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#include <stdio.h>

// Function to perform binary search
int binarySearch(int arr[], int n, int key) {
    int low = 0;
    int high = n - 1;

    while (low <= high) {
        int mid = (low + high) / 2;

        if (arr[mid] == key) {
            return mid; // Return the index of the key element
        } else if (arr[mid] < key) {
            low = mid + 1;
        } else {
            high = mid - 1;
        }
    }
    return -1; // Return -1 if the key element is not found
}

int main() {
    int n, key;

    // Get the number of elements from the user
    printf("Enter the number of elements: ");
    scanf("%d", &n);

    int arr[n];

    // Get the elements from the user
    printf("Enter %d elements in ascending order: ", n);
    for (int i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }

    // Get the key element to search for
    printf("Enter the element to search for: ");
    scanf("%d", &key);

    // Perform binary search
    int result = binarySearch(arr, n, key);

    // Display the result
    if (result == -1) {
        printf("Element not found in the array\n");
    } else {
        printf("Element found at index %d\n", result);
    }
}

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}  
    return 0;  
}
```