

Dispatch Money

Input file: **standard input**
Output file: **standard output**
Time limit: 5 seconds
Memory limit: 512 megabytes

You are given a permutation p_1, p_2, \dots, p_n .

You need to divide this permutation into disjoint non-empty segments (their total length should be equal to n), and for each of your chosen segments, you should pay x coins.

After that, any number of times, you can spend one coin to swap two adjacent elements in one segment.

Find the minimum number of coins you should pay to divide this permutation into segments and make all segments sorted.

Input

The first line contains two integers n, x ($1 \leq n \leq 300\,000, 1 \leq x \leq 10^9$).

The second line contains n different integers p_1, p_2, \dots, p_n ($1 \leq p_i \leq n$): the given permutation.

Output

Print one integer: the minimum number of coins that you should pay.

Examples

standard input	standard output
5 1 5 4 3 2 1	5
1 1 1	1
10 10 9 10 8 3 7 5 6 2 1 4	35