

ルビス ルスファン アンシャー

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### Assignment 7

Operation	A	B	Overflow result S	binvert	A (msb)	B (msb)	S (msb)
A + B	$\geq 0$	$\geq 0$	$< 0$	0	0	0	1
A + B	$< 0$	$< 0$	$\geq 0$	0	1	1	0
A - B	$\geq 0$	$< 0$	$< 0$	1	0	1	1
A - B	$< 0$	$\geq 0$	$\geq 0$	1	1	0	0

$$\text{Overflow} = (\neg \text{binvert} \wedge \neg A \wedge \neg B \wedge S) \vee (\neg \text{binvert} \wedge A \wedge B \wedge \neg S) \vee$$
$$(\text{binvert} \wedge \neg A \wedge B \wedge S) \vee (\text{binvert} \wedge A \wedge \neg B \wedge \neg S)$$