Opcode, & 2's comp condition

A, B = inputs

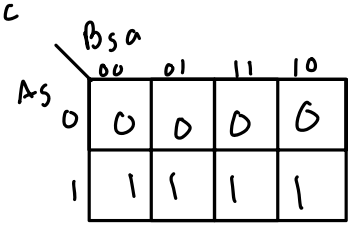
Sign bit = A_S, B_S → 1 = neg, 0 = pos

Add/subtract opcode = a → a=0 → add, a=1 → sub

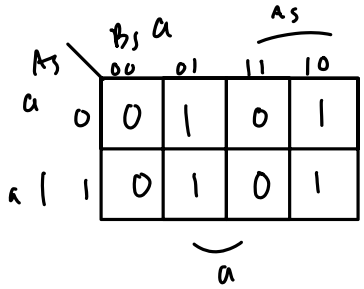
2's comp condition = A_C, B_C → 1 = take 2's comp,
0 = dont take 2's comp

Desc	opcode A_S	opcode B_S	opcode a	Operation	2's comp condition A_C	2's comp condition B_C
A>0, B>0, a=add	0	0	0	A+B	0	0
A>0, B>0, a=sub	0	0	1	A-B	0	1
A>0, B<0, a=add	0	1	0	A-B	0	1
A>0, B<0, a=sub	0	1	1	A+B	0	0
A<0, B>0, a=add	1	0	0	-A+B	1	0
A<0, B>0, a=sub	1	0	1	-A-B	1	1
A<0, B<0, a=add	1	1	0	-A-B	1	1
A<0, B<0, a=sub	1	1	1	-A+B	1	0

A_C



$A_C = A_S$



$B_C = B_S'a + B_S a'$

$= B_S \oplus a$