#include<bits/stdc++.h>

using namespace std;

void solve(vector<int> &arr){

stack<int> st;

int n = arr.size();

st.push(arr[n-1]);

arr[n-1] = -1;

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

int num = arr[i];

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

st.pop();

}

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

arr[i] = -1;

}

else{

arr[i] = st.top();

}

st.push(num);

}

}

int main(){

int n,m;

cin>>n;

vector<int> arr1(n);

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

cin>>arr1[i];

}

solve(arr1);

for(auto x: arr1){

cout<<x<<endl;

}

}