

Help the PM!

[English](#)

[Vietnamese](#)

In 2050, Le Don Khue has become the Prime Minister of Vietnam. He has to consider a logging plan of $K \text{ m}^3$ wood in a forest for export. The forest is a $M \times N \text{ km}^2$ rectangular area. For easy management, the forest is divided into $M \times N$ cells (M rows and N columns). The rows are numbered as 1 to M from top to bottom. The columns are numbered as 1 to N from left to right. The cell at row i and column j has coordinates (i, j) . The quantity of wood (m^3) in each cell is already known.



The PM decided to give permission for logging. The logging area should also be rectangular. The PM wants to find an area as small as possible but there is still enough wood in this area for export.

Has not been programming for a long time, the PM needs your help. Let's help him!

Input

- The first line contains three integers M, N, K ($1 \leq M, N \leq 500, 1 \leq K \leq 10^9$).
- The i^{th} line in the next M lines contains N non-negative integers in which the j^{th} number is the quantity of wood in cell (i, j) . The quantity of wood in each cell is not larger than 10^4 m^3 .

Output

If there is no logging area that give enough wood for export, print -1. Otherwise, print two lines:

- The first line contains the minimum possible area of the logging area.
- The second line contains four integers that are coordinates of the top left and bottom right corner of the logging area. If there is more than one possible area, print the coordinates of any of them.

Example

Input

```
3 3 19
5 4 0
4 7 0
0 0 2
```

Output

```
4
1 1 2 2
```