

题目来源 <https://leetcode.com/problemset/algorithms/>

## 1.Two Sum

Given an array of integers, return **indices** of the two numbers such that they add up to a specific target.

You may assume that each input would have **exactly** one solution.

**Example:**

```
Given nums = [2, 7, 11, 15], target = 9,  
  
Because nums[0] + nums[1] = 2 + 7 = 9,  
return [0, 1].
```

## 2.Median of Two Sorted Arrays

There are two sorted arrays **nums1** and **nums2** of size m and n respectively.

Find the median of the two sorted arrays. The overall run time complexity should be  $O(\log(m+n))$ .

**Example 1:**

```
nums1 = [1, 3]  
nums2 = [2]  
The median is 2.0
```

**Example 2:**

```
nums1 = [1, 2]  
nums2 = [3, 4]  
The median is (2 + 3)/2 = 2.5
```

## 3.Remove Element

Given an array and a value, remove all instances of that value in place and return the new length.

Do not allocate extra space for another array, you must do this in place with constant memory.

The order of elements can be changed. It doesn't matter what you leave beyond the new length.

**Example:**

Given input array *nums* = [3,2,2,3] , *val* = 3

Your function should return `length = 2`, with the first two elements of `nums` being 2.

#### 4. Remove Duplicates from Sorted Array

Given a sorted array, remove the duplicates in place such that each element appear only *once* and return the new length.

Do not allocate extra space for another array, you must do this in place with constant memory.

For example,

Given input array `nums = [1,1,2]` ,

Your function should return `length = 2` , with the first two elements

of `nums` being `1` and `2` respectively. It doesn't matter what you leave beyond the new length

#### 5. Remove Duplicates from Sorted Array II

Follow up for "Remove Duplicates":

What if duplicates are allowed at most *twice*?

For example,

Given sorted array `nums = [1,1,1,2,2,3]` ,

Your function should return `length = 5` , with the first five elements

of `nums` being `1` , `1` , `2` , `2` and `3` . It doesn't matter what you leave beyond the new length.