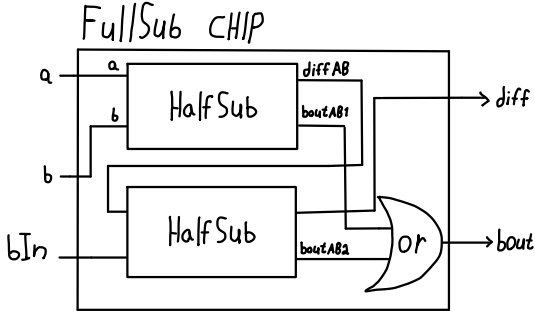


a	b	diff	bout
1	1	0	0
1	0	1	0
0	1	1	1
0	0	0	0

$diff = a - b$   
 $bout = Borrow$

(1)

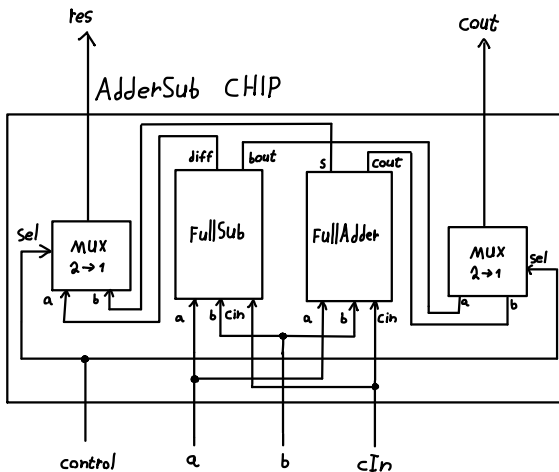
(2)



a	b	bIn	diff	bout
1	1	1	1	1
1	1	0	0	0
1	0	1	0	0
1	0	0	1	0
0	1	1	0	1
0	1	0	1	1
0	0	1	1	1
0	0	0	0	0

$diff = a - b - bIn$   
 $bout = Borrow$

(3)



a	b	cIn	control	res	cout
1	1	1	1	1	1
1	1	1	0	1	1
1	1	0	1	0	0
1	1	0	0	0	1
1	0	1	1	0	0
1	0	1	0	0	1
1	0	0	1	1	0
1	0	0	0	1	0
0	1	1	1	0	1
0	1	0	1	1	1
0	1	0	0	1	0
0	0	1	1	1	1
0	0	0	1	0	0
0	0	0	0	0	0

$control = 0:$   
 $res = a + b + cIn$   
 $cout = borrow\ of\ res$

$control = 1:$   
 $res = a - b - cIn$   
 $cout = borrow\ of\ res$

## AdderSub8 CHIP

