



ref=nb_npl)





5959. Minimum Operations to Make the Array K-Increasing

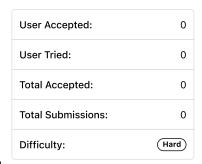
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Back to Contest (/contest/weekly-contest-272/)

You are given a **0-indexed** array arr consisting of n positive integers, and a positive integer k.

The array arr is called **K-increasing** if arr[i-k] <= arr[i] holds for every index i, where k <= i <= n-11.

- For example, arr = [4, 1, 5, 2, 6, 2] is K-increasing for k = 2 because:
 - o arr[0] <= arr[2] (4 <= 5)</pre>
 - o arr[1] <= arr[3] (1 <= 2)</pre>
 - o arr[2] <= arr[4] (5 <= 6)</pre>
 - o arr[3] <= arr[5] (2 <= 2)</pre>
- However, the same arr is not K-increasing for k = 1 (because arr[0] > arr[1]) or k = 3 (because arr[0] > arr[3]).



In one **operation**, you can choose an index i and **change** arr[i] into **any** positive integer.

Return the *minimum number of operations* required to make the array K-increasing for the given k.

Example 1:

Input: arr = [5,4,3,2,1], k = 1Output: 4 **Explanation:** For k = 1, the resultant array has to be non-decreasing. Some of the K-increasing arrays that can be formed are $[5,\underline{6},\underline{7},\underline{8},\underline{9}]$, $[\underline{1},\underline{1},\underline{1},\underline{1},\underline{1},1]$, $[\underline{2},\underline{2},\underline{3},\underline{4},\underline{4}]$. All of them require 4 operations It is suboptimal to change the array to, for example, $[\underline{6,7,8,9,10}]$ because it would take 5 operations. It can be shown that we cannot make the array K-increasing in less than 4 operations.

Example 2:

Input: arr = [4,1,5,2,6,2], k = 2 Output: 0 **Explanation:** This is the same example as the one in the problem description. Here, for every index i where $2 \le i \le 5$, $arr[i-2] \le arr[i]$. Since the given array is already K-increasing, we do not need to perform any operations.

Example 3:

Input: arr = [4,1,5,2,6,2], k = 3 Output: 2 **Explanation:** Indices 3 and 5 are the only ones not satisfying $arr[i-3] \leftarrow arr[i]$ for $3 \leftarrow i \leftarrow 5$. One of the ways we can make the array K-increasing is by changing arr[3] to 4 and arr[5] to 5. The array will now be $[4,1,5,\underline{4},6,\underline{5}]$. Note that there can be other ways to make the array K-increasing, but none of them require less than 2 operations.

Constraints:

- 1 <= arr.length <= 10⁵
- 1 <= arr[i], k <= arr.length







```
1 • /**
  2
       * @param {number[]} arr
       * @param {number} k
       * @return {number}
  5
  6 var kIncreasing = function(arr, k) {
     };
☐ Custom Testcase
                       Use Example Testcases
                                                                                                                                    △ Submit
                                                                                                                         Run
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Help Center (/support) | Jobs (/jobs) | Bug Bounty (/bugbounty) | Online Interview (/interview/) | Students (/student) | Terms (/terms) | Privacy Policy (/privacy)
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