**/*C Program to implement Binary Search**

**Input : 1. Size of the array**

**2. Array elements in ascending order**

**3. Element you want to search in the array**

**Output : 1.Index of the key element on successful search**

**2. -1 on unsuccessful search**

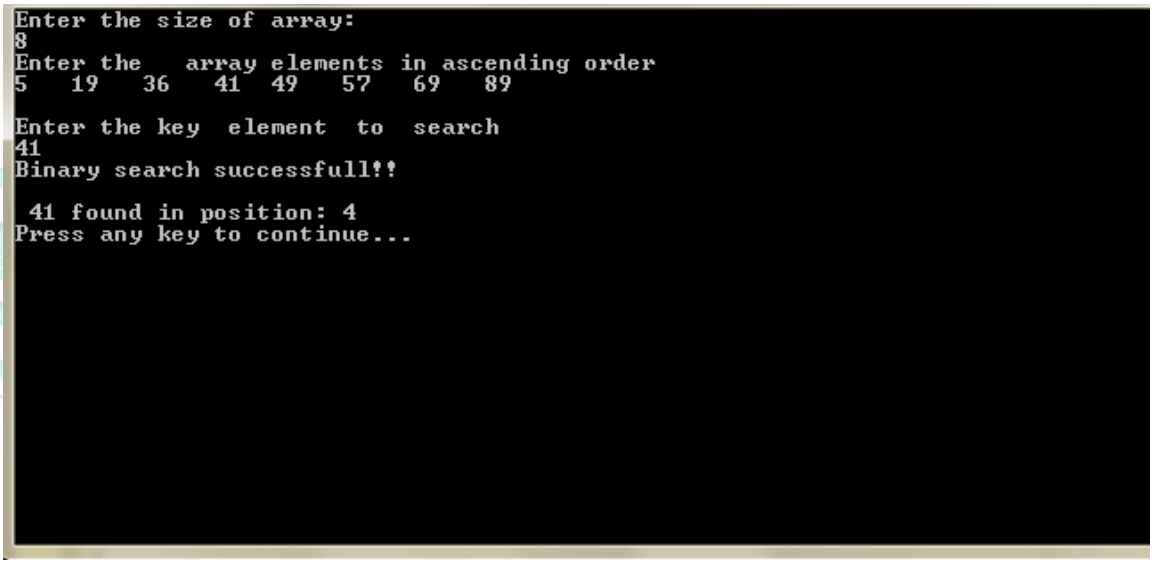
***/**

```
#include<stdio.h>
int main() {

 int n, a[30], item, i, j, mid, top, bottom;
 printf("Enter the size of array:\n");
 scanf("%d", &n);
 printf("Enter the   array elements in ascending order\n");
 for (i = 0; i < n; i++) {
  scanf("%d", &a[i]);
 }
 printf("\nEnter the key  element  to  search\n");
 scanf("%d", &item);
 bottom = 1;
 top = n;

 do {
  mid = (bottom + top) / 2;
  if (item < a[mid])
   top = mid - 1;
  else if (item > a[mid])
   bottom = mid + 1;
 } while (item != a[mid] && bottom <= top);
```

```
 if (item == a[mid]) {
  printf("Binary search successfull!!\n");
  printf("\n %d found in position: %d\n", item, mid + 1);
 } else {
  printf("\n  Search failed\n %d not found\n", item);
 }
 return 0;
}
```

Sample Input and Output:

1.




2.