3532   Nuclear Plants

The Great Plain of Algorithmia plays an extremely important role in the agriculture of the Bandulu
Kingdom: this is the only place where barley (*Hordeum vulgare*), an essential ingredient of beer, can
be produced. Unfortunately, it is not possible to grow barley on the full area of the plain, as several
nuclear plants have recently been built, and you cannot grow barley near a nuclear plant (since you
do not want to produce giant-size, aggressive, man-eating barley-mutants). Your task is to write a
program that determines the size of the area that can be used for growing barley.

The Great Plain of Algorithmia is an $n$km $\times$ $m$km rectangle, the coordinates of the four corners
being $(0,0), (0,m), (n,0)$ and (n,m). There are two types of nuclear plants: small and large. You are
not allowed to grow barley within 0.58km of a small nuclear plant or within 1.31km of a large nuclear
plant.

Input

The input contains several blocks of test cases. Each block begins with a line containing four integers:
$1 \leq n, m \leq 10000$ describe the size of the plain, $k_s \leq 100$ is the number of small nuclear plants, and
$k_l \leq 100$ is the number of large nuclear plants. The next k_s lines describe the coordinates of the small
nuclear plants, each line contains two integers $0 \leq x \leq n$ and $0 \leq y \leq m$. The next k_l lines describe
the large nuclear plants in a similar fashion.

The input is terminated by a block with $n = m = k_s = k_l = 0$.

Output

For each test case, you have to output a single line containing the area that can be used for growing
barley. This number should be a real value with two digits of precision. To avoid rounding problems,
we acceptsolutions with a maximum of ± 0.01 error.

Sample Input

```
10 10 2 2
2 2
4 4
5 6
1 8
10 10 1 0
5 5
0 0 0 0
```

Sample Output

```
87.46
98.94
```