Problem

Old Generator

You are given a rectangular grid of size $R \times C$. Each cell contains a switch that is either inactive (0) or active (1).

Pressing a switch will invert its state and also invert the state of all *adjacent* switches. An *inversion* occurs as follows:

An inactive switch becomes active, and an active switch becomes inactive.

Your task is to determine a set of switches to press such that all switches become active.

Input

- The first line contains two integers R, C – the number of rows and columns of the grid.
- The next R lines each contain C integers, each either `0` or `1`, representing the initial state of the grid.
- Integers on each line are separated by a single space.

Output

- If a solution exists, output the coordinates of the switches that need to be pressed, one pair per line. Each line should contain two integers r, c ($1 \leq r \leq R,\ 1 \leq c \leq C$), where r is the row number and c is the column number.
- If no solution exists, or the problem has already been fulfilled, output `-1`.

Constraints

$0 \leq R, C \leq 1000$.

Example 1

```
Input
3 4
0 1 0 1
1 0 1 0
0 1 0 1

Output
1 2
2 1
2 3
3 2
3 4
```

Example 2

```
Input
2 2
1 1
1 1

Output
(no output, since no presses are required)
```