Kth largest element

Given an array A of random integers and an integer k, find and return the kth largest element in the array.

Note: Try to do this question in less than O(N * logN) time.

Input Format :

The first line of input contains an integer, that denotes the value of the size of the array. Let us denote it with the symbol N.
The following line contains N space separated integers, that denote the value of the elements of the array.
The following contains an integer, that denotes the value of k.

Output Format :

The first and only line of output contains the kth largest element

Constraints :

1 <= N, Ai, k <= 10^5
Time Limit: 1 sec

Sample Input 1 :

6
9 4 8 7 11 3
2

Sample Output 1 :

9

Sample Input 2 :

8
2 6 10 11 13 4 1 20
4

Sample Output 2 :

10