7. Implement a C program to perform a binary search on a sorted array with a user defined fuction.

```
#include <stdio.h>
#include <stdlib.h>
void search(int *a,int key,int n)
{
   int low,high,mid,i;
   low=0;
   high=n-1;
   mid=(low+high)/2;

   while(high!=low)
   {
   if(key==a[mid])
   {
      printf("The key %d is found in the position %d",key,mid+1);
      exit(0);
   }
   else if(key<a[mid])
   {
      high=mid-1;
   }
   else if(key>a[mid])
   {
      low=mid+1;
   }
```

```
    }
    printf("The key %d not found",key);
}
void main()
{
    int i,a[10];
    int n,key;
    printf("Enter the number of array elements\n");
    scanf("%d",&n);
    printf("Enter array elements in sorted order\n");
    for(i=0;i<n;i++)
    {
        scanf("%d",&a[i]);
    }
    printf("Enter the key to be found\n");
    scanf("%d",&key);
    search(a,key,n);
}
```

OUTPUT: