



## Count Squares (countsquares)

|               |                  |
|---------------|------------------|
| Day           | practice session |
| Language      | English          |
| Time limit:   | 4000 ms          |
| Memory limit: | 1,048,576 kB     |

Alice took a clean sheet of paper and drew  $h$  horizontal and  $v$  vertical lines onto the paper.

The horizontal lines have  $y$ -coordinates  $y_1, \dots, y_h$ , and the vertical lines have  $x$ -coordinates  $x_1, \dots, x_v$ .

Given these coordinates, count the number of squares that appeared on the paper.

(The whole boundary of the square has to be drawn. The inside of the square does not have to be empty.)

### Input

The first line of input contains the integers  $h$  and  $v$  ( $0 \leq h, v \leq 1500$ ).

The second line of input contains a **strictly increasing** sequence consisting of  $h$  space-separated integers:  $y_1, \dots, y_h$ .

The third line of input contains a **strictly increasing** sequence consisting of  $v$  space-separated integers:  $x_1, \dots, x_v$ .

All horizontal and vertical coordinates are between 0 and  $2^{30}$ , inclusive.

### Output

Output a single line with a single integer: the total number of squares.

### Scoring

Subtask 1 (7 points):  $h, v \leq 2$

Subtask 2 (40 points):  $h, v \leq 600$

Subtask 3 (53 points): no additional constraints

### Examples

| standard input          | standard output |
|-------------------------|-----------------|
| 3 4<br>0 1 3<br>1 2 4 8 | 3               |

### Note

In the example there is one  $1 \times 1$  square, one  $2 \times 2$  square, and one  $3 \times 3$  square.

In the Handouts section of the website you can download the example test data and a picture of the example input.