

**Question:** Find the Majority Element in an Array

Write a program to find the majority element in an array (an element that appears more than  $n/2$  times). For example, in the array [3,3,4,2,4,4,2,4,4], the output should be 4.

**Solution:**

```
def func(arr):
    count, elem = 0, None
    for i in range(len(arr)):
        if count == 0:
            count = 1
            elem = arr[i]
        elif elem == arr[i]:
            count += 1
        else:
            count -= 1
    check_count = 0
    for i in range(len(arr)):
        if arr[i] == elem:
            check_count += 1
    return elem if check_count > (len(arr)//2) else -1

arr = [3,3,4,2,4,4,2,4,4]
print(func(arr))
```

**Output:** 4