

2020-05-16 - Handout – Arrays

Q1. Maximum Subarray

Link: <https://leetcode.com/problems/maximum-subarray/>

Given an integer array `nums`, find the contiguous subarray (containing at least one number) which has the largest sum and return its sum.

Example:

Input: `[-2,1,-3,4,-1,2,1,-5,4]`,

Output: 6

Explanation: `[4,-1,2,1]` has the largest sum = 6.

Q2. Rotate Image

Link: <https://leetcode.com/problems/rotate-image/>

You are given an $n \times n$ 2D matrix representing an image.

Rotate the image by 90 degrees (clockwise).

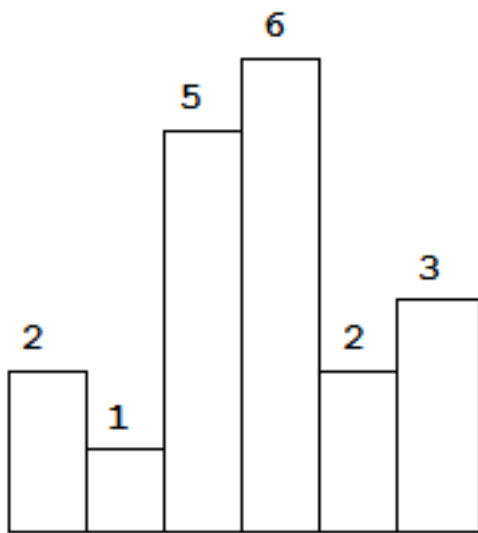
Note:

You have to rotate the image **in-place**, which means you have to modify the input 2D matrix directly. **DO NOT** allocate another 2D matrix and do the rotation.

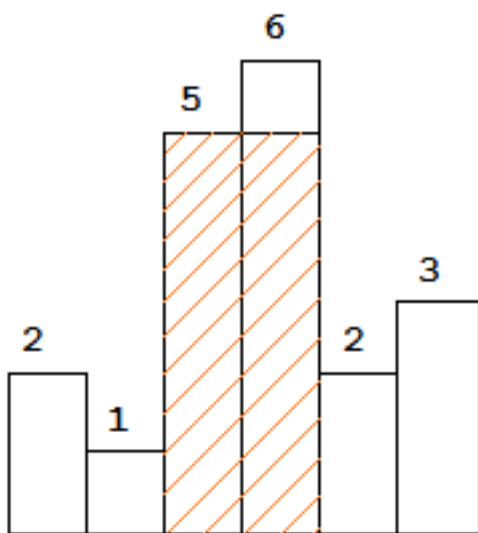
Q3. Largest Rectangle in Histogram

<https://leetcode.com/problems/largest-rectangle-in-histogram/>

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.

Example:

Input: `[2, 1, 5, 6, 2, 3]`

Output: `10`