

COMP2120 Tutorial Exercise

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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 <u>1</u>	sub	1011 0000	add 2's complement
001 <u>1</u>	shift	1101 1000	sign extend
00 <u>1</u> 1	shift	1110 1100	sign extend
00 <u>1</u> 1	add	0011 1100	ignore carry
00 <u>1</u> 1	shift	0001 1110	
<u>0</u> 011	shift	0000 1111	15