

Circuits inside ALU that add bits and output sum and carry result.

+7
-3

00000111
11111101

100

full adder

half adder

Sum

Carry

Those adders, which add 2 bits are called half adder.
Those adders, which add 3 bits are called full adder.

Half Adder:

A

B

S

c

A

B

C

S

0

0

0

0

0

1

0

1

1

0

0

1

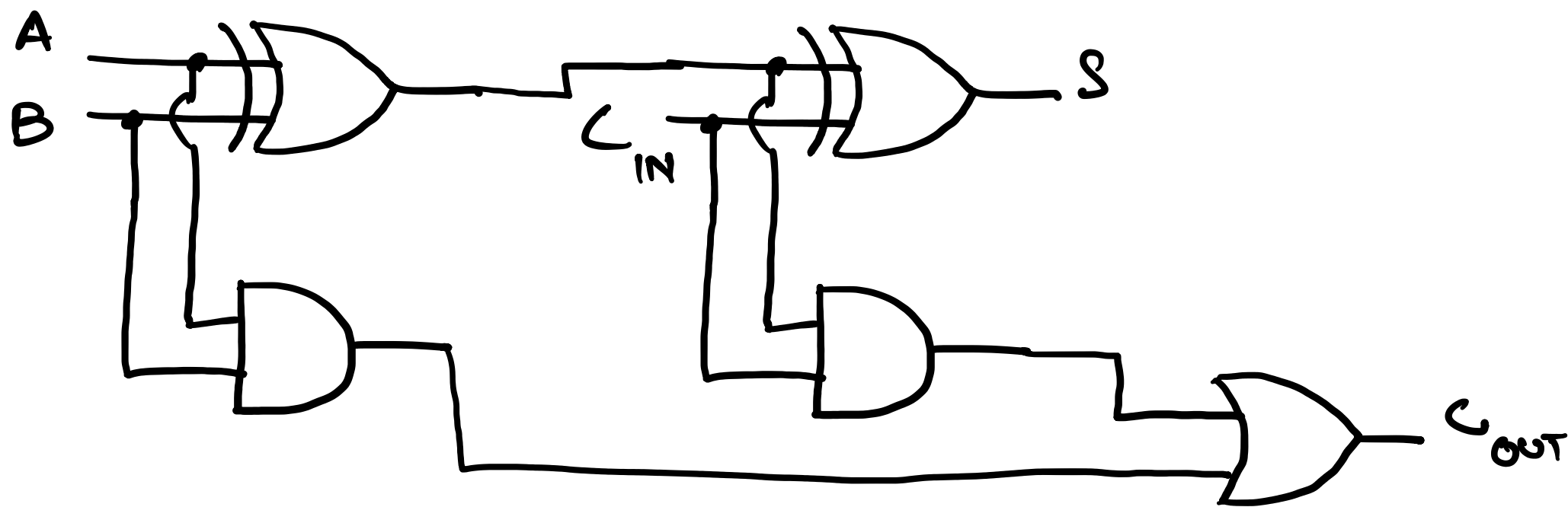
1

1

1

0

Full Adder:



A	B	C _{IN}		
			2	1
			C _{OUT}	S
0	0	0	0	0
0	0	1	0	1
0	1	0	0	1
0	1	1	1	0
1	0	0	0	1
1	0	1	1	0
1	1	0	1	0
1	1	1	1	1