documentation of the removed element

Purpose

The `removeElement` method is designed to remove all occurrences of a specified value from a list in place. It returns the number of elements remaining in the list after removal.

Signature

```python

def remove element(self, nums: List[int], val: int) -> int:

```

Parameters

- `nums` (List[int]): The input list of integers.

- `val` (int): The value to be removed from the list.

Returns

- int: The number of elements in the list after removal of the specified value.

Constraints

- 0 <= len(nums) <= 100: The length of the input list must be between 0 and 100, inclusive.

- 0 <= nums[i] <= 50: Each element of the input list must be between 0 and 50, inclusive.

- 0 <= val <= 100: The specified value must be between 0 and 100, inclusive.

Example

Python

solution = Solution()

nums = [3, 2, 2, 3]

val = 3

solution.removeElement(nums, val)

2

nums

[2, 2, _, _]

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

val = 2

solution.removeElement(nums, val)

5

nums

[0, 1, 4, 0, 3, _, _, _]

```

## Custom Judge

The judge tests the solution using the provided code snippet, ensuring it returns the correct output.

## Complexity Analysis

- Time Complexity: O(n), where n is the length of the input list nums. The algorithm iterates through the list once.

- Space Complexity: O(1), as the algorithm operates in place without using any extra space.
```