Largest Rectangle in Histogram
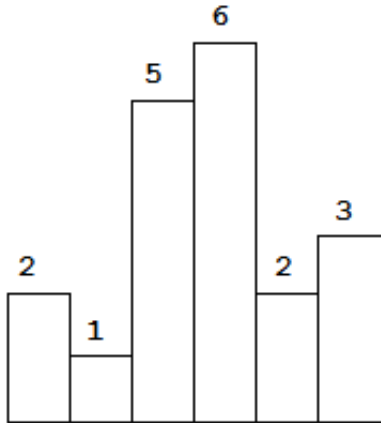
My Submissions (/problems/largest-rectangle-in-histogram/submissions/)

| Question | Solution |

Total Accepted: **46575**   Total Submissions: **202622**   Difficulty: **Hard**

Given *n* non-negative integers representing the histogram's bar height where the width of each bar is 1, find the area of largest rectangle in the histogram.

Above is a histogram where width of each bar is 1, given height = `[2,1,5,6,2,3]` .
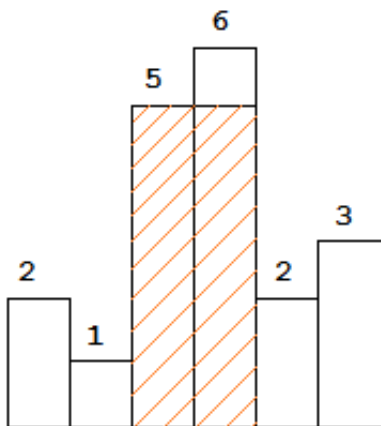
The largest rectangle is shown in the shaded area, which has area = `10` unit.

For example,

Given height = `[2,1,5,6,2,3]` ,

return `10` .

Show Tags

Show Similar Problems

Have you met this question in a real interview? Yes No

✉ Send Feedback (mailto:admin@leetcode.com?subject=Feedback)

Discuss (/discuss/questions/oj/largest-rectangle-in-histogram)

Python   ▼

```python
class Solution(object):
    def largestRectangleArea(self, height):
        """
        :type height: List[int]
        :rtype: int
        """
        stack = [0 for i in range(len(height))]
        max=0;top=0
        for i in range(len(height)):
            while top>0 and height[stack[top-1]]>height[i]:
                index = stack[top-1]
                top-=1
                area = (i if top<1 else i-stack[top-1]-1)*height[index]
                max = max if max>area else area
            stack[top]=i
            top+=1
        while top>0:
            index = stack[top-1]
            top-=1
            area = (len(height) if top<1 else len(height)-stack[top-1]-1)*hei
            max = max if max>area else area
        return max
```

Custom Testcase ☐

Run Code   Submit Solution

Submission Result: Accepted (/submissions/detail/43032819/)

More Details ❯ (/submissions/detail/43032819/)

Next challenges: (H) Maximal Rectangle (/problems/maximal-rectangle/)

Share your acceptance!

Frequently Asked Questions (/faq/) | Terms of Service (/tos/)

Privacy

Copyright © 2015 LeetCode