1802. Maximum Value at a Given Index in a Bounded Array

Hint

Medium 2.2K 355

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You are given three positive integers: `n`, `index`, and `maxSum`. You want to construct an array `nums` (**0-indexed**) that satisfies the following conditions:

- `nums.length == n`
- `nums[i]` is a **positive** integer where `0 <= i < n`.
- `abs(nums[i] - nums[i+1]) <= 1` where `0 <= i < n-1`.
- The sum of all the elements of `nums` does not exceed `maxSum`.
- `nums[index]` is **maximized**.

Return `nums[index]` *of the constructed array*.

Note that `abs(x)` equals `x` if `x >= 0`, and `-x` otherwise.

Example 1:

Input: n = 4, index = 2, maxSum = 6
Output: 2
Explanation: nums = [1,2,**2**,1] is one array that satisfies all the conditions.
There are no arrays that satisfy all the conditions and have nums[2] == 3, so 2 is the maximum nums[2].

Example 2:

Input: n = 6, index = 1, maxSum = 10
Output: 3

Constraints:

- `1 <= n <= maxSum <= 10^9`
- `0 <= index < n`

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Yes No

Discussion (84)

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