Minimum and Maximum

Description:

You will be given an array A of length N. there will Q quries. Each query contains one index I (1-indexed), for each I you've to print maximum and minimum in array range 1 to I.

Constraint :

All numbers will be positive integer.

Input :

first-line contains N - length of array second-line contains N integers space separated third-line contains Q - number of quries fourth-line contains Q integers representing Index I for each query.

Output:

Q lines, each line contains a and b which represents minimum and maximum in range 1 to I.

Example :

Input:

20

11 14 15 18 16 17 12 14 11 3 2 10 13 10 1 17 20 15 9 17

10 3 8 17 14 20

Output:

3 18

11 15

11 18

1 20

2 18

1 20