Problem A

You will be given a list of numbers and a list of queries. You have to find the frequency of the queries in the list.

Input:
First line: n, a number. (1<=n<=10^5)
Next n lines: an integer v (-2147483648<=v <=2147483647), the numbers in the list
Next line: m, a number (1<=m<=10^5), the number of keys.
Next m lines: an integer q (-2147483648<= q <=2147483647), the queries.

Output:
m lines, each containing the frequencies of the queries.

Sample Case:

Input	Output
3 1 1 2 3 2 1 3	1 2 0

Problem B

You will be given the marks of students in a particular course. Output the id of the students according to the ascending order of their marks. In case of same marks, the smaller id value will be printed.

Input:
First line: n, a number. (1<=n<=10^5)
Next n lines: two integers id mark (0<=id, mark <=2147483647), the id and mark of a student.

Output:
n lines, each containing the id of a student according to the order defined above.

Sample Case:

Input	Output
3 1 5 2 3 3 4	2 3 1

Problem C

You will be given a list of integers in sorted order and a list of queries. You have to find the number of integers in the list less than or equal to the query. You may assume that the query exists in the list of integers.

Input:
First line: n, a number. (1<=n<=10^6)
Next n lines: an integer v (-2147483648<=v <=2147483647), the numbers in the list
Next line: m, a number (1<=m<=10^5), the number of keys.
Next m lines: an integer q (-2147483648<= q <=2147483647), the queries.

Output:
m lines, each containing the number of integers in the list less than or equal to the query.

Sample Case:

Input	Output
7 1 1 1 2 2 3 4 2 2 3	5 6

Problem D

Input:
First line: n, a number (1<=n<=10).

Output:
Each line will contain a list of space-separated digits where

- The list contains n digits.
- The digits in the list are 0-4 (inclusive)
- The odd indexed digit in the list is an odd digit
- The even indexed digit in the list is an even digit

The lists will be printed in sorted order. Example: {0, 1, 0} before {0, 1, 2}.

Sample Case:

Input	Output
2	0 1 0 3 2 1 2 3 4 1 4 3
3	0 1 0 0 1 2 0 1 4 0 3 0 0 3 2 0 3 4 2 1 0 2 1 2 2 1 4 2 3 0 2 3 2 2 3 4 4 1 0 4 1 2 4 1 4 4 3 0 4 3 2 4 3 4

Problem E

You will be given a list of numbers. Insert them into a min heap. Then extract the minimum value from the heap until it is non-empty.

Input:
First line: n, a number. (1<=n<=10^5)
Next n lines: an integer v (-2147483648<=v <=2147483647), the numbers in the list

Output:
n lines, each containing the numbers extracted from the heap.

Sample Case:

Input	Output
9 4 3 2 1 6 7 8 9 55	1 2 3 4 6 7 8 9 55