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CMS ID: 464899
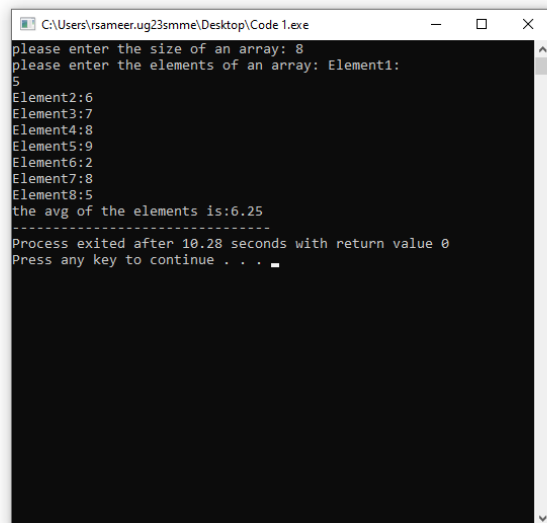
SEC-A ME-15

LAB MNAUAL 8

Lab Task:

1. Write a C++ program to calculate average of numbers of array.

```cpp
#include<iostream>
using namespace std;
int main(){
    int p;
    cout<<"please enter the size of an array: ";
    cin>>p;
    //  now checking invalid condition
    if(p<=0){
        cout<<"invalid input";
        return 1;
    }
    float array[p];
    cout<<"please enter the elements of an array: ";
    for(int i = 0; i<p; i++){
        cout<< "Element"<<i+1<<":";
        cin>>array[i];
    }
    float sum = 0;
    for(int i = 0; i<p; i++){
        sum+=array[i];

    }
    float average = sum/p;
    cout<<"the avg of the elements is:"<<average;
    return 0;
}
```
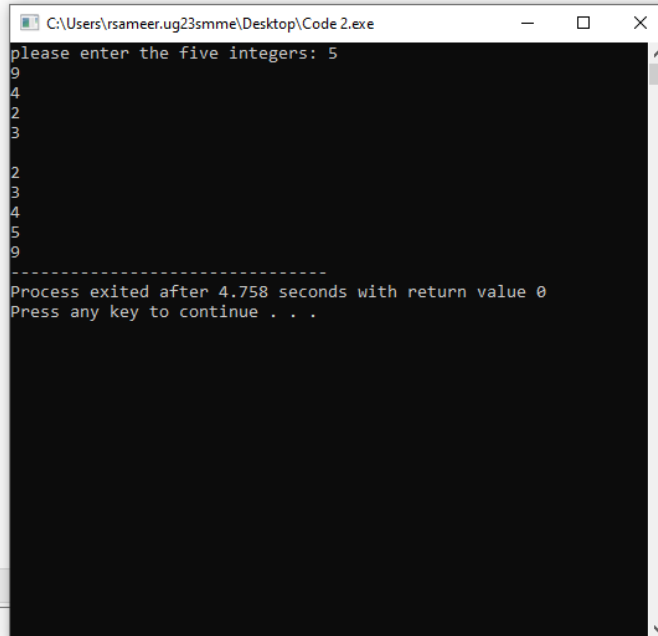
```
■ C:\Users\rsameer.ug23smme\Desktop\Code 1.exe        —    □    ×
please enter the size of an array: 8
please enter the elements of an array: Element1:
5
Element2:6
Element3:7
Element4:8
Element5:9
Element6:2
Element7:8
Element8:5
the avg of the elements is:6.25
-------------------------------
Process exited after 10.28 seconds with return value 0
Press any key to continue . . . _
```

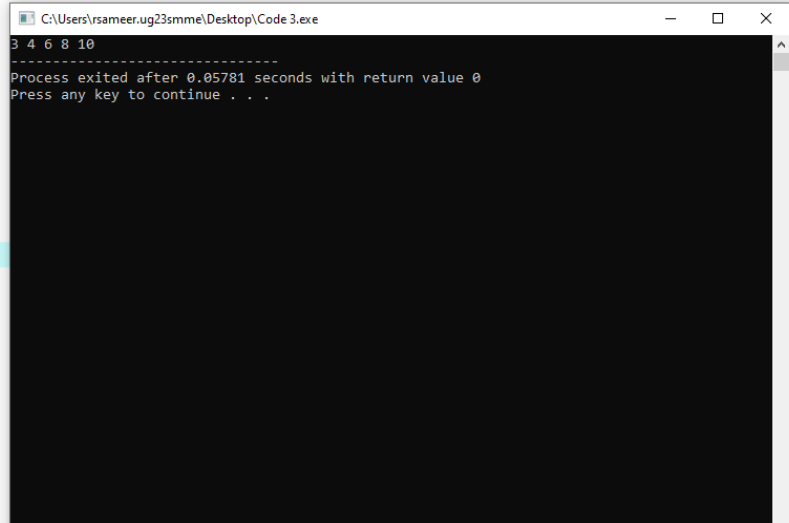2. Implement Bubble sort on an array of 5 integers.

```cpp
#include<iostream>
using namespace std;
int main(){
    int arr[5];
    cout<<"please enter the five integers: ";
    for(int i = 0; i<5; i++){
        cin>>arr[i];}
    int temp = 0;
    for(int i = 0; i<5; i++){
        for(int k = 0; k<4; k++){
            if(arr[k]>arr[k+1]){
                int temp = arr[k];
                arr[k] = arr[k+1];
                arr[k+1] = temp;

            }
        }

    }
    for(int j=0; j<5; j++){
        cout<<endl;
        cout<<arr[j];

    }
    return 0;
}
```

Compile Log   Debug   Find Results   Close

lation results...

C:\Users\rsameer.ug23smme\Desktop\Code 2.exe

please enter the five integers: 5
9
4
2
3

2
3
4
5
9

Process exited after 4.758 seconds with return value 0
Press any key to continue . . .

3. Implement Selection Sort on an array of 5 integers.

```cpp
#include<bits/stdc++.h>
using namespace std;
int main(){
    int p[5]={10,6,8,3,4},min =0;
    for(int i = 0; i<5; i++){
        min=p[i];
        for(int j=i; j<5; j++){
            if(min>p[j]){
                min = p[j];
                p[j] = p[i];
                p[i] = min;
            }
        }
    }
    for(int i = 0; i<5; i++){
        cout<<p[i]<<" ";
    }
    return 0;
}
```

C:\Users\rsameer.ug23smme\Desktop\Code 3.exe

```
3 4 6 8 10
--------------------------------
Process exited after 0.05781 seconds with return value 0
Press any key to continue . . .
```