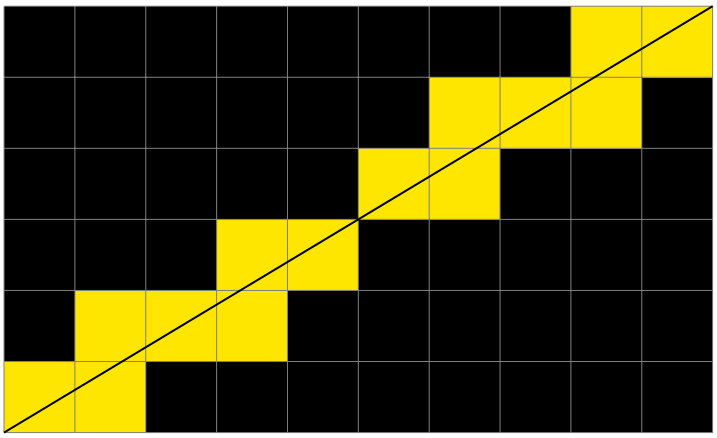
DMOPC '20 Contest 5 P2 - On The Clock

Time limit: 2.0s **Memory limit:** 256M

Bob just got an internship writing a graphics driver for a computer screen! The screen can be represented as an N-pixel-high by M-pixel-wide grid of square pixels, all the same size. Pixel coordinates range from $(1, 1)$ in the bottom-left to (N, M) in the top-right.

Bob's first task is to display a diagonal line across the screen. More specifically, if you imagine a straight line going from the bottom-left to the top-right corner of the screen, Bob needs to light up all the pixels touching that line. The line must fully intersect a pixel for it to be lit up; **pixels that only touch the line at a corner should not be lit**.

For example, if $N = 6$ and $M = 10$, he should light up the pixels like this (yellow for lit, black for unlit):



Bob needs to know exactly which pixels should be lit. Please help him out so he doesn't get fired!

Constraints

Subtask 1 [20%]

$1 \leq N, M \leq 1000$

Subtask 2 [80%]

$1 \leq N, M \leq 10^6$

Input Specification

Two space-separated integers, N and M.

Output Specification

On the first line, print K, the total number of pixels that should be lit.
Then on the next K lines, print r_i and c_i, the coordinates (row and column) of the i^{th} lit pixel. Pixels with lower r_i should be printed first. If there is still a tie, print pixels with lower c_i first.

Sample Input

```
6 10
```

Sample Output

```
14
1 1
1 2
2 2
2 3
2 4
3 4
3 5
4 6
4 7
5 7
5 8
5 9
6 9
6 10
```