

Finding the Ceil



Given an array, you have to find the ceil of a number x . The ceil of a number x is nothing but the smallest number in the array greater than or equal to x .

Input Format

First line of input contains N - size of the array. The next line contains N integers, the elements of the array. The next line contains Q - number of queries. Each of the next Q lines contains a single integer X , for which you have to find the ceil of X in the given array.

Constraints

30 points

$1 \leq N \leq 10^5$

$1 \leq Q \leq 10^2$

$-10^8 \leq \text{ar}[i] \leq 10^8$

70 points

$1 \leq N \leq 10^5$

$1 \leq Q \leq 10^5$

$-10^8 \leq \text{ar}[i] \leq 10^8$

Output Format

For each query, print the ceil of X , separated by newline. If ceil not found, print the value of "INT_MAX"

Sample Input 0

```
6
-6 10 -1 20 15 5
5
-1
10
13
25
-10
```

Sample Output 0

```
-1
10
15
2147483647
-6
```

Explanation 0

Self Explanatory