Sasha and Swaps

Little Sasha likes to swap elements in his array. Initially, he has an array of N numbers $1, 2, \ldots, N$ in ascending order. Then, he swaps some elements in it K times. He really likes this sequence of K swaps and repeats it T times. However, Sasha forgot his favorite swap sequence the next day.

Given the resulting permutation, find the swap sequence used by Sasha or say that there is no such sequence.

Input Format

The first line of input contains three integers N, K, and T, respectively.
The second line contains a permutation of numbers $1, 2, \ldots, N$.

Constraints

$2 \leqslant N \leqslant 10^5$
$1 \leqslant K \leqslant 10^5$
$1 \leqslant T \leqslant 2 \times 10^9$

Output Format

Print K lines. The i^{th} line contains two distinct integers a_i, b_i which means that the i^{th} swap will be of a_i^{th} and b_i^{th} numbers. If there are multiple possible answers, print any of them.
Otherwise, if there is no such sequence of swaps, print "*no solution*" without quotes.

Sample Input

```
5 3 2
4 3 2 1 5
```

Sample Output

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

Explanation

Let's look at the sequence after each swap:

The first series of swaps:

1. $2\ 1\ 3\ 4\ 5\ (a_1 \leftrightarrows a_2)$
2. $2\ 4\ 3\ 1\ 5\ (a_2 \leftrightarrows a_4)$
3. $2\ 4\ 1\ 3\ 5\ (a_3 \leftrightarrows a_4)$

The second series of swaps:

1. $4\ 2\ 1\ 3\ 5\ (a_1 \leftrightarrows a_2)$
2. $4\ 3\ 1\ 2\ 5\ (a_2 \leftrightarrows a_4)$

3. $\mathbf{4\,3\,2\,1\,5}$ $(a_3 \leftrightarrows a_4)$