Dylan Lozon CE 210 Lab 7

Table 1: Truth table for 2-bit adder

A1	A0	B1	B0		V	C	S1	S0
0	0	0	0		0	0	0	0
0	0	0	1		0	0	0	1
0	0	1	0		0	0	1	0
0	0	1	1		0	0	1	1
0	1	0	0		0	0	0	1
0	1	0	1		1	0	1	0
0	1	1	0		0	0	1	1
0	1	1	1		0	1	0	0
1	0	0	0		0	0	1	0
1	0	0	1		0	0	1	1
1	0	1	0		1	1	0	0
1	0	1	1		1	1	0	1
1	1	0	0		0	0	1	1
1	1	0	1		0	1	0	0
1	1	1	0		1	1	0	1
1	1	1	1		0	1	1	0

Table 2: Decimal Interpretation of 2-bit adder using unsigned

*C retains it's color because it is still a binary value, either you add 4 to S, or you don't.

A	B		S	C
0	0		0	0
0	1		1	0
0	2		2	0
0	3		3	0
1	0		1	0
1	1		2	0
1	2		3	0
1	3		0	1
2	0		2	0
2	1		3	0
2	2		0	1
2	3		1	1
3	0		3	0
3	1		0	1
3	2		1	1
3	3		2	1

Table 3: Decimal Interpretation of 2-bit adder using 2's Complement Signed

*V retains it's color because it is still a binary value, either you overflowed, or you didn't.

A	B		S	V
0	0		0	0
0	1		1	0
0	-2		-2	0
0	-1		-1	0
1	0		1	0
1	1		2	1
1	-2		-1	0
1	-1		0	0
-2	0		-2	0
-2	1		-1	0
-2	-2		0	1
-2	-1		1	1
-1	0		-1	0
-1	1		0	0
-1	-2		1	1
-1	-1		-2	0