

Binary search:

Code:

```
main.c
1  #include <stdio.h>
2
3  int main() {
4      int n, key;
5
6      printf("Enter number of elements: ");
7      scanf("%d", &n);
8
9      int arr[n];
10
11     printf("Enter %d sorted elements:\n", n);
12     for(int i = 0; i < n; i++) {
13         scanf("%d", &arr[i]);
14     }
15
16     printf("Enter element to search: ");
17     scanf("%d", &key);
18
19     int low = 0, high = n - 1, mid;
20     int found = 0;
21
22     while(low <= high) {
23         mid = (low + high) / 2;
24
25         if(arr[mid] == key) {
26             printf("Element found at position %d\n", mid + 1);
27             found = 1;
28             break;
29         }
30         else if(arr[mid] < key) {
31             low = mid + 1;
32         }
33         else {
34             high = mid - 1;
35         }
36     }
37
38     if(found == 0) {
39         printf("Element not found\n");
40     }
41
42     return 0;
43 }
44
```

Output:

```
Enter number of elements: 5
Enter 5 sorted elements:
12
34
21
14
67
Enter element to search: 67
Element found at position 5

...Program finished with exit code 0
Press ENTER to exit console.
```

```
Enter number of elements: 6
Enter 6 sorted elements:
23
43
14
67
89
30
Enter element to search: 12
Element not found
```