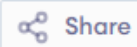


main.c



Run

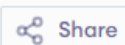
Output

```
1 //DAY 33
2 //Q65
3 #include <stdio.h>
4 int main() {
5     int arr[100], n, key;
6     int low, high, mid, found = 0;
7     printf("Enter the number of elements in the sorted array: ");
8     scanf("%d", &n);
9     printf("Enter %d elements in sorted order:\n", n);
10    for(int i = 0; i < n; i++) {
11        scanf("%d", &arr[i]);
12    }
13    printf("Enter the element to search: ");
14    scanf("%d", &key);
15
16    low = 0;
17    high = n - 1;
18    while(low <= high) {
19        mid = (low + high) / 2;
20        if(arr[mid] == key) {
21            printf("Element %d found at position %d.\n", key, mid + 1);
22            found = 1;
23            break;
24        }
25        else if(arr[mid] < key) {
26            low = mid + 1;
27        }
28        else {
29            high = mid - 1;
30        }
31    }
32    if(!found)
33        printf("Element %d not found in the array.\n", key);
34    return 0;
```

Enter the number of elements in the sorted array: 5
Enter 5 elements in sorted order:
1 3 5 7 9
Enter the element to search: 7
Element 7 found at position 4.

=== Code Execution Successful ===

main.c



Run

Output

```
1 //DAY 33
2 //Q66
3 #include <stdio.h>
4 int main() {
5     int arr[100], n, i, num, pos;
6
7     printf("Enter the number of elements in the sorted array: ");
8     scanf("%d", &n);
9
10    printf("Enter %d elements in sorted order:\n", n);
11    for(i = 0; i < n; i++) {
12        scanf("%d", &arr[i]);
13    }
14    printf("Enter the element to insert: ");
15    scanf("%d", &num);
16
17    pos = n; // assume element goes at the end
18    for(i = 0; i < n; i++) {
19        if(num < arr[i]) {
20            pos = i;
21            break;
22        }
23    }
24    for(i = n; i > pos; i--) {
25        arr[i] = arr[i - 1];
26    }
27    arr[pos] = num;
28    n++;
29
30    printf("Array after insertion:\n");
31    for(i = 0; i < n; i++) {
32        printf("%d ", arr[i]);
33    }
```

```
Enter the number of elements in the sorted array: 5
Enter 5 elements in sorted order:
1 2 4 5 6
Enter the element to insert: 3
Array after insertion:
1 2 3 4 5 6
```

=== Code Execution Successful ===