Example of Booth's technique for 9 × -13
N=8 (8 bit numbers)
M=9=00001001b, -M=not-bitwise(9)+1=11110111b
R=-13=11110011b

s (step)	M (multiplicand)	P product	Notes
	0000 0001	0000 0000 1111 0011 0	Initialize values
8	0000 0001	1111 0111 1111 0011 0 1111 1011 1111 1001 1	10 => P=P-M arithmetic shift right
7	0000 0001	1111 1101 1111 1100 1	arithmetic shift right
6	0000 0001	0000 0110 1111 1100 1 0000 0011 0111 1110 0	01 => P=P+M arithmetic shift right
5	0000 0001	0000 0001 1011 1111 0	arithmetic shift right
4	0000 0001	1111 1000 1011 1111 0 1111 1100 0101 1111 1	10 => P=P-M arithmetic shift right
3	0000 0001	1111 1110 0010 1111 1	arithmetic shift right
2	0000 0001	1111 1111 0001 0111 1	arithmetic shift right
1	0000 0001	1111 1111 1000 1011 1	arithmetic shift right
0	0000 0001	1111 1111 1000 1011	extract final 16-bit product

NOTES ARE COLOR CODED ACCORDING TO THE ALGORITHM FLOW CHART

Check the answer
P=1111 1111 1000 1011
$=-2^{15}+2^{14}+2^{13}+2^{12}+2^{11}+2^{10}+2^9+2^8+2^7+2^3+2^1+2^0$
=-32768+16384+8192+4096+2048+1024+512+256+128+8+2+1
=-117