Container With Most Water

Medium

Given *n* non-negative integers *a1*, *a2*, …, *an* , where each represents a point at coordinate (*i*, *ai*). *n* vertical lines are drawn such that the two endpoints of line *i*is at (*i*, *ai*) and (*i*, 0). Find two lines, which together with x-axis forms a container, such that the container contains the most water.

**Note:** You may not slant the container and *n* is at least 2.



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The above vertical lines are represented by array [1,8,6,2,5,4,8,3,7]. In this case, the max area of water (blue section) the container can contain is 49.

**Example:**

Input: [1,8,6,2,5,4,8,3,7]  
Output: 49

**分析：注意到水的容量取决于矮的板，当底缩小的时候，若改变移动长的板，水容量必然减少，因此要移动短的板**

//two pointer，暴力法超时  
class Solution {  
public:  
 int maxArea(vector<int>& height) {  
 int n = height.size();  
 int maxW = -1, i = 0, j = n - 1;  
 while(i < j){  
 maxW = max(maxW, min(height[i], height[j]) \* (j - i));  
 if(height[i] < height[j])i++;  
 else j--;  
 }  
 return maxW;  
 }  
};