Chip : Mux
Inputs : sel, a, b
Outputs : out
Function : if sel = 0 then out = a else out = b

a
b
sel
out
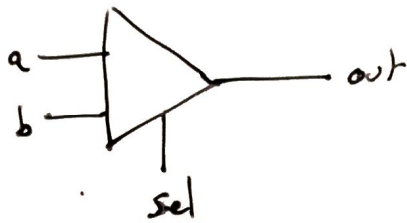
a	b	sel	out	
0	0	0	0	$a \cdot \overline{sel}$
0	1	0	0	
1	0	0	1	$a \cdot \overline{sel}$
1	1	0	1	
0	0	1	0	$b \cdot sel$
0	1	1	1	
1	0	1	0	
1	1	1	1	

sel   0

a	b	sel	out	
0	0	0	0	✓
0	1	0	0	✓
1	0	0	1	✓
1	1	0	1	✓
0	0	1	0	✓
0	1	1	1	✓
1	0	1	0	✓
1	1	1	1	✓

$Mux(a,b,sel) = a \cdot \overline{sel} + b \, sel$
Canonical Representation

a
b
And
And
or
out
sel

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