

Problem J. Just A Hike!

Input file: `stdin`
Output file: `stdout`
Time limit: 1 second

The summer just started and you just spent all night last night playing the famous Creator-Destructor game of Ubihard. Thus, you decide to do something more helpful this morning - cleaning the attic. Cleaning the attic, although seems to be a boring job to do, is in fact your favourite chore at home. While doing the task, you always have a chance to go through the old photos of your family and spend time recalling all the good memories you had during your childhood. Suddenly, you come across the old photo of you and your family in your first hike. At this very moment, you decide that your second mission of the summer (the first one is to finish the very interesting game mentioned above) is to get your family to go on a hike together one more time.

You start to plan for the hike using a map that has the estimated height of the countryside area of your hometown. It can be represented as a rectangle grid with m rows and n columns. The cell at the i th row and j th column is denoted as cell (i, j) and has the height $h[i, j]$. You call a cell (i, j) a peak if its height is greater than or equal all the cell adjacent to it. Two cells are considered adjacent if they share a common edge. Thus, a cell has at most 4 adjacent cells. You believe that any peak in the map represents a real mountain and can be used for hiking. You want to find any peak here as the destination for your hike. However, since the map is rather large, it is simply impossible to find a peak manually. As a Computer Science student, you know this is your moment to shine!

Input

The first line contains two integers m, n ($1 \leq m, n \leq 10^6$) which represent the size of the map. The second line contains n integers $h[1, 1], h[1, 2], \dots, h[1, n]$ ($h[1, i] \leq 10^9$ for all $1 \leq i \leq n$) represent the height of all the cells in the first row of the map. Since the map is rather large, this is the only thing you get. The rest of the map can be calculated with the formula

$$h[i, j] = h[1, j]^i \bmod 1000000007$$

where mod denotes the remainder of the division for $10^9 + 7$.

Output

Print 2 numbers i, j denotes the coordinate of any peak (i, j) .

Examples

stdin	stdout
2 3 2 3 1	2 2

Notes

In the example, the full map is

```
2 3 1
4 9 1
```

Then, clearly the peak is cell $(2, 2)$ with height 9.