

Remove Element

val = 2
nums = [0, 1, 2, 2, 3, 0, 4, 2]

* Create a counter that keeps track of elements that are not equal to target value.

* When $\text{nums}[i] \neq \text{value} \rightarrow \text{nums}[\text{counter}] = \text{nums}[i];$

* Return Counter.

Pseudo code:

```
For (int i=0; i<=nums.length; i++)  
    int counter=0;  
    if (nums[i] != value)  
        nums[counter] = nums[i];  
        counter++;  
Return counter;
```

Time complexity = $O(n)$

———— * ————

→ nums.length-1 i=0, value=2
i=0, nums[0] = nums[0]
counter = 1
i=1, nums[1] = nums[1]
counter = 2
i=2, if is equal to value move on
i=3, ↗
i=4, nums[4] = nums[2]
counter = 3
i=5, nums[5] = nums[3]
counter = 4
i=6, nums[6] = nums[4]
counter = 5
i=7 // equal to value
returns 5