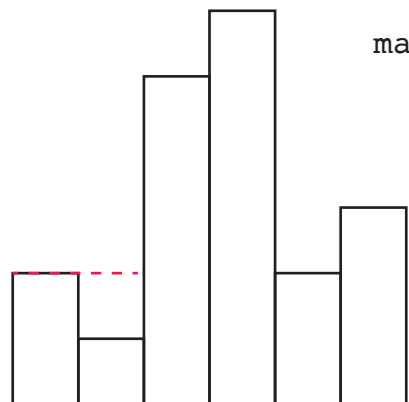


Given an array of integers heights representing the histogram's bar height where the width of each bar is 1, return the area of the largest rectangle in the histogram.

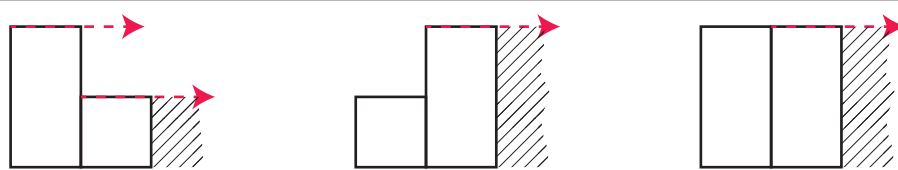


```
stack = [[index, height], [index, height] ...]
```

```
maxArea = 0
```

stack	
index	height
<del>0</del>	<del>2</del>
0	1
<del>2</del>	<del>5</del>
<del>3</del>	<del>6</del>
2	2
5	3

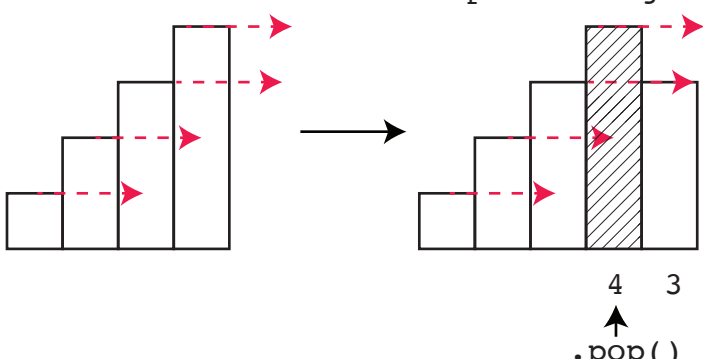
max area
2
<del>6</del> 10



if heights are not in increasing order, then pop

if the next number is smaller than preceeding bar (e.g. 3), assess size of preceeding bar (4), and pop 4

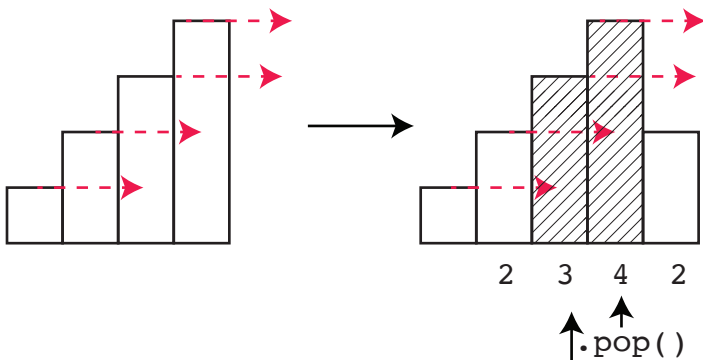
a) compute area  
b) remove from consideration(.pop())



4 3

↑

.pop()



2 3 4 2

↑

.pop() rectangle = 4

↑

.pop() rectangle = 6