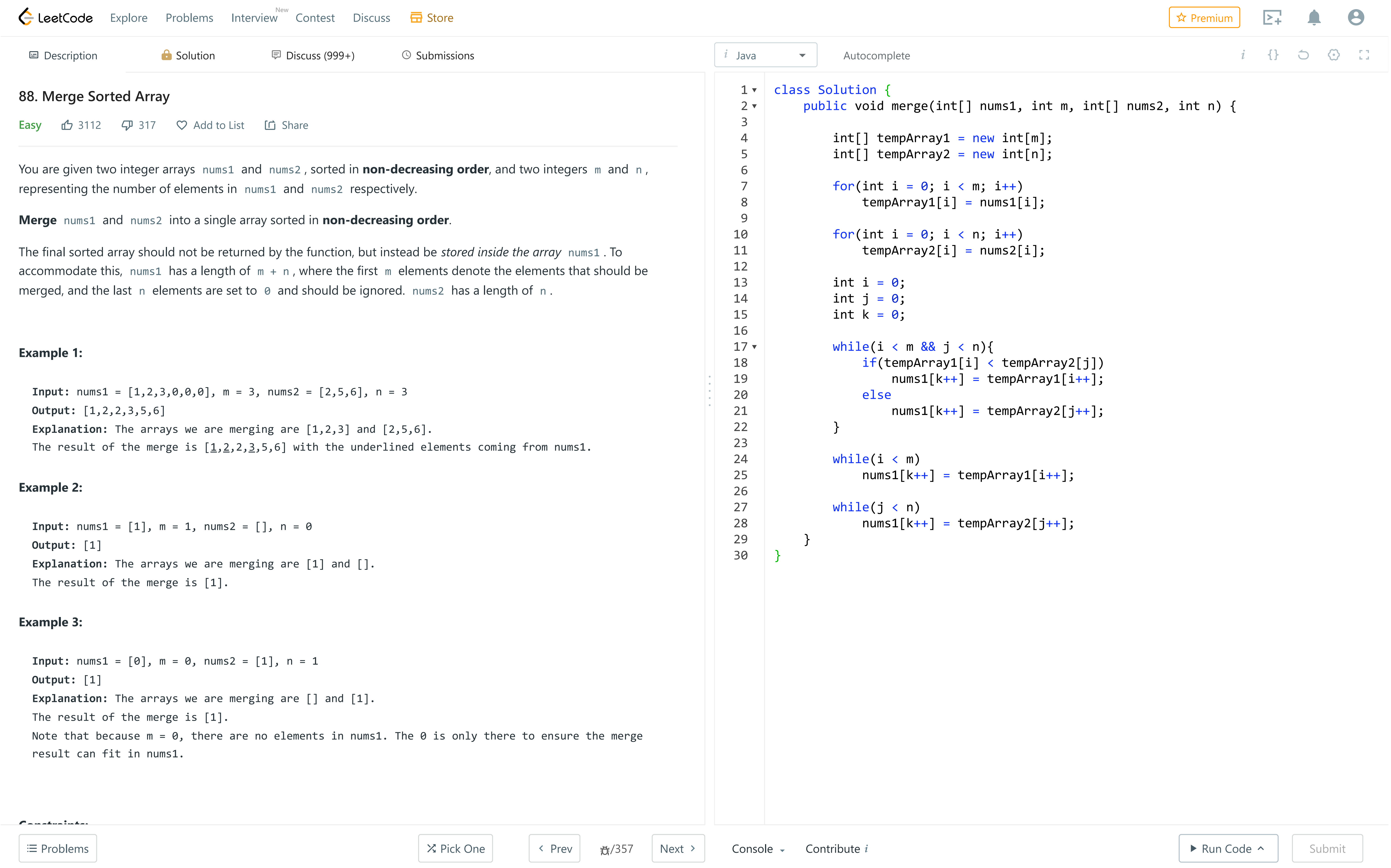

88. Merge Sorted Array

You are given two integer arrays `nums1` and `nums2`, sorted in **non-decreasing order**, and two integers `m` and `n`, representing the number of elements in `nums1` and `nums2` respectively.

Merge `nums1` and `nums2` into a single array sorted in **non-decreasing order**.

The final sorted array should not be returned by the function, but instead be *stored inside the array* `nums1`. To accommodate this, `nums1` has a length of `m + n`, where the first `m` elements denote the elements that should be merged, and the last `n` elements are set to `0` and should be ignored. `nums2` has a length of `n`.

Example 1:

```
Input: nums1 = [1,2,3,0,0,0], m = 3, nums2 = [2,5,6], n = 3
Output: [1,2,2,3,5,6]
Explanation: The arrays we are merging are [1,2,3] and [2,5,6].
The result of the merge is [1,2,2,3,5,6] with the underlined elements coming from nums1.
```

Example 2:

```
Input: nums1 = [1], m = 1, nums2 = [], n = 0
Output: [1]
Explanation: The arrays we are merging are [1] and [].
The result of the merge is [1].
```

Example 3:

```
Input: nums1 = [0], m = 0, nums2 = [1], n = 1
Output: [1]
Explanation: The arrays we are merging are [] and [1].
The result of the merge is [1].
Note that because m = 0, there are no elements in nums1. The 0 is only there to ensure the merge
result can fit in nums1.
```

Constraints:

```java
class Solution {
    public void merge(int[] nums1, int m, int[] nums2, int n) {

        int[] tempArray1 = new int[m];
        int[] tempArray2 = new int[n];

        for(int i = 0; i < m; i++)
            tempArray1[i] = nums1[i];

        for(int i = 0; i < n; i++)
            tempArray2[i] = nums2[i];

        int i = 0;
        int j = 0;
        int k = 0;

        while(i < m && j < n){
            if(tempArray1[i] < tempArray2[j])
                nums1[k++] = tempArray1[i++];
            else
                nums1[k++] = tempArray2[j++];
        }

        while(i < m)
            nums1[k++] = tempArray1[i++];

        while(j < n)
            nums1[k++] = tempArray2[j++];
    }
}
```