2599. Make the Prefix Sum Non-negative Premium

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You are given a **0-indexed** integer array `nums`. You can apply the following operation any number of times:

- Pick any element from `nums` and put it at the end of `nums`.

The prefix sum array of `nums` is an array `prefix` of the same length as `nums` such that `prefix[i]` is the sum of all the integers `nums[j]` where `j` is in the inclusive range `[0, i]`.

Return *the minimum number of operations such that the prefix sum array does not contain negative integers*. The test cases are generated such that it is always possible to make the prefix sum array non-negative.

Example 1:

```
Input: nums = [2,3,-5,4]
Output: 0
Explanation: we do not need to do any operations.
The array is [2,3,-5,4]. The prefix sum array is [2, 5, 0, 4].
```

Example 2:

```
Input: nums = [3,-5,-2,6]
Output: 1
Explanation: we can do one operation on index 1.
The array after the operation is [3,-2,6,-5]. The prefix sum array is [3, 1, 7, 2].
```

Constraints:

- $1 <= nums.length <= 10^5$
- $-10^9 <= nums[i] <= 10^9$

Seen this question in a real interview before? 1/5

Yes No

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Hint 1

There will always be a way to make the prefix sum non-negative. How can we use that?

Hint 2

Loop over the array keeping the prefix sum. Whenever it goes negative, move the smallest number you have seen to the end.

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