# Problem 4 – Needles

This problem is about finding the proper place of numbers in an array. From the console, you’ll read a sequence of non-decreasing integers with randomly distributed "holes" among them (represented by zeros).

Then you’ll be given the needles – numbers which should be inserted into the sequence, so that it remains non-decreasing (discounting the "holes"). For each needle, find the left-most index where it can be inserted.

### Input

* The input should be read from the console.
* On the first line you’ll be given the numbers C and N separated by a space.
* On the second line you’ll be given C non-negative integers forming a non-decreasing sequence (disregarding the zeros).
* On the third line you’ll be given N positive integers, the needles.
* The input data will always be valid and in the format described. There is no need to check it explicitly.

### Output

* The output should be printed on the console. It should consist of a single line.
* On the only output line print N numbers separated by a space. Each number represents the left-most index at which the respective needle can be inserted.

### Constraints

* All input numbers will be 32-bit signed integers.
* N will be in the range [1 … 1000].
* C will be in the range [1 … 50000].
* Allowed working time for your program: 0.1 seconds. Allowed memory: 16 MB.

### Examples

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| **Input** |
| 23 9  3 5 11 0 0 0 12 12 0 0 0 12 12 70 71 0 90 123 140 150 166 190 0  5 13 90 1 70 75 7 188 12 |
| **Output** |
| 1 13 15 0 13 15 2 21 3 |
| **Comments** |
| 5 goes to index 1 – between 3 and 5  13 goes to index 13 – 12 and 70  90 goes to index 15 – between 71 and 0  1 goes to index 0 – before 3  Etc. |
| **Input** |
| 11 4  2 0 0 0 0 0 0 0 0 0 3  4 3 2 1 |
| **Output** |
| 11 1 0 0 |