Level 3

The real world is not unidimensional. From now on, your input will contain a matrix where each cell represents the altitude at that position.

Solar panels array are placed on **square flat areas.** Your task is to find the **largest square area** that can be used to place a solar panel array.

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

Input

r c
a_{00} a_{10} a_{20} ... $a_{c-1\ 0}$
a_{01} a_{11} a_{21} ... $a_{c-1\ 1}$
...
a_{0r-1} a_{1r-1} ... a_{c-1r-1}

c – number of columns
r – number of rows
a_{xy} – altitude of world at **column x** and **row y**
(integer)

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

Output

length
X_0 Y_0
X_1 Y_1
X_2 Y_2
...

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

Image representing the given example.
The cyan squares represent the first flat area from the answer.
There is another one just as large, but this one has a lower column.