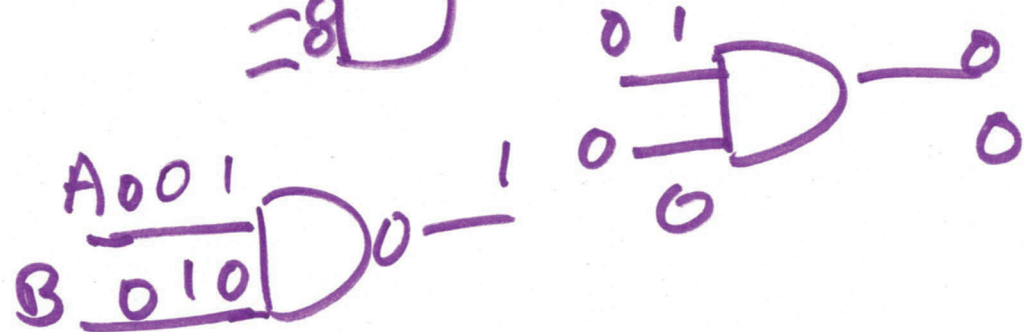
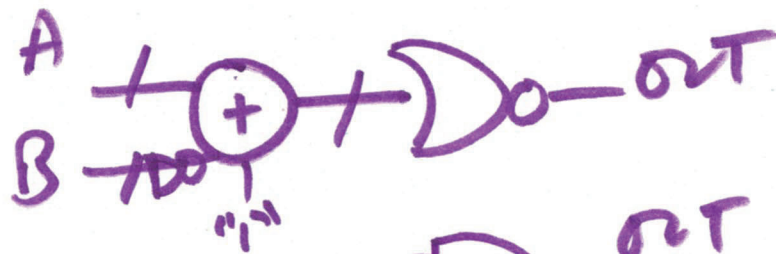
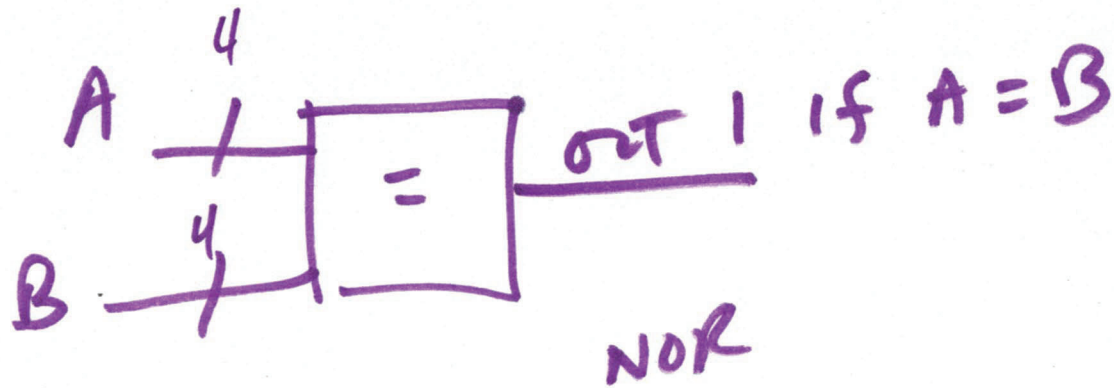
$$S'_1 = \overline{S_1 S_0 Y}$$

$$S'_0 = \overline{Y}$$



3)

