

Maximize Array

Input file: **standard input**
Output file: **standard output**
Time limit: 2 seconds
Memory limit: 1024 megabytes

You are given a sequence of positive integers $A = (A_1, A_2, \dots, A_N)$ of length N and a positive integer K . Find the lexicographically greatest sequence that can be obtained by applying the following operation to A zero or more times:

- Delete a contiguous subsequence of length K from A . Specifically, select an integer i (where $1 \leq i \leq |A| - K + 1$, $|A|$ is the length of A) and replace $A = (A_1, A_2, \dots, A_{|A|})$ with $(A_1, \dots, A_{i-1}, A_{i+K}, \dots, A_{|A|})$.

Input

The input is given from Standard Input in the following format:

$N \ K$ $A_1 \ A_2 \ \dots \ A_N$

- $2 \leq N \leq 3 \times 10^5$
- $1 \leq K \leq N - 1$
- $1 \leq A_i \leq N$
- All input values are integers.

Output

Print the answer in a single line.

Examples

standard input	standard output
9 3 1 2 3 4 1 2 3 4 1	4 4 1
6 1 1 6 4 2 3 5	6 5
6 5 6 5 4 3 2 1	6 5 4 3 2 1

Note

In the first example, the following is one possible sequence of operations that obtains a lexicographically greatest sequence.

- $(1, 2, 3, 4, \underline{1}, 2, \underline{3}, 4, 1) \rightarrow (\underline{1}, 2, \underline{3}, 4, 4, 1) \rightarrow (4, 4, 1)$