Classwork

Find minimum and maximum number in an array using linear search in **C++**

```
#include<iostream>
#include <limits.h>
using namespace std;

int getMin(int arr[],int size){
    int mini=INT_MAX;
    for(int i=0;i<size;i++){
        mini=min(mini,arr[i]);
    }
    return mini;
}

int getMax(int arr[],int size){
    int maxi=INT_MIN;
    for(int i=0;i<size;i++){
        maxi=max(maxi,arr[i]);
    }
    return maxi;
}

int main(){
    int arr[1000];
    int size;
    cout<<"Enter size of array between 1 and 100"<<endl;
    cin>>size;

    cout<<"Enter elements in array"<<endl;
    for(int i=0;i<size;i++){
        cin>>arr[i];
    }

    cout<<"Minimum is "<<getMin(arr,size)<<endl;
    cout<<"Maximum is "<<getMax(arr,size)<<endl;
```

```
}
```

Find minimum and maximum number in an array using linear search in **Java**

```
package com.help.code;
import java.util.*;
public class MinMax {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		int[] arr=new int[1000];

		Scanner sc=new Scanner(System.in);
		System.out.println("Enter size of array ");
		int arraySize=sc.nextInt();

		System.out.println("Enter elements in array ");
		for(int i=0;i<arraySize;i++) {
			arr[i]=sc.nextInt();
		}

		System.out.println("Minimum is
"+getMin(arr,arraySize));
		System.out.println("Maximum is
"+getMax(arr,arraySize));
	}

	public static int getMin(int arr1[],int arraySize) {
		int min=Integer.MAX_VALUE;
		for(int i=0;i<arraySize;i++) {
			min=Math.min(min, arr1[i]);
		}
		return min;
	}

	public static int getMax(int arr1[],int arraySize) {
		int max=Integer.MIN_VALUE;
		for(int i=0;i<arraySize;i++) {
			max=Math.max(max, arr1[i]);
		}
		return max;
	}
```

```
}
```

Search an element in an array using linear search in **C++**

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

bool isFound(int arr[],int arraySize,int key){
    for(int i=0;i<arraySize;i++){
        if(arr[i]==key){
            return 1;
        }
    }
    return 0;
}

int main(){
    int arr[1000];
    int arraySize;
    int key;
    cout<<"Enter size of array "<<endl;
    cin>>arraySize;
    cout<<"Enter elements in an array"<<endl;
    for(int i=0;i<arraySize;i++){
        cin>>arr[i];
    }

    cout<<"Enter element you wants to search in an array"<<endl;
    cin>>key;
    if(isFound(arr,arraySize,key)){
        cout<<"Element found"<<endl;
    }else{
        cout<<"Element not found"<<endl;
    }
```

```
}
```

Search an element in an array using linear search in **Java**

```
package com.help.code;
import java.util.*;
public class LinearSearch {


     public static boolean isFound(int[] arr,int arraySize,int
key) {
          for(int i=0;i<arraySize;i++) {
               if(arr[i]==key) {
                    return true;
               }
          }
          return false;
     }

     public static void main(String[] args) {
          // TODO Auto-generated method stub
          int[] arr=new int[1000];
          int arraySize;
          Scanner sc=new Scanner(System.in);
          System.out.println("Enter size of Array ");
          arraySize=sc.nextInt();

          System.out.println("Enter elements in an Array");
          for(int i=0;i<arraySize;i++) {
               arr[i]=sc.nextInt();
          }

          System.out.println("Enter element you wants to search
in an Array");
          int key=sc.nextInt();

          if(isFound(arr,arraySize,key)) {
               System.out.println("Element found");
          }else {
               System.out.println("Element not found");
          }
```

```
    }

}
```

Reverse an Array in **C++**

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

void reverseArray(int arr[],int arraySize){
    int start=0;
    int end=arraySize-1;
    while(start<end){
        swap(arr[start],arr[end]);
        start++;
        end--;
    }
    cout<<endl;
    cout<<"After Reverse an Array"<<endl;
    for(int i=0;i<arraySize;i++){
        cout<<arr[i]<<" ";
    }
}

int main(){
    int arr[1000];
    int arraySize;
    cout<<"Enter size of an Array"<<endl;
    cin>>arraySize;

    cout<<"Enter elements in an Array"<<endl;
    for(int i=0;i<arraySize;i++){
        cin>>arr[i];
    }

    cout<<"Before Reverse an Array"<<endl;
    for(int i=0;i<arraySize;i++){
```

```
        cout<<arr[i]<<" ";
    }
    cout<<endl;
    reverseArray(arr,arraySize);
}
```

Reverse an Array in **Java**

```
package com.help.code;
import java.util.*;
public class ReverseArray {

     public static void reverseArray(int arr[],int arraySize) {
          int start=0;
          int end=arraySize-1;

          while(start<end) {
               int temp=arr[start];
               arr[start]=arr[end];
               arr[end]=temp;

               start++;
               end--;
          }

          System.out.println("After Reverse an Array");
          for(int i=0;i<arraySize;i++) {
               System.out.print(arr[i]+" ");
          }
     }

     public static void main(String[] args) {
          // TODO Auto-generated method stub
          Scanner sc=new Scanner(System.in);
          int[] arr=new int[1000];

          System.out.println("Enter Array size between 1 and
100");
          int arraySize=sc.nextInt();
```

```
            System.out.println("Enter elements in an Array ");
            for(int i=0;i<arraySize;i++) {
                 arr[i]=sc.nextInt();
            }

            System.out.println("Before Reverse an Array");
            for(int i=0;i<arraySize;i++) {
                 System.out.print(arr[i]+" ");
            }
            System.out.println();

            reverseArray(arr,arraySize);
      }

}
```

Homework

Sum of all elements in an array in **C++**

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

int sumOfElementsInArray(int arr[],int arrSize){
    int sum=0;
    for(int i=0;i<arrSize;i++){
        sum=sum+arr[i];
    }
    return sum;
}

int main(){
    int arr[1000];
    int arraySize;
    cout<<"Enter array size between 1 and 100"<<endl;
    cin>>arraySize;
```

```
    cout<<"Enter elements in an array "<<endl;
    for(int i=0;i<arraySize;i++){
        cin>>arr[i];
    }

    cout<<"Sum of all elements in an array is
"<<sumOfElementsInArray(arr,arraySize)<<endl;
}
```

Sum of all elements in an array in **Java**

```
package com.help.code;
import java.util.*;
public class SumOfArray {

     public static void main(String[] args) {
          // TODO Auto-generated method stub
          int[] arr=new int[1000];
          Scanner sc=new Scanner(System.in);
          System.out.println("Enter size of Array between 1 and
100");
          int arrSize=sc.nextInt();

          System.out.println("Enter elements in an array");
          for(int i=0;i<arrSize;i++) {
               arr[i]=sc.nextInt();
          }

          System.out.println("Sum of all elements in an array is
"+sumOfElementsInArray(arr,arrSize));
     }

     public static int sumOfElementsInArray(int arr[],int
arrSize) {
```

```
            int sum=0;
            for(int i=0;i<arrSize;i++) {
                 sum=sum+arr[i];
            }
            return sum;
      }
}
```