**EXPERIMENT**–**13**

**AIM**– To implement binary search using divide and conquer strategy.

**CODE**–

#include<iostream>

using namespace std;

int main(){

int n, i, arr[50], search, first, last, middle;

cout<<"Enter total number of elements :";

cin>>n;

cout<<"Enter "<<n<<" number :\n";

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

cin>>arr[i];

cout<<"Enter a number to find :";

cin>>search;

first = 0;

last = n-1;

middle = (first+last)/2;

while (first <= last){

if(arr[middle] < search){

first = middle + 1;}

else if(arr[middle] == search)

{

cout<<"The number found at location :"<<middle+1<<"\n";

break;

}

else

{

last = middle - 1;

}

middle=first+last/2;

}

if(first > last)

{

cout<<"Not found! the number is not present in the list.";

}

}

**OUTPUT** –

