#include<bits/stdc++.h>

using namespace std;

void solve(int n, int \*arr, int k){

priority\_queue<int,vector<int>,greater<int>> pq;

for(int i=0;i<n;i++){

pq.push(arr[i]);

if(pq.size()>k){

cout<<pq.top()<<endl;

pq.pop();

}

}

while(!pq.empty()){

cout<<pq.top()<<endl;

pq.pop();

}

}

int main(){

int n;

cin>>n;

int arr[n];

for(int i=0;i<n;i++){

cin>>arr[i];

}

int k;

cin>>k;

solve(n,arr,k);

}