

27. Remove Element

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Given an integer array `nums` and an integer `val`, remove all occurrences of `val` in `nums` **in-place**. The order of the elements may be changed. Then return *the number of elements in `nums` which are not equal to `val`*.

Consider the number of elements in `nums` which are not equal to `val` be `k`, to get accepted, you need to do the following things:

- Change the array `nums` such that the first `k` elements of `nums` contain the elements which are not equal to `val`. The remaining elements of `nums` are not important as well as the size of `nums`.
- Return `k`.

Custom Judge:

The judge will test your solution with the following code:

```
int[] nums = [...]; // Input array
int val = ...; // Value to remove
int[] expectedNums = [...]; // The expected answer with correct length.
// It is sorted with no values equaling val.

int k = removeElement(nums, val); // Calls your implementation

assert k == expectedNums.length;
sort(nums, 0, k); // Sort the first k elements of nums
for (int i = 0; i < actualLength; i++) {
    assert nums[i] == expectedNums[i];
}
```

If all assertions pass, then your solution will be **accepted**.

Example 1:

**Input:** `nums = [3,2,2,3], val = 3`  
**Output:** `2, nums = [2,2,_,_]`  
**Explanation:** Your function should return `k = 2`, with the first two elements of `nums` being `2`. It does not matter what you leave beyond the returned `k` (hence they are underscores).

Example 2:

```
1 class Solution:
2     def removeElement(self, nums: List[int], val: int) -> int:
3
4     if not nums:
5         return 0
6
7     i = 0
8
9     while i < len(nums):
10        if nums[i] == val:
11            nums.pop(i)
12
13        else:
14            i += 1
```

⋮

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