**//Given a sorted array of n integers and a target value, determine if the target //exists in the array using the divide and conquer method. If target exists in //the array, print the index of it. (Use binary search algorithm)**

#include<iostream.h>

#include<conio.h>

int binarySearch(int arr[], int l, int r, int x)

{

while (l <= r) {

int m = l + (r - l) / 2;

// Check if x is present at mid

if (arr[m] == x)

return m;

// If x greater, ignore left half

if (arr[m] < x)

l = m + 1;

// If x is smaller, ignore right half

else

r = m - 1;

}

// if we reach here, then element was not present

return -1;

}

void main()

{

clrscr();

cout<<"FIND THE INDEX OF THE TARGET VALUE USING BINARY SEARCH ALGORITHM \n";

int size,target;

cout<<"\nEnter the size of the Array:";

cin>>size;

cout<<"\nEnter the unique values:"<<endl;

int \*arr=new int(size);

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

cin>>arr[i];

cout<<"\nWhat value's Index you want to find?:";

cin>>target;

int result = binarySearch(arr, 0, size - 1, target);

(result == -1) ? cout << "\nElement not found...": cout << "\nElement found at index " << result;

getch();

}

**OUTPUT:**



