Begin: 2021-10-11 12:30 CST

NCPC Simulation Day3

End: 2021-10-11 17:30 CST

Elapsed: 05:02:47 Running **Remaining:** -1:57:12

Time limit

2000 ms

Memory limit

65536 kB

E - Triangles

Little Petya likes to draw. He drew N red and M blue points on the plane in such a way that no three points lie on the same line. Now he wonders what is the number of distinct triangles with vertices in red points which do not contain any blue point inside.

Input

The first line contains two non-negative integer numbers N and M ($0 \le N \le 50$ $0 \le M \le 500$) — the number of red and blue points respectively. The following lines contain two integer numbers each — coordinates of red points. The follo M lines contain two integer numbers each — coordinates of blue points. All

coordinates do not exceed 10^9 by absolute value.

Output

Output one integer — the number of distinct triangles with vertices in red points which do not contain any blue point inside.

Examples

Input
4 1 0 0 10 0 10 10 5 4 2 1
Output
2

Input
5 5 5 10 6 1 8 6 -6 -7 7 -1 5 -1 10 -4 -10 -8 -10 5 -2 -8
Output
7

Server Time: 2021-10-11 17:32:47 CST