#include <stdio.h>

#include <stdlib.h>

int main()

{

int n;

scanf("%d",&n);

int arr[n],k;

for(int i=0;i<1000;i++)

{

k=rand()%n;

arr[k]=k;

}

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

printf("%d ",arr[i]);

printf("\n Key element:");

int key;

scanf("%d",&key);

int lb=0,ub=n-1,mid=(lb+ub)/2;

while(1)

{

if(key==arr[mid])

{

printf("Item is found");

break;

}

if(key<arr[mid])

ub=mid-1;

else

lb=mid+1;

if(lb>ub)

{

printf("Item is not in the list");

break;

}

mid=(lb+ub)/2;

}

return 0;

}