

CATALYSTS
CODING
CONTEST

A pair of hands is shown from the front, cupping a glowing, textured sphere that resembles the Earth. The sphere has a reddish-brown, cratered surface. The background is a dark, deep blue space filled with numerous small, bright white stars. The lighting is soft, highlighting the hands and the sphere.

Level 5

Still not large enough. Only one unit won't cut it. You will be given a **budget** for terraforming the terrain.

You are allowed to modify the altitudes by as much as you want, but **in total** you are **not allowed to do more than a given amount of units**.

For example, if you bring the sequence 2 **1 1 4 3** to 2 2 2 2 2 you will use 5 units. Therefore, if your **budget is at least 5**, this would be a valid solution.

If there are **multiple answers of maximal length**, output all of them sorted **ascending by row first and then column**.

Input

```
r c
budget
a00 a10 a20 ... ac-1 0
a01 a11 a21 ... ac-1 1
...
a0r-1 a1r-1 ... ac-1r-1
```

c - number of columns

r - number of rows

budget - max amount of units you are allowed to terraform (integer)

a_{xy} - altitude of world at column x and row y (integer)

$r, c, a_{xy} < 10^3$

budget $< 5 \cdot 10^4$

Output

```
length
X0 Y0
X1 Y1
X2 Y2
...
```

X_i - **column** of the top left cell of the i -th flat area of maximal length

Y_i - **row** of the top left cell of the i -th flat area of maximal length

length - length of the square of the largest flat area

	0	1	2	3	4	5	6	7	8	9
0	18	18	18	18	17	17	17	16	16	15
1	18	18	18	18	17	17	17	16	16	15
2	18	18	18	18	17	17	17	16	16	15
3	18	18	18	18	17	17	17	16	16	15
4	18	18	18	18	17	17	17	16	16	16
5	18	18	18	18	17	17	17	17	16	16
6	18	18	18	17	17	17	17	17	17	17
7	17	17	17	17	17	17	17	17	17	17
8	17	17	17	17	17	17	18	18	18	18
9	17	17	17	17	17	17	18	18	18	18

Image representing the given example.
The cyan squares represent the first flat area from the answer.