# Program:

#include<iostream> //required header file Binary Search

using namespace std;

void swap(int \*p,int \*t) //function to swap two values using pointers

{

int temp; //declaring a temporary variable

temp=\*p; //exchanging the values

\*p=\*t;

\*t=temp;

}

int main() //main function

{

int i,n,j,k,s,e,f; //initialising the required variables

cout<<"Enter the size of array\n";

cin>>n; //getting the size of array

int a[50];

cout<<"Enter The data\n";

for(i=0;i<n;i++) //getting the values into the array

cin>>a[i];

for(i=0;i<n;i++) //selecting an element and comparing as follows

{

for(j=0;j<n;j++) //comparing all the other elements with the selected element

{

if (a[i]<a[j]) //checking the condition

swap(&a[i],&a[j]); //sending the values to the swap function

}

}

cout<<"Entered Data in ascending order is:\n";

for(k=0;k<n;k++) //displaying the data in ascending order

cout<<a[k]<<"\n";

cout<<"Enter The data to search\n";

cin>>f; //getting the value to search its position

int m,l=0,r=n-1; //initialising the required variables

while(l<=r) //taking the required condition

{

m=(l+r)/2; //taking the mean of l and r as m

if(f>a[m]) // checking if the requred data is above the a[m] position

l=m+1; //shifting the l as m+1

else if(f<a[m]) //checking if the data is below a[m]

r=m-1; //shifting r to m-1

else if(f==a[m]) //if both the above conditions do not satisfy it is exactly at a[m]

{

cout<<"Its Position is "<<m+1<<"\n";//displaying its position

break;

}

else

cout<<"The Required data is not found\n"; //displaying not found if not matched to any of the data

}

}

# Output:

