Tuscan Peaks (peaks)

The mountains around Pisa are a well known hiking destination, with a peculiar terrain shape. In particular, you are interested in a rectangular area of $N \times M$ square meters, subdivided into $N \times M$ square cells, each with an area of a square meter. Those cells are uniquely identified by their distance from the top and the left sides of the rectangle, with cell (i, j) being at a distance of i meters from the top of the map and j meters from the left side of the rectangle.

Figure 1: Mount Point, the tallest mountain nearby Pisa.

Each cell (i, j) has an altitude of $H_{i,j}$ meters, described by two arrays of integers A and B: $H_{i,j} = A_i \cdot B_j$.
A *peak* is a cell that has a strictly higher altitude than all the cells that share a side with it.
How many *peaks* are there?

> ☞ Among the attachments of this task you may find a template file `peaks.*` with a sample incomplete implementation.

Input

The input file consists of:

- a line containing integers N, M.
- a line containing the N integers $A_0, \ldots, A_{N-1}$.
- a line containing the M integers $B_0, \ldots, B_{M-1}$.

Output

The output file must contain a single line consisting of 64-bit integer P, the number of peaks in the rectangular area.

Constraints

- $1 \leq N, M \leq 100\,000$.
- $1 \leq A_i \leq 10\,000$ for each $i = 0 \ldots N - 1$.
- $1 \leq B_i \leq 10\,000$ for each $i = 0 \ldots M - 1$.

Scoring

Your program will be tested against several test cases grouped in subtasks. In order to obtain the score of a subtask, your program needs to correctly solve all of its test cases.

– **Subtask 1** (0 points) Examples.

– **Subtask 2** (16 points) $N = 1$.

– **Subtask 3** (33 points) $N, M \leq 1000$.

– **Subtask 4** (51 points) No additional limitations.

Examples

input	output
1 5 7 4 6 8 5 1	1
4 5 3 2 8 4 8 5 6 1 3	6

Explanation

In the **first sample case**, the altitude of the cells is depicted below, with *peaks* highlighted in red.

28	42	56	35	7

In the **second sample case**, the altitude of the cells is depicted below, with *peaks* highlighted in red.

24	15	18	3	9
16	10	12	2	6
64	40	48	8	24
32	20	24	4	12