# D. Triangles

time limit per test: 2 seconds
memory limit per test: 64 megabytes
input: standard input
output: standard output

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 $M$ ($0 \le N \le 500$, $0 \le M \le 500$) — the number of red and blue points respectively. The following $N$ lines contain two integer numbers each — coordinates of red points. The following $M$ 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<br>0 0<br>10 0<br>10 10<br>5 4<br>2 1 |

| output |
| --- |
| 2 |

| input |
| --- |
| 5 5<br>5 10<br>6 1<br>8 6<br>-6 -7<br>7 -1<br>5 -1<br>10 -4<br>-10 -8<br>-10 5<br>-2 -8 |

| output |
| --- |
| 7 |