

CONTINUOUS ASSESSMENTS (C.A)-1

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Q.1. Write a program to sort n element using the optimal bubble sort algorithm.

```
#include<iostream>
using namespace std;
void bubbleSort(int arr[],int n)
{
    for (int i = 0; i < n - 1; i++)
    {
        bool flag=false;
        for (int j = 0; j < n - 1 - i; j++)
        {
            if (arr[j] > arr[j + 1])
            {
                int temp = arr[j];
                arr[j] = arr[j + 1];
                arr[j + 1] = temp;
                flag=true;
            }
        }
        if(flag==false)
            break;
    }
}
```

```
int main()
{
    int size;
    cout<<"Enter size of array : "<<endl;
    cin>>size;
    int arr[size];
    cout<<"Enter array elements : "<<endl;
    for(int i=0;i<size;i++)
    {
        cin>>arr[i];
    }
    bubbleSort(arr,size);
    cout<<"Printing array elements : "<<endl;
    for(int i=0;i<size;i++)
    {
        cout<<arr[i]<<" ";
    }
    return 0;
}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
Enter size of array :
10
Enter array elements :
25
63
12
32
41
10
58
62
53
18
Printing array elements :
10 12 18 25 32 41 53 58 62 63
PS D:\VS CODE\DSA\EXAM>
```