

## Problem 10: Majority Element

### Code:

```
#include <stdio.h>

int main() {
    int n;

    printf("Enter the number of elements in the array: ");
    scanf("%d", &n);

    int arr[100];

    printf("Enter the elements of the array:\n");
    for (int i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }

    int majorityElement = -1;
    int count = 0;
    for (int i = 0; i < n; i++) {
        if (count == 0) {
            majorityElement = arr[i];
        }
        if (arr[i] == majorityElement) {
            count++;
        } else {
            count--;
        }
    }
}
```

```
count = 0;
for (int i = 0; i < n; i++) {
    if (arr[i] == majorityElement) {
        count++;
    }
} if (count > n / 2) {
    printf("The majority element is: %d\n", majorityElement);
} else {
    printf("No majority element found.\n");
}

return 0;
}
```