



The Subtractor is a way to subtract two binary numbers. It uses a “mode” to determine weather you are adding two numbers, or subtracting them. When mode is set to 1 it adds said two numbers together. However, it passes in a 1 as a carry in, why? Because of overflow(I think) The xor at the end, compares the two last carry in digits, if they are equal than no overflow has occurred, if they arent than one has.

Truth table

M	S	Borrow in	Difference	Borrow out
0	0	0	0	0
0	1	0	1	1
1	0	0	1	0
1	1	0	0	0
0	0	1	1	1
0	1	1	0	1
1	0	1	0	0
1	1	1	1	1