COMP2120 Tutorial Exercise

March 3, 2025

Try to use the Booth's Algorithm to multiply 5 = 101(multiplicand) and 3 = 011(multiplier), write multiplication table as in the slides. (Hint: use 2's complement when subtracting)

The 2's complement of 5 = 0101 is 1011. The 2's complement of 3 = 0011 is 1101.

Multiplier	Operation	Partial Sum	Comment
0011	init	0000 0000	
001$\underline{1}$	sub	1011 0000	add 2's complement
001$\underline{1}$	shift	1101 1000	sign extend
00$\underline{1}$1	shift	1110 1100	sign extend
0$\underline{0}$11	add	0011 1100	ignore carry
0$\underline{0}$11	shift	0001 1110	
$\underline{0}$011	shift	0000 1111	15