

Test (hex)	F [2:0]	A (hex)	B (hex)	Y (hex)	N	V	Z	C
ADD 0+0	2	h00	h00	h00	0	0	1	0
ADD 0+(-1)	2	h00	hff	hff	1	0	0	0
ADD 1+(-1)	2	h01	hff	h00	0	0	1	1
ADD FF+1	2	hff	h01	h00	0	0	1	1
SUB 0-0	6	h00	h00	h00	0	0	1	1
SUB 0-(-1)	6	h00	hff	h01	0	0	0	0
SUB 1-1	6	h01	hff	h00	0	0	1	1
SUB 10-1	6	h10	h01	h0f	0	0	0	1
SLT 0,0	7	h00	h00	h00	0	0	1	1
SLT 0,1	7	h00	h01	h01	1	0	0	0
SLT 0, -1	7	h00	hff	h00	0	0	0	0
SLT 1, 0	7	h01	h00	h00	0	0	0	1
SLT -1,0	7	hff	h00	h01	1	0	0	1
AND FF, FF	0	hff	hff	hff	x	x	x	x
AND FF, 12	0	hff	h12	h0d	x	x	x	x
AND 12, 87	0	h12	87	h04	x	x	x	x
AND 00, FF	0	h00	hff	h00	x	x	x	x
OR FF, FF	1	hff	hff	hff	x	x	x	x
OR 12, 87	1	h12	h87	h1f	x	x	x	x
OR 00, FF	1	h00	hff	hff	x	x	x	x
OR 00, 00	1	h00	h00	h00	x	x	x	x

Equations used for Carry look-ahead adder:

1. Generate: $G_i = A_i B_i$
2. Propagate: $P_i = A_i + B_i$
3. Carry: $C_{i+1} = G_i + P_i C_i$
4. Sum: $S_i = P_i \oplus C_i$