

3. round, 19. December 2009.**Author: Luka Kalinović**

Mirko is a great code breaker. He knows any cipher in the world can be broken by frequency analysis.

He has completely the wrong idea what frequency analysis is, however.

He intercepted an enemy message. The message consists of N numbers, smaller than or equal to C . Mirko believes frequency analysis consists of sorting this sequence so that more frequent numbers appear before less frequent ones.

Formally, the sequence must be sorted so that given any two numbers X and Y , X appears before Y if the number of times X appears in the original sequence is larger than the number of times Y does. If the number of appearances is equal, the number whose **value** appears sooner in the input should appear sooner in the sorted sequence.

Help Mirko by creating a "frequency sorter".

INPUT

First line of input contains two integers, N ($1 \leq N \leq 1\,000$), length of message, and C ($1 \leq C \leq 1\,000\,000\,000$), the number from task description.

Next line contains N integers smaller than or equal to C , message itself.

OUTPUT

First and only line of output should contain N numbers, the sorted sequence.

SAMPLE TESTS

input	input	input
5 2	9 3	9 77
2 1 2 1 2	1 3 3 3 2 2 2 1 1	11 33 11 77 54 11 25 25 33
output	output	output
2 2 2 1 1	1 1 1 3 3 3 2 2 2	11 11 11 33 33 25 25 77 54