

9.

```
#include <stdio.h>
```

```
int main() {
```

```
    int arr[50], n, i, key, low, high, mid;
```

```
    printf("Enter the number of elements: ");
```

```
    scanf("%d", &n);
```

```
    printf("Enter %d sorted elements:\n", n);
```

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

```
        scanf("%d", &arr[i]);
```

```
    printf("Enter the number to search: ");
```

```
    scanf("%d", &key);
```

```
    low = 0;
```

```
    high = n - 1;
```

```
    while(low <= high) {
```

```
        mid = (low + high) / 2;
```

```
        if(arr[mid] == key) {
```

```
            printf("Element found at position %d\n", mid + 1);
```

```
            return 0;
```

```
        } else if(arr[mid] < key) {
```

```
            low = mid + 1;
```

```
        } else {
```

```
            high = mid - 1;
```

```
        }
```

```
    }
```

```
    printf("Element not found.\n");
```

```
    return 0;
```

```
}
```

Output

```
Enter the number of elements: 4
```

```
Enter 4 sorted elements:
```

```
6 7 8 9
```

```
Enter the number to search: 8
```

```
Element found at position 3
```

```
=== Code Execution Successful ===
```