HW 10: Condition Flags

For each line in the table on the following page indicate whether the assertion would be true (T), false (?), or unknown (?) if the codition flags obtained their indicated values after the ALU performed the indicated operation.

operation	flags	assertion	T / F / ?
A−B unsigned	$\overline{Z}$ N $\overline{C}$ V	result is honest	F
A+B signed	$\overline{Z}$ $\overline{N}$ C V	result is honest	T
A+B unsigned	$\overline{Z}$ N $\overline{C}$ V	result is honest	T
A−B signed	Z $\overline{N}$ $\overline{C}$ $\overline{V}$	result is honest	F
A+B unsigned	$\overline{Z}$ $\overline{N}$ C V	result is honest	F
A+B signed	$\overline{Z}$ N C $\overline{V}$	result is honest	T
A−B unsigned	$\overline{Z}$ $\overline{N}$ C V	A > B	T
A−B signed	$\overline{Z}$ N $\overline{C}$ V	A = B	F
A−B unsigned	$\overline{Z}$ $\overline{N}$ $\overline{C}$ V	A < B	T
A+B signed	Z $\overline{N}$ C V	A ≤ B	?
A−B unsigned	$\overline{Z}$ N C $\overline{V}$	A > B	T
A−B signed	$\overline{Z}$ $\overline{N}$ $\overline{C}$ V	A ≤ B	F
A+B unsigned	Z $\overline{N}$ $\overline{C}$ V	A < B	?
A−B signed	Z $\overline{N}$ C V	A ≥ B	F
A−B unsigned	$\overline{Z}$ $\overline{N}$ C $\overline{V}$	A ≤ B	F
A−B signed	Z $\overline{N}$ $\overline{C}$ V	A ≥ B	T