

Count the Smaller Numbers

Timelimit: 5 sec

Problem description

You are given an array of n integers and are asked queries about them. The queries are of the form “How many numbers in the array are smaller than x ?”

Input

Two numbers n and q ($1 \leq n, q \leq 10^6$) followed by n lines containing the array a_1, \dots, a_n ($-10^{18} \leq a_i \leq 10^{18}$). Then q lines follow with queries in the form of an integer x ($-10^{18} \leq x \leq 10^{18}$).

Output

The output should consist of q lines containing the answers to the queries: The number of i 's such that $a_i < x$.

Sample input/output

Input	Output
5 3	
12	
8	
-199	
0	
12	
0	1
1000	5
-1000	0

The array is 12, 8, -199, 9, 12 and the queries are 0, 1000, -1000. The first answer is 1 because only -199 is strictly smaller than 0.