**Given ' n' integers, create two lists : one  list with the first n/2 integers if n is even (or with the first (n/2+1) integers when n is odd) and the other list with the remaining elements.**

Sort both the lists in an ascending order separately and name the first list as A and the second sorted list as B.

Merge both the lists A and B, and create a new list called C such that all the elements of A & B are in C and the elements are in an ascending order.

Given n numbers and another number, k, write an algorithm and the subsequent code to output whether k is present in the list A or B, the position of k in A (or B) and the position of k in C. If k is not present in any of the lists A or B, your code should output -1.

**Illustration :**

Input numbers : 2, 50, 6 ,17,10, 11,12,5

LIst 1 = [2,50,6,17]   ; List2 = [10,11,12,5]

Sort the List 1 : A : [2,6,17,50]

sort the list 2 : B :  [5,10,11,12]

Now merge the two lists A & B and output a new list  C which is sorted and with all the elements of A and B.

C : [2,5,6,10,11,12,17,50]

Given a number 17,  17 is present in A, Position of 17 in A is 2, Position of 17 in C is 6

Code:

#include<iostream>

#include<algorithm>

using namespace std;

int main()

{

int a[10],b[10];

int n,m;

cout<<"Enter the length of the first list "<<endl;

cin>>n;

cout<<"enter the length of the second list"<<endl;

cin>>m;

cout<<"Enter the first list"<<endl;

for(int i=0;i<n;i++)

{

cout<<"Enter teh element :";

cin>>a[i];

}

cout<<"Enter the second list "<<endl;

for(int i=0;i<m;i++)

{

cout<<"Enter the element :";

cin>>b[i];

}

sort(a,a+n);

sort(b,b+m);

cout<<"The sorted first array is "<<endl;

for(int i=0;i<n;i++)

cout<<a[i]<<" ";

cout<<"The sorted second array is "<<endl;

for(int i=0;i<n;i++)

cout<<b[i]<<" ";

int c[m+n],k=0,i=0,j=0;

while(i<=n && j<=m)

{

if (a[i]<a[j])

{

c[k]=a[i];

k=k+1;

i=i+1;}

else

{c[k]=b[j];

k=k+1;

j=j+1;

}

}

cout<<"The merged array is "<<endl;

for(i=0;i<(n+m);i++)

cout<<c[i]<<" ";

}

Output:

