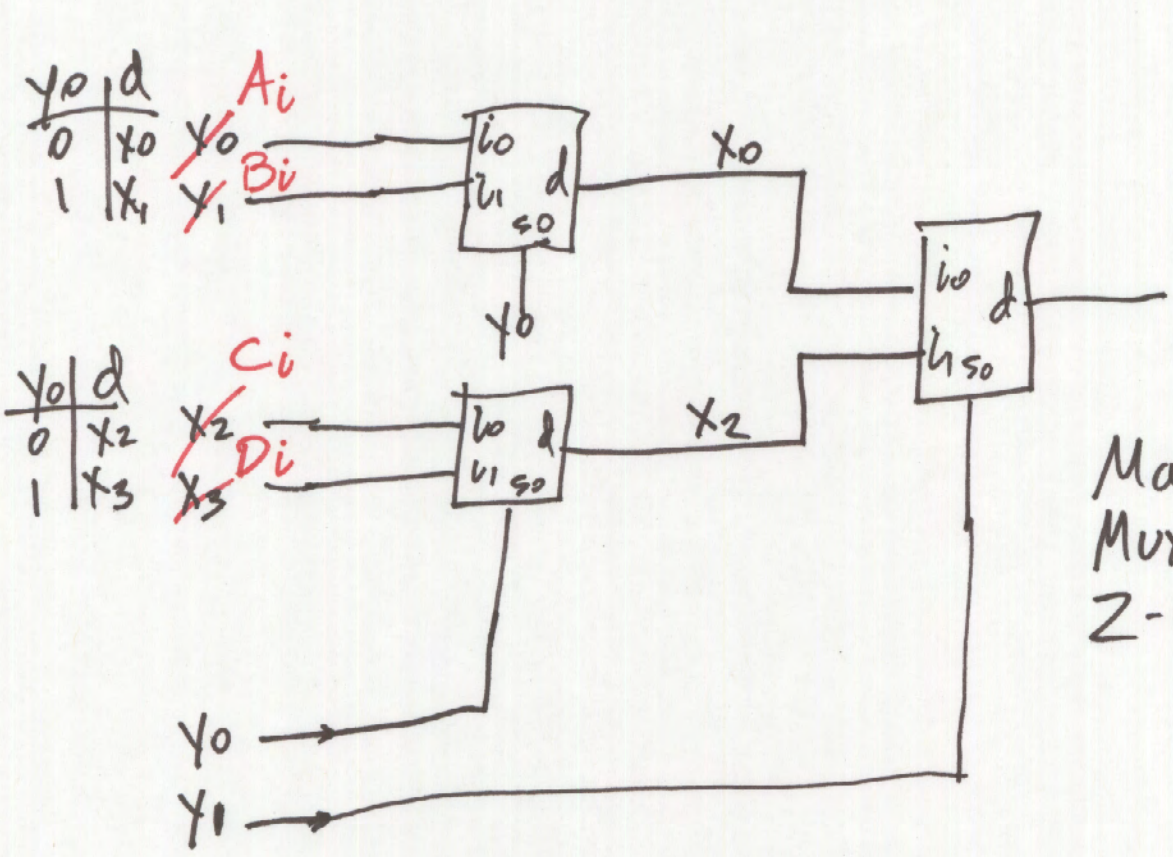


# ECGR 2181 - Extra Notes - 9/30/09

①



<del>y1</del> y1	y0	d
00	$x_0$	
01	$x_1$	
10	$x_2$	
11	$x_3$	

Made a 4-input Mux from several 2-input Muxes



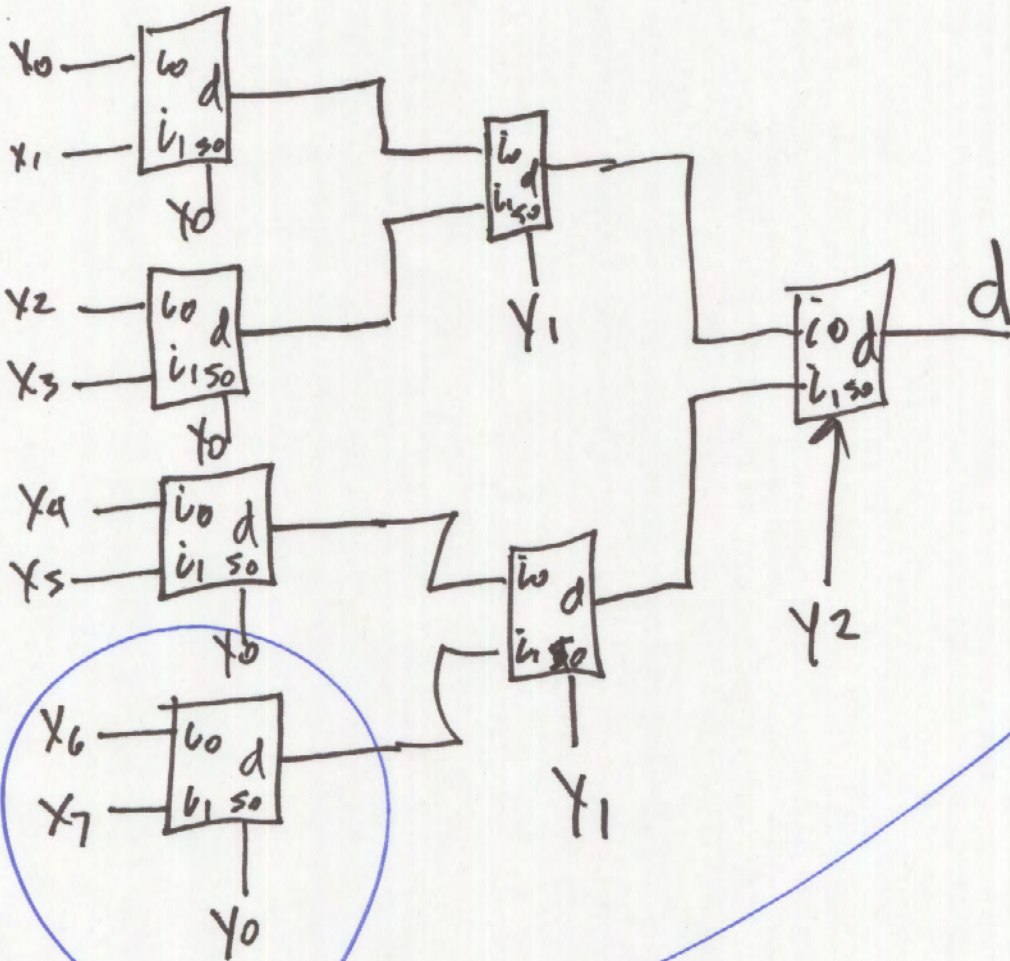
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②

Make an eight-input Mux from only

2-input muxes:

inputs:  $x_7, x_6, x_5, x_4, x_3, x_2, x_1, x_0$  (Data)  $y_2, y_1, y_0$  (Control)



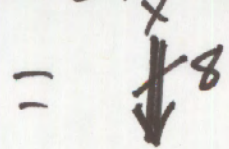
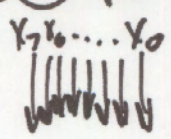
$y_2$	$y_1$	$y_0$	$d$
0	0	0	$x_0$
0	0	1	$x_1$
0	1	0	$x_2$
0	1	1	$x_3$
1	0	0	$x_4$
1	0	1	$x_5$
1	1	0	$x_6$
1	1	1	$x_7$

$2^N$  inputs, (data)  
 $N$  inputs, (control)  
 $(2^N - 1)$  Muxes

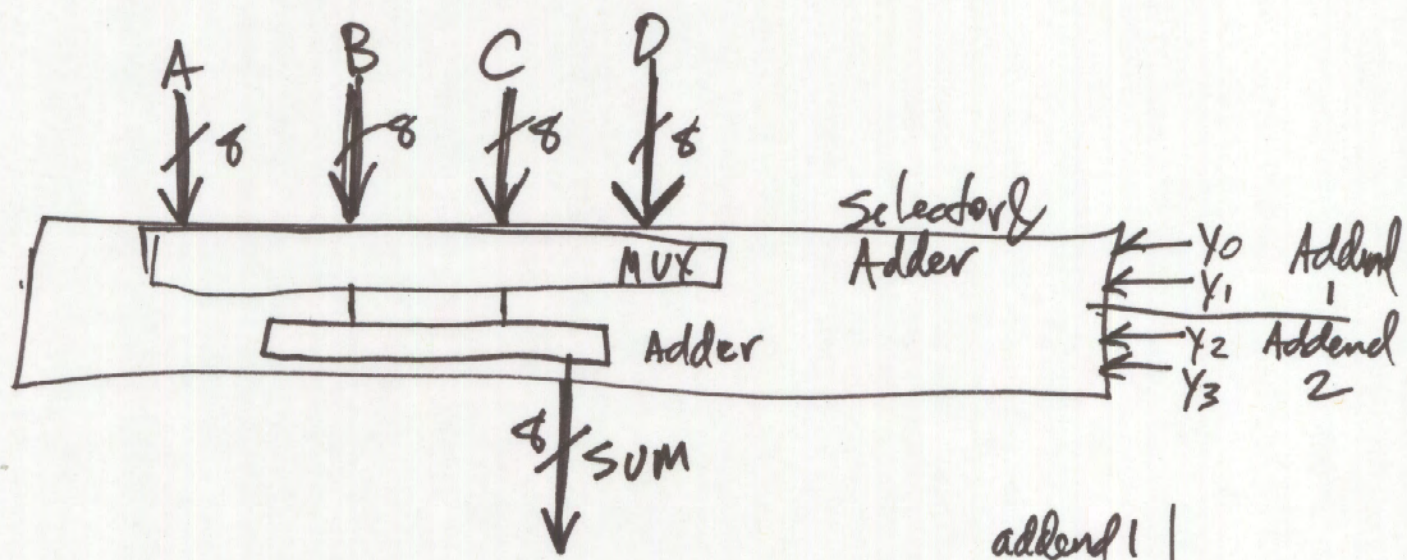


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(3)



(making buses)



$$A + B = \text{SUM}$$

		addend 1
$Y_1 Y_0$	$d$	
00	A	
01	B	
10	C	
11	D	
		Addend 2
$Y_3 Y_2$	$d$	
00	A	
01	B	
10	C	
11	D	