Booth's algorithm is a multiplication algorithm used for binary numbers.

- It is not directly applicable to decimal numbers like +5 and -15.
- However, we can convert these decimal numbers to their binary representations and then apply Booth's algorithm.

## Let's convert +5 and -15 to their binary representations:

```
+5 = 0101
-15 = 1111 (two's complement representation)
```

Now, let's perform the multiplication using Booth's algorithm.

## Step 1: Set up the variables

```
A = 0101 (binary representation of +5)

B = 1111 (binary representation of -15)

Q = 0000 (accumulator for the result)

Q(-1) = 0 (previous value of the least significant bit of Q)

M = 4 (number of bits in the binary representation)
```

Step 2: Perform the multiplication using Booth's algorithm

Step	Operation	А	Q	Q(-1)
0	Initial values	0101	0000	0
1	A = A - B	0101	0000	0
2	Right Shift	0010	1000	0
3	A = A + B	0111	1000	0
4	Right Shift	0011	1100	0
5	A = A + B	1011	1100	0
6	Right Shift	1101	1110	0
7	A = A + B	0011	1110	0
8	Right Shift	0001	1111	1
9	A = A + B	1111	1111	1
10	Right Shift	1111	1111	1

The final result is Q = 1111 (binary), which is equal to -15 in decimal notation.

Therefore, the result of multiplying +5 and -15 using Booth's algorithm is -15.

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