# Comparators

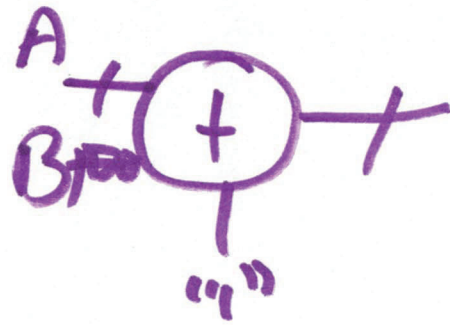


$A > B$  OR  $A < B$

COMMAND CODE



$F_{2:0}$	Function
000	$A \cdot B$



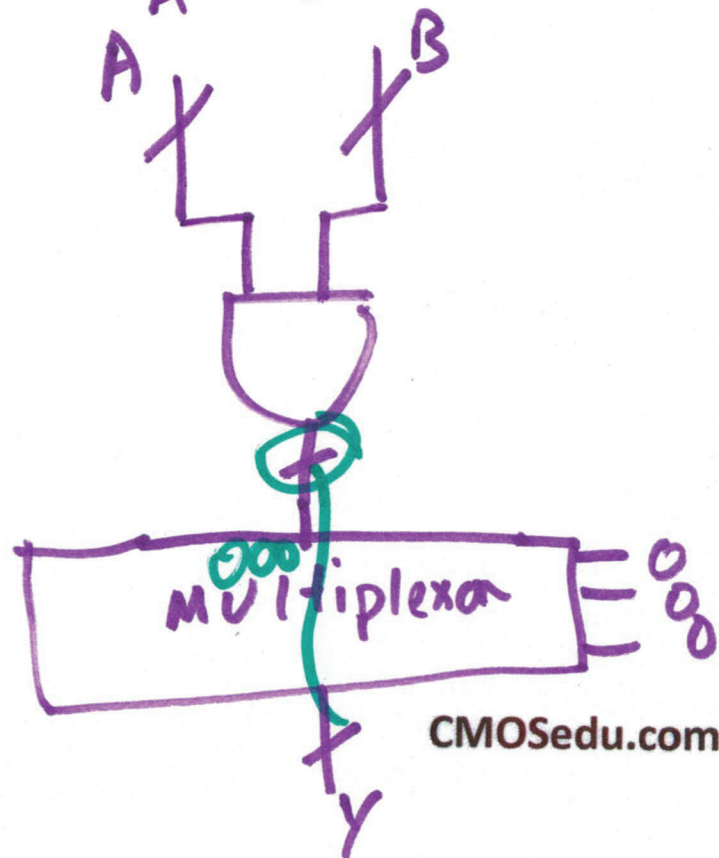
$A - B$

$A > B$

$A < B$

Positive  
Negative

MSB  
↓  
"0"  
"1"



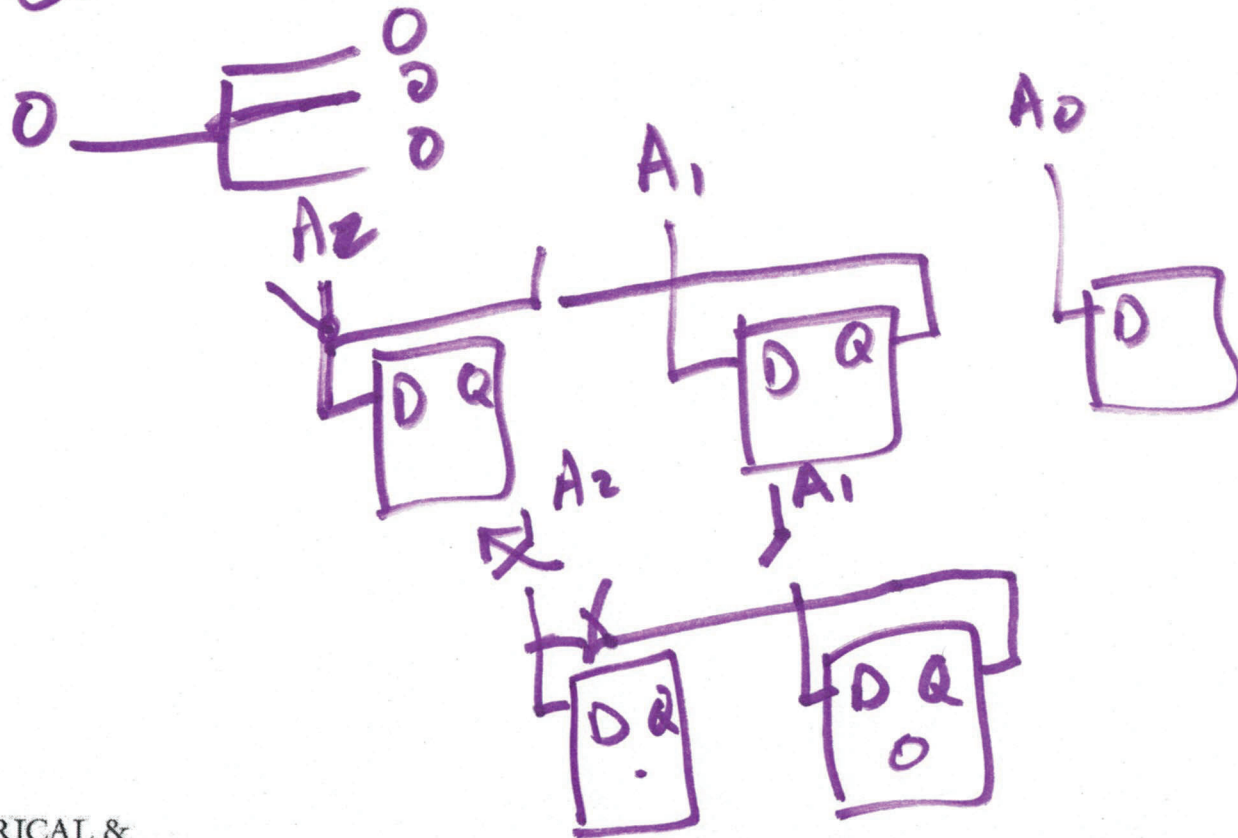
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$$4 - (-4) \rightarrow 8$$

00100    11100

$$7 - (-7) = 14$$

extend the sign bit



6)

0100  
1000 → shift Right

+8

÷2

4

÷2



