import java.util.\*;

public class BinarySearchExample {

public static void main(String args[]) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter number of elements: ");

int n = sc.nextInt();

int[] arr = new int[n];

System.out.println("Enter " + n + "sorted elements:");

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

arr[i] = sc.nextInt();

}

System.out.print("Enter element to search: ");

int key = sc.nextInt();

int result = binarySearch(arr, key);

if (result == -1)

System.out.println("Element not found.");

else

System.out.println("Element found at index: " + result);

}

public static int binarySearch(int[] arr, int key) {

int left = 0, right = arr.length - 1;

while (left <= right) {

int mid = (left + right) / 2;

if(arr[mid] == key)

return mid;

else if (arr[mid] < key)

left = mid + 1;

else

right = mid - 1;

}

return -1;

}

}