PROBLEM STATEMENT:

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. Do not use any built-in functions for array manipulation or counting. Instructions: Implement a manual count and comparison logic to find the majority element.

CODE:

```
#include<stdio.h>
#include<stdlib.h>
void majorelements(int arr[],int n)
{
   int count=0;
   int max=-1;
   for(int i=0;i<n;i++)
   {
      if(count==0)
      {
         max=arr[i];
         count=1;
      }
      else if(arr[i]==max)
      {
         count++;
      }
      else
      {
```

```
            count--;
        }
    }
     count=0;
     for(int i=0;i<n;i++)
     {
        if(arr[i]==max)
        {
           count++;
        }
     }
      if(count>n/2)
      printf("Major Elements=%d\n",max);
      else
      printf("No Major Elements\n");
}
int main()
{
   int n,arr[10000];
   printf("Enter the no of elements:");
   scanf("%d",&n);
   if(n<=0){
      printf("Invalid input\n");
      return 1;
   }
  printf("Enter the elements:\n");
  for(int i=0;i<n;i++){
```

```
            scanf("%d",&arr[i]);
        }
        majorelements(arr,n);
        return 0;
    }
```

OUTPUT:

Output Clear

```
/tmp/NhPOgxXMTV.o
Enter the no of elements:9
Enter the elements:
3
3
4
2
4
4
2
4
4
Major Elements=4


=== Code Execution Successful ===
```

Output Clear

```
/tmp/ULby7qs5t5.o
Enter the no of elements:9
Enter the elements:
4
2
3
4
44
4
4
7
6
Major Elements=4


=== Code Execution Successful ====
```

Output

Clear

```
/tmp/YUfwGbw1kV.o
Enter the no of elements:9
Enter the elements:
2
3
4
4
5
4
4
3
4
Major Elements=4


=== Code Execution Successful ===
```