ITMO Academy: pilot course » Binary Search » Step 1 » Practice

B. Closest to the Left

time limit per test: 2 seconds ❓
memory limit per test: 512 megabytes
input: standard input
output: standard output

Given an array of n numbers, sorted in non-decreasing order, and k queries. For each query, print the maximum index of an array element not greater than the given one.

Input

The first line of the input contains integers n and k ($0 < n, k \leq 10^5$), the length of the array and the number of queries. The second line contains n elements of the array, sorted in non-decreasing order. The third line contains k queries. All array elements and queries are integers, each of which does not exceed $2 \cdot 10^9$ in absolute value.

Output

For each of the k queries, print the maximum index of an array element not greater than the given one. If there are none, print 0.

Example

input	Copy
5 5
3 3 5 8 9
2 4 8 1 10	

output	Copy
0
2
4
0
5	

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