#include<bits/stdc++.h>

using namespace std;

vector<long> next\_greatest\_element(vector<long> arr){

stack<long> st;

long n = arr.size();

st.push(n-1);

vector<long> res(n);

res[n-1] = n;

for(long i=n-2;i>=0;i--){

while(st.size()!=0 && arr[i]>=arr[st.top()]){

st.pop();

}

if(st.size()==0){

res[i] = n;

}

else{

res[i] = st.top();

}

st.push(i);

}

return res;

}

vector<long> sliding\_window(vector<long> &arr, long k){

long n = arr.size();

vector<long> next = next\_greatest\_element(arr);

vector<long> res;

long j = 0;

for(long i=0;i<=n-k;i++){

if(j<i){

j = i;

}

while(next[j]<i+k){

j = next[j];

}

res.push\_back(arr[j]);

}

}

int main(){

long n;

cin>>n;

vector<long> arr(n);

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

cin>>arr[i];

}

long k;

cin>>k;

vector<long> ans = sliding\_window(arr,k);

for(auto x: ans){

cout<<x<<" ";

}

}