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Semester:5 **Date of Performance:**22-08-2023
Subject Name: DAA **Subject Code:** 21CSH-311

Experiment 1.3

Aim: Evaluate the complexity of the developed program to find frequency of elements in a given array.

Procedure/Algorithm:

Step 1: Start

Step 2: Declare an integer array arr with some elements.

Step 3: Prompt the user to enter an element and store it in the variable n.

Step 4: Calculate the size of the array using sizeof(arr)/sizeof(arr[0]) and store it in the variable size.

Step 5: Initialize an integer variable freq to 0. This variable will be used to keep track of the frequency of the element n in the array.

Step 6: Use a for loop to iterate through the elements of the array from index 0 to size-1.

a. Inside the loop:
- Check if the current element arr[i] is equal to the element n. -
If they are equal, increment the freq variable by 1.

Step 7: After the loop, check the value of freq.

-If freq is 0, print a message indicating that the element n is not present in the array. -
Otherwise, print the frequency of the element n.

Step 9: End

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Sample Code:

```
#include<iostream>
using namespace std;

int main(){

    int arr[]={3,4,1,6,7,1,6,3,1};
int n;
    cout<<"Enter the element: ";
cin>>n;

    cout<<endl;

    int size=sizeof(arr)/sizeof(arr[0]);

    int freq=0;

    for(int i=0;i<size;i++){

        if(arr[i]==n){
        freq=freq+1;
      }

    }

    if(freq==0){
       cout<<"The element "<<n<<" is not present is array";
    }

    else{       cout<<"The frequecy of element is:
"<<freq;
    }

return 0; }
```

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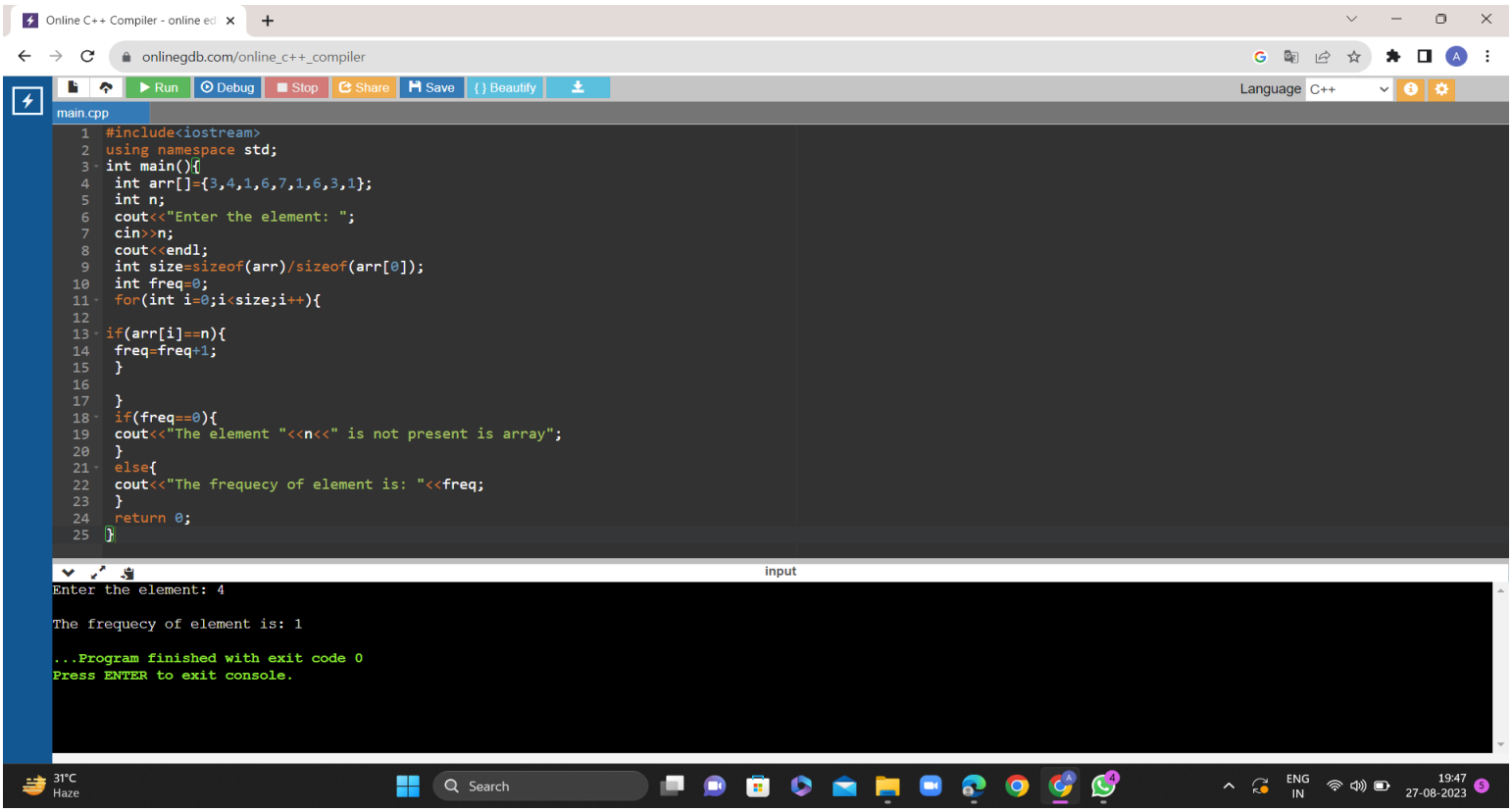
Observations/Outcome:



Time Complexity:

Time complexity is O(n)