

Leetcode Bootcamp Homework 1

1. Two sum II - Input Array is Sorted

```
class Solution(object):
    def twoSum(self, numbers, target):
        """
        :type numbers: List[int]
        :type target: int
        :rtype: List[int]
        """
        hashm = {}
        for ind, i in enumerate(numbers):
            if target - i not in hashm:
                hashm[i] = ind+1
            else:
                result = [hashm[target - i], ind+1]
        return result
```

2. Product of Array Except Self

```
class Solution(object):
    def productExceptSelf(self, nums):
        """
        :type nums: List[int]
        :rtype: List[int]
        """
        n = len(nums)
        finProd = [1] * n
        prefixProd = 1
        suffixProd = 1
        for i in range(n):
            finProd[i] = prefixProd
            prefixProd *= nums[i]

        for i in range(n - 1, -1, -1):
            finProd[i] *= suffixProd
            suffixProd *= nums[i]

        return finProd
```

3. Sort Colors

```
class Solution(object):
    def sortColors(self, nums):
        """
        :type nums: List[int]
        :rtype: None Do not return anything, modify nums in-place
instead.
        """
        low = 0
        mid = 0
        high = len(nums) - 1
        while mid <= high:
            if nums[mid] == 0:
                nums[mid], nums[low] = nums[low], nums[mid]
                low += 1
                mid += 1
            elif nums[mid] == 1:
                mid += 1
            else:
                nums[mid], nums[high] = nums[high], nums[mid]
                high -= 1
```