

BINARY SEARCH WITHOUT RECURSION:

```
#include <stdio.h>
int main() {
    int arr[10], n, key, i, low, high, mid, found = 0;
    printf("Enter number of elements: ");
    scanf("%d", &n);

    printf("Enter %d elements (in sorted order): ", n);
    for (i = 0; i < n; i++)
        scanf("%d", &arr[i]);

    printf("Enter element 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);
            found = 1;
            break;
        } else if (key < arr[mid]) {
            high = mid - 1;
        } else {
            low = mid + 1;
        }
    }
    if (!found)
        printf("Element not found.\n");
    return 0;
}
```

OUTPUT:

```
Enter number of elements: 5
Enter 5 elements (in sorted order): 10 20 30 40 50
Enter element to search: 20
Element found at position 2.
```