

Problem Description

Welcome to the magical world of Mario's adventure where Mario is standing on platform 0 and needs to reach platform $A+1$.

But oh no, there's a wide river that's A units wide blocking his way. Mario can't walk on water, but he's got an amazing ability - he can jump up to B units at a time, either forward or backward.

On the river, there are various-sized wooden platforms floating, just like in Mario's games. In total, there are M platforms, and their sizes are stored in an integer array C .

Mario can move these platforms around, but:

- He can't change their order.
- He can't let them overlap.
- He should first move the platforms and then start his journey.

Help Mario cross the river and reach platform $A+1$.

If it is impossible to reach $A+1$, your answer will be a vector containing -1 .

Otherwise, if a solution exists, return a vector of size A representing the sequence of river cells:

- If cell i does not belong to any platform, the i -th element of the answer vector should be 0.
- Otherwise, it should be equal to the index of the platform to which the cell i belongs.

If there are multiple solutions, return the lexicographically smallest one.

Problem Constraints

$$1 \leq A \leq 10^5$$

$$1 \leq M \leq A$$

$$1 \leq C[i] \leq A$$

$$\text{Sum of } C[i] \leq A$$

Input Format

The first argument is an integer A

The second argument is an integer B

The third argument is an integer array C

Output Format

Return an integer array representing the answer.

Example Input

Input 1:

$$A = 7$$

B = 2

C = [1, 2, 1]

Input 2:

A = 10

B = 5

C = [2]

Example Output

Output 1:

[0, 1, 0, 2, 2, 0, 3]

Output 2:

[0, 0, 0, 0, 1, 1, 0, 0, 0, 0]

Example Explanation

For Input 1:

The lexicographically smallest possible answer is [0, 1, 0, 2, 2, 0, 3]

The sequence of jumps Mario performs is 0 -> 2 -> 4 -> 5 -> 7 -> 8

For Input 2:

The lexicographically smallest possible answer is [0, 0, 0, 0, 1, 1, 0, 0, 0, 0]

The sequence of jumps Mario performs is 0 -> 5 -> 6 -> 11