Rushabh Bhatt rb5726

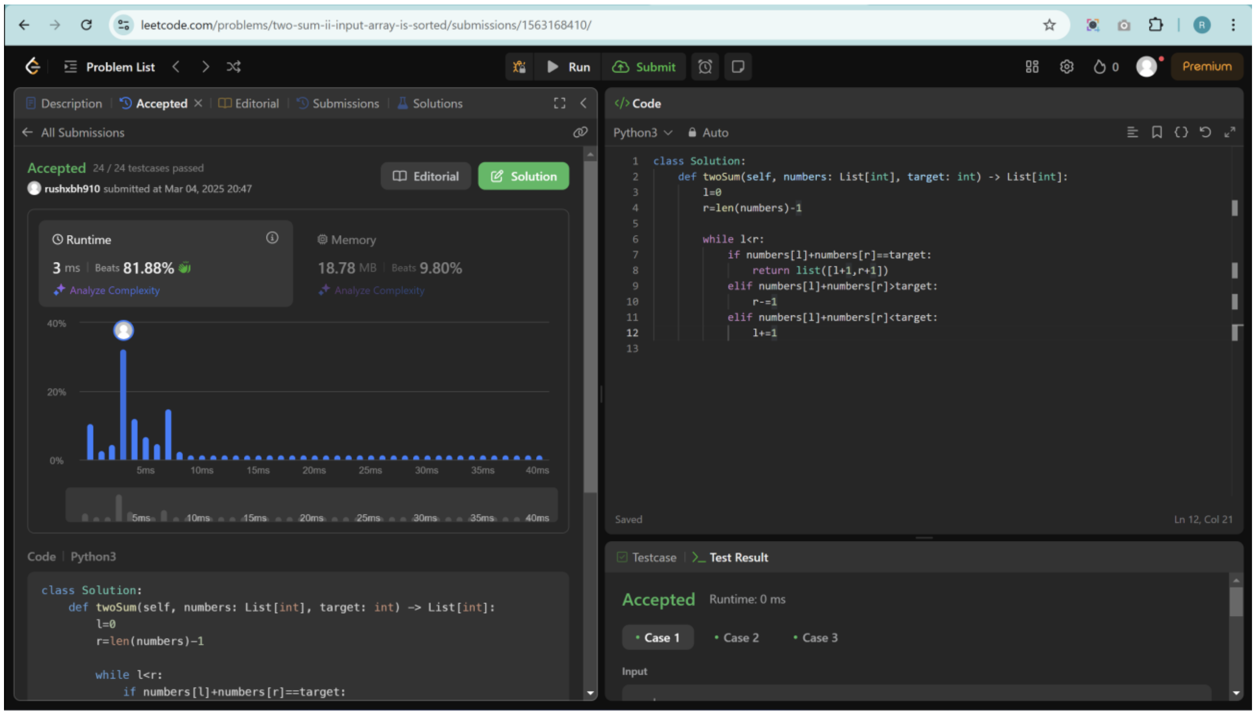
Homework 1

Week 1

1. Two Sum II - Input Array Is Sorted:

```
class Solution:
    def twoSum(self, numbers: List[int], target: int) -> List[int]:
        l=0
        r=len(numbers)-1

        while l<r:
            if numbers[l]+numbers[r]==target:
                return list([l+1,r+1])
            elif numbers[l]+numbers[r]>target:
                r-=1
            elif numbers[l]+numbers[r]<target:
                l+=1
```


leetcode.com/problems/two-sum-ii-input-array-is-sorted/submissions/1563168410/

Accepted 24 / 24 testcases passed
rushxbh910 submitted at Mar 04, 2025 20:47

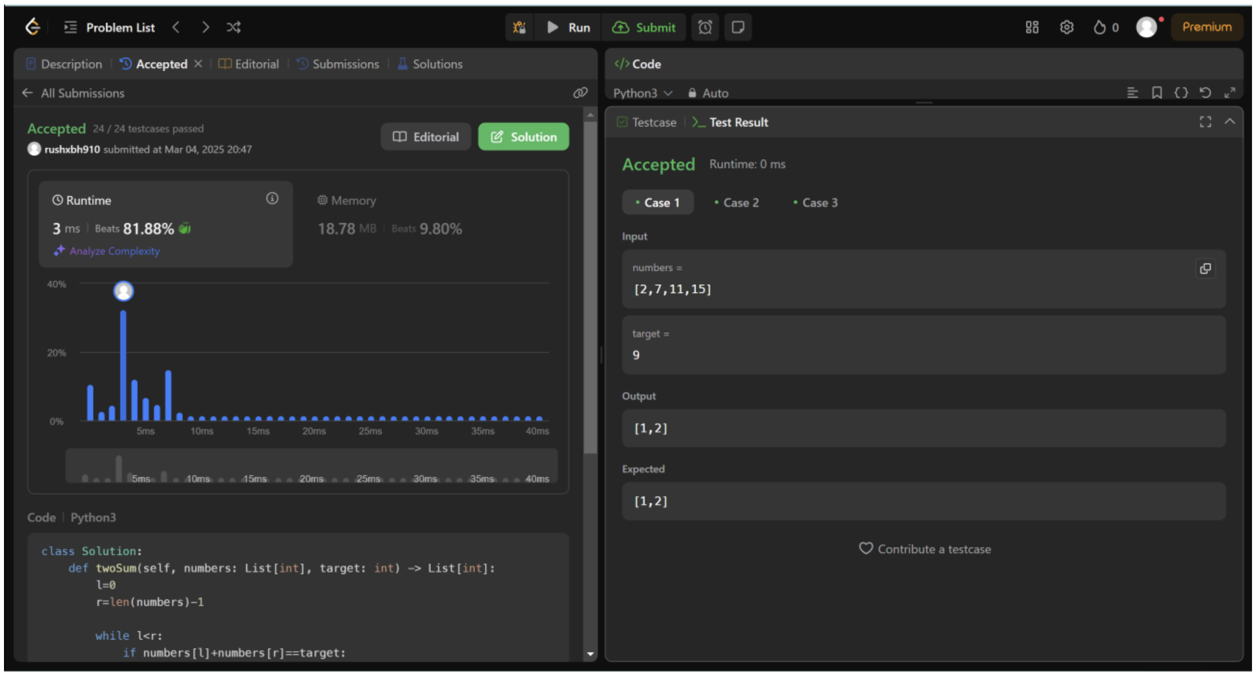
Runtime 3 ms | Beats 81.88%
Memory 18.78 MB | Beats 9.80%

Code | Python3

```
class Solution:
    def twoSum(self, numbers: List[int], target: int) -> List[int]:
        l=0
        r=len(numbers)-1

        while l<r:
            if numbers[l]+numbers[r]==target:
                return list([l+1,r+1])
            elif numbers[l]+numbers[r]>target:
                r-=1
            elif numbers[l]+numbers[r]<target:
                l+=1
```

Accepted Runtime: 0 ms
Case 1 · Case 2 · Case 3
Input



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Code | Python3

```
class Solution:
    def twoSum(self, numbers: List[int], target: int) -> List[int]:
        l=0
        r=len(numbers)-1

        while l<r:
            if numbers[l]+numbers[r]==target:
```

Accepted Runtime: 0 ms

Case 1 Case 2 Case 3

Input

```
numbers =
[2,7,11,15]
```

```
target =
9
```

Output

```
[1,2]
```

Expected

```
[1,2]
```

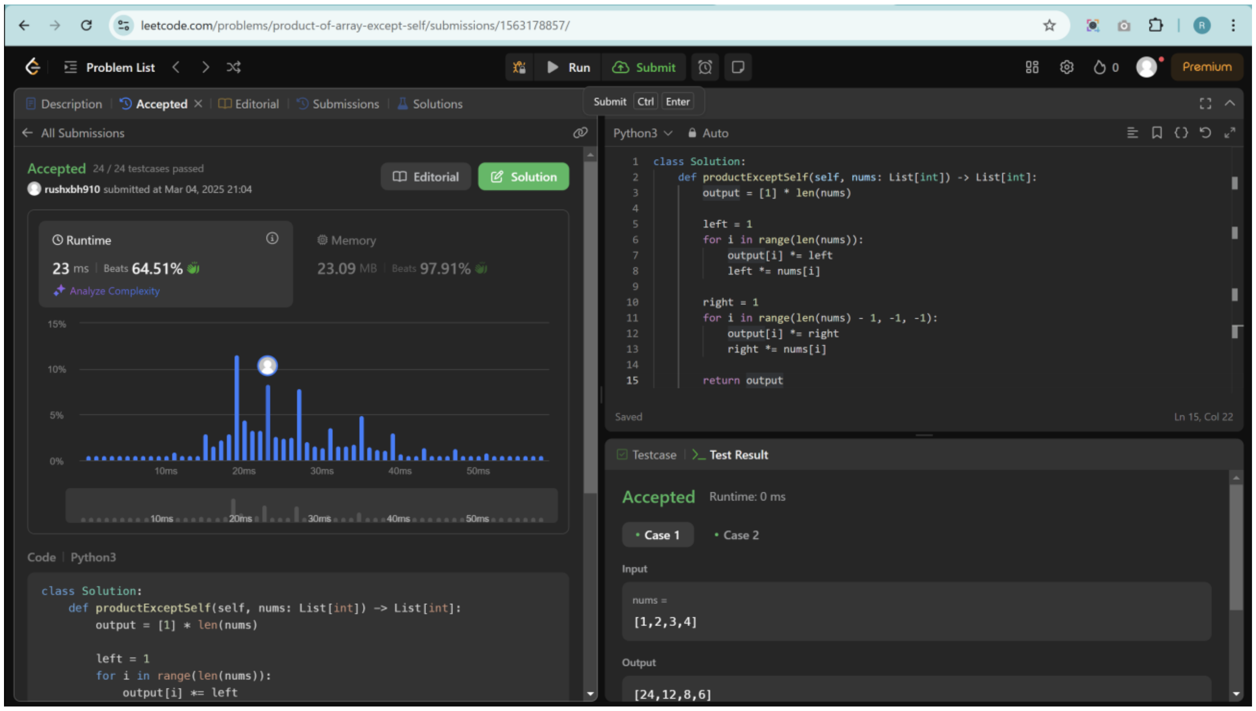
2. <u>Products of array discluding self:</u>

```
class Solution:
    def productExceptSelf(self, nums: List[int]) -> List[int]:
        output = [1] * len(nums)

        left = 1
        for i in range(len(nums)):
            output[i] *= left
            left *= nums[i]

        right = 1
        for i in range(len(nums) - 1, -1, -1):
            output[i] *= right
            right *= nums[i]

        return output
```



Accepted 24 / 24 testcases passed
rushxbh910 submitted at Mar 04, 2025 21:04

Runtime
23 ms | Beats 64.51%

Memory
23.09 MB | Beats 97.91%

Code | Python3

```
class Solution:
    def productExceptSelf(self, nums: List[int]) -> List[int]:
        output = [1] * len(nums)

        left = 1
        for i in range(len(nums)):
            output[i] *= left
            left *= nums[i]

        right = 1
        for i in range(len(nums) - 1, -1, -1):
            output[i] *= right
            right *= nums[i]

        return output
```

Saved   Ln 15, Col 22

Accepted Runtime: 0 ms

Input

```
nums =
[1,2,3,4]
```

Output

```
[24,12,8,6]
```

3. Sort Colors

```
class Solution:
    def sortColors(self, nums: List[int]) -> None:
        """
        Do not return anything, modify nums in-place instead.
        """
        zeros, ones, n = 0, 0, len(nums)
        for num in nums:
            if num == 0:
                zeros += 1
            elif num == 1:
                ones += 1

        for i in range(0, zeros):
            nums[i] = 0

        for i in range(zeros, zeros + ones):
            nums[i] = 1

        for i in range(zeros + ones, n):
            nums[i] = 2
```

