

Fancy Hotel - C

Problem Description

There is a hotel with n floors and m rooms on each floor. All the rooms are occupied by a single male or female.

Output the floor number with maximum number of male occupants and the floor number with maximum number of female occupants. If there are more than one floors with maximum number of male or female occupants, then print the lower floor. If there are no male or female occupants in the hotel print -1 as the floor number.

Input format

First line contains the integers n and m .

n lines follow and each line contains m integers representing each of the m rooms on that floor

The number representing each room can be 0, 1 or -1 representing male, female or empty respectively.

Output format

Output two space separated decimals representing the **floor number** with maximum males and maximum females respectively. Floors are 1-indexed.

Constraints

$1 \leq n$

$1 \leq m$

$n*m \leq 1e5$

Sample input 1

```
5 4
1 0 0 0
0 1 1 0
1 0 1 1
1 0 0 1
0 1 1 0
```

Sample output 1

```
1 3
```

Sample Input 2

1 1
1

Sample Output 2

-1 1

Sample Input 3

6 1
1
0
0
1
0
0

Sample Output 3

2 1

Sample input 4

7 1
1
0
0
1
0
-1
-1

Sample Output 4

2 1