Problem:10

Given an array **arr**. Find the majority element in the array. If no majority exists, return -1. A majority element in an array is an element that appears **strictly** more than **arr.size() / 2 times** in the array.

Ans:

Code:

```
#include <stdio.h>
int majorityElement(int arr[], int n) {
   int count = 0, candidate = -1;
 for (int i = 0; i < n; i++) {
      if (count == 0) {
         candidate = arr[i];
      }
      count += (arr[i] == candidate) ? 1 : -1;
   }
 count = 0;
   for (int i = 0; i < n; i++) {
      if (arr[i] == candidate) {
         count++;
      }
   }
return (count > n / 2) ? candidate : -1;
}
int main() {
   int arr[] = {1, 1, 2, 1, 3, 5, 1};
   int n = sizeof(arr) / sizeof(arr[0]);
  int result = majorityElement(arr, n);
   printf("Majority Element: %d\n", result);


   return 0;
}
```