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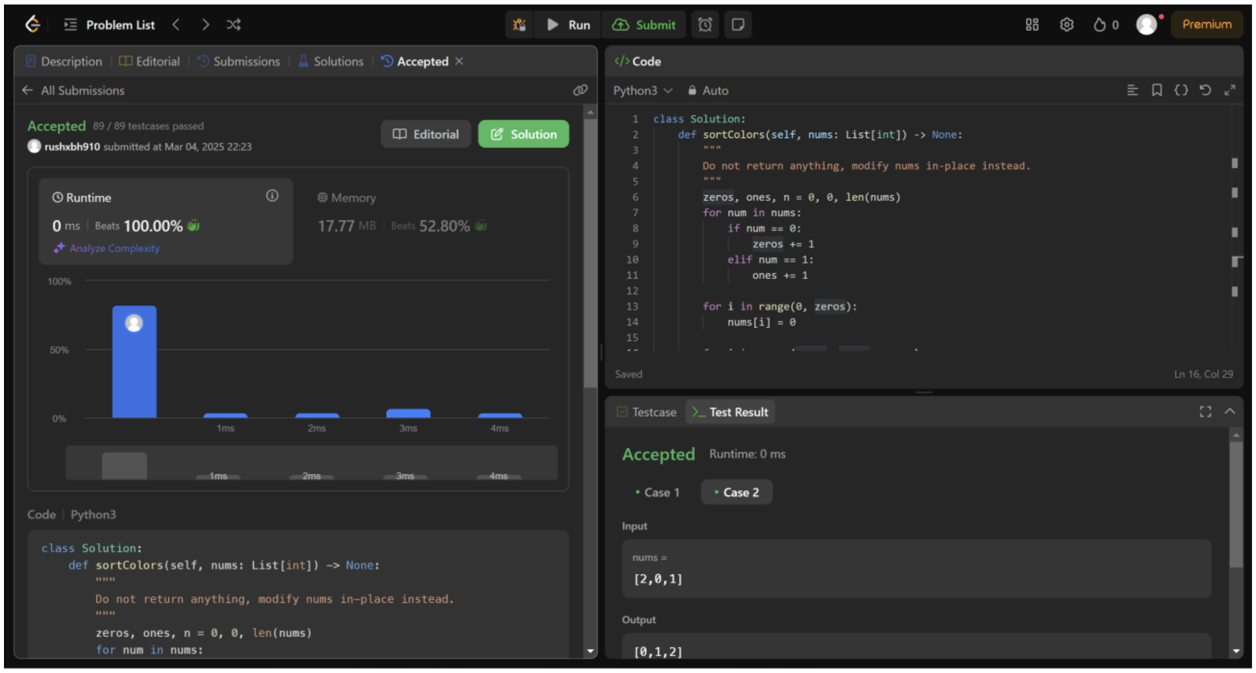

Accepted 89 / 89 testcases passed

rushxbh910 submitted at Mar 04, 2025 22:23

Runtime

0 ms | Beats 100.00%

Memory

17.77 MB | Beats 52.80%

Code | Python3

```
class Solution:
    def sortColors(self, nums: List[int]) -> None:
        """
        Do not return anything, modify nums in-place instead.
        """
        zeros, ones, n = 0, 0, len(nums)
        for num in nums:
```

```
class Solution:
    def sortColors(self, nums: List[int]) -> None:
        """
        Do not return anything, modify nums in-place instead.
        """
        zeros, ones, n = 0, 0, len(nums)
        for num in nums:
            if num == 0:
                zeros += 1
            elif num == 1:
                ones += 1

        for i in range(0, zeros):
            nums[i] = 0

```

Saved Ln 16, Col 29

Accepted Runtime: 0 ms

Input

nums =

```
[2,0,1]
```

Output

```
[0,1,2]
```