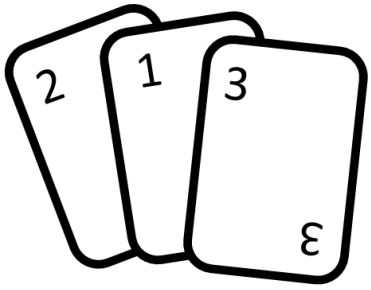
Problem E
Early Orders



You are given a list of integers $x_1, x_2, \ldots, x_n$ and a number k. It is guaranteed that each i from 1 to k appears in the list at least once.

Find the lexicographically smallest subsequence of x that contains each integer from 1 to k exactly once.

Input

The first line will contain two integers n and k, with $1 \leq k \leq n \leq 200\,000$. The following n lines will each contain an integer x_i with $1 \leq x_i \leq k$.

Output

Write out on one line, separated by spaces, the lexicographically smallest subsequence of x that has each integer from 1 to k exactly once.

Examples

Sample Input 1

```
6 3
3
2
1
3
1
3
```

Sample Output 1

```
2 1 3
```

Sample Input 2

```
10 5
5
4
3
2
1
4
1
1
5
5
```

Sample Output 2

```
3 2 1 4 5
```

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