

Fancy Hotel - B

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 percentage of males and females living on each floor in the hotel.

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 n lines, each line containing two space separated decimals representing the **percentage** of males and females in the building respectively. Answers should be correct to 5 decimal places.

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

```
75.00000 25.00000
50.00000 50.00000
25.00000 75.00000
50.00000 50.00000
50.00000 50.00000
```

Sample Input 2

1 1
1

Sample Output 2

0.00000 100.00000

Sample Input 3

6 1
1
0
0
1
0
0

Sample Output 3

0.00000 100.00000
100.00000 0.00000
100.00000 0.00000
0.00000 100.00000
100.00000 0.00000
100.00000 0.00000

Sample input 4

7 1
1
0
0
1
0
-1
-1

Sample Output 4

0.00000 100.00000
100.00000 0.00000
100.00000 0.00000
0.00000 100.00000
100.00000 0.00000
0.00000 100.00000
0.00000 100.00000

Sample Input 5

```
4 3
0 1 0
1 1 1
0 0 -1
-1 -1 -1
```

Sample output 5

```
66.66667 33.33333
0.00000 100.00000
66.66667 0.00000
0.00000 0.00000
```