147.A peak element is an element that is strictly greater than its neighbors. Given a 0-indexed integer array nums, find a peak element, and return its index. If the array contains multiple peaks, return the index to any of the peaks. You may imagine that nums[-1] = nums[n] = -∞. In other words, an element is always considered to be strictly greater than a neighbor that is outside the array. You must write an algorithm that runs in O(log n) time.
Example 1:
Input: nums = [1,2,3,1]
Output: 2
Explanation: 3 is a peak element and your function should return the index number 2.

AIM: To find the peak element

PROGRAM:

```
def find_peak_element(nums):
    left, right = 0, len(nums) - 1

    while left < right:
        mid = left + (right - left) // 2

        if nums[mid] > nums[mid + 1]:
            right = mid
        else:
            left = mid + 1

    return left
nums = [1, 2, 3, 1]
print(find_peak_element(nums))
```

OUTPUT:

```
2
```

TIME COMPLEXITY: O(log n)