Riphah International University

Data Structure (Lab)

Lab Task 2nd

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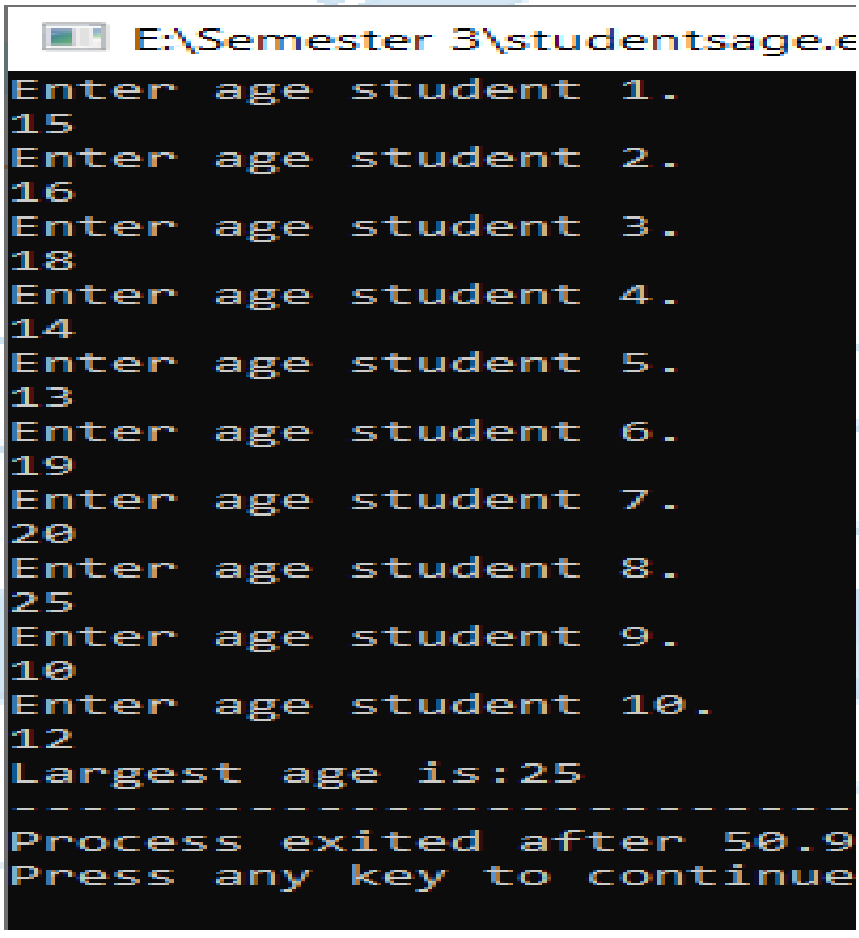
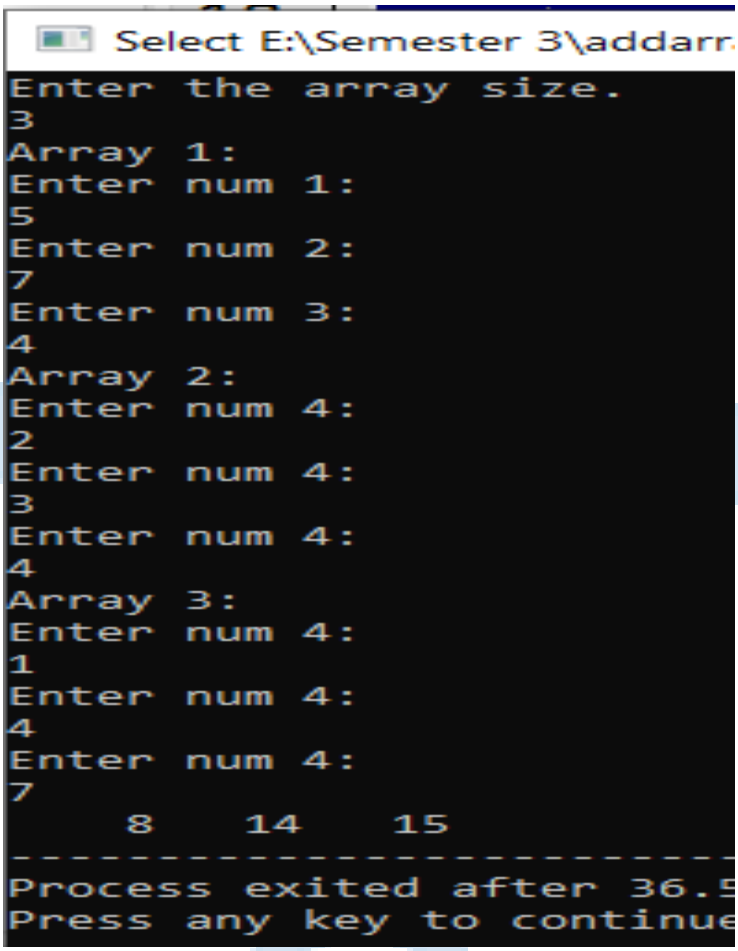
1:

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

int main()
{
	int age[10], i, largestnum=0;

	for(i=0;i<10;i++)
	{
		cout<<"Enter age student "<<i+1<<".\n";
		cin>>age[i];
	}
	for(i=0;i<10;i++)
	{
		if(age[i]>largestnum)
		{
			largestnum=age[i];
		}
	}
	cout<<"Largest age is:"<<largestnum;
	return 0;

}
```



2:

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

int main()
{
	int arr, i, j, k;
	cout<<"Enter the array size."<<endl;
	cin>>arr;
	int *arr1=new int(arr);
	int *arr2=new int(arr);
	int *arr3=new int(arr);
	int *arr4=new int(arr);
	cout<<"Array 1:"<<endl;
	for(i=0;i<arr;i++)
	{
		cout<<"Enter num "<<i+1<<":\n";
		cin>>arr1[i];

	}
	cout<<"Array 2:"<<endl;
	for(j=0;j<arr;j++)
	{
		cout<<"Enter num "<<i+1<<":\n";
		cin>>arr2[j];

	}
	cout<<"Array 3:"<<endl;
	for(k=0;k<arr;k++)
	{
		cout<<"Enter num "<<i+1<<":\n";
		cin>>arr3[k];

	}
	for(i=0;i<arr;i++)
	{
		arr4[i]=arr1[i]+arr2[i]+arr3[i];
		cout<<setw(5)<<arr4[i];
	}


	return 0;
}
```



3:

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

int linearSearch(int* arr, int size, int item) {
    for (int i = 0; i < size; ++i) {
        if (arr[i] == item) {
            return i;
        }
    }
    return -1;
}
int main() {
    int n, searchItem;
    cout << "Enter the number of elements in the array: ";
    cin >> n;
    int* arr = new int[n];
    cout << "Enter the elements of the array:\n";
    for (int i = 0; i < n; ++i) {
```

```
        cin >> arr[i];
    }
    cout << "Enter the item to search for: ";
    cin >> searchItem;
    int result = linearSearch(arr, n, searchItem);
    if (result != -1) {
        cout << "Item found at index " << result << endl;
    } else {
        cout << "Item not found in the list." << endl;
    }
    delete[] arr;

    return 0;
}
```