#include<bits/stdc++.h>

using namespace std;

int largest\_area(vector<int> &arr){

int n = arr.size();

stack<int> left;

stack<int> right;

vector<int> lres(n);

vector<int> rres(n);

// calculating the nearest smallest element from left to right

left.push(0);

lres[0] = 1;

for(int i=1;i<n;i++){

while(left.size()!=0 && arr[i]<=arr[left.top()]){

left.pop();

}

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

lres[i] = i+1;

}

else{

lres[i] = i-left.top();

}

left.push(i);

}

// calculating the nearest smallest element from right to left

right.push(n-1);

rres[n-1] = 1;

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

while(right.size()!=0 && arr[i]<=arr[right.top()]){

right.pop();

}

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

rres[i] = n-i;

}

else{

rres[i] = right.top() - i;

}

right.push(i);

}

// now we will compare the left and right arr area

int max\_area;

max\_area = arr[0] \* (lres[0]+rres[0]-1);

for(int i=1;i<n;i++){

if(arr[i]\*(lres[i]+rres[i]-1)>max\_area){

max\_area = arr[i]\*(lres[i]+rres[i]-1);

}

}

return max\_area;

}

int main(){

int n;

cin>>n;

vector<int> arr(n);

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

cin>>arr[i];

}

int ans = largest\_area(arr);

cout<<ans<<endl;

}