C:\Users\sohan\Desktop\C Programs\Data Structures Lab\binary search\binary.cpp - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

(globals)

binary.cpp

```
1   #include <stdio.h>
2
3   void binary_search(int [], int, int, int);
4   void bubble_sort(int [], int);
5
6   int main()
7   {
8       int key, size, i;
9       int list[25];
10
11      printf("Enter size of a list: ");
12      scanf("%d", &size);
13      printf("Enter elements\n");
14      for(i = 0; i < size; i++)
15      {
16          scanf("%d",&list[i]);
17      }
18      bubble_sort(list, size);
19      printf("\n");
20      printf("Enter key to search\n");
21      scanf("%d", &key);
22      binary_search(list, 0, size, key);
23
24  }
25
26  void bubble_sort(int list[], int size)
27  {
28      int temp, i, j;
29      for (i = 0; i < size; i++)
30      {
31          for (j = i; j < size; j++)
32          {
33              if (list[i] > list[j])
34              {
35                  temp = list[i];
36                  list[i] = list[j];
37                  list[j] = temp;
38              }
```

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(globals)

binary.cpp

```
30      {
31          for (j = i; j < size; j++)
32          {
33              if (list[i] > list[j])
34              {
35                  temp = list[i];
36                  list[i] = list[j];
37                  list[j] = temp;
38              }
39          }
40      }
41  }
42
43  void binary_search(int list[], int lo, int hi, int key)
44  {
45      int mid;
46
47      if (lo > hi)
48      {
49          printf("Key not found\n");
50          return;
51      }
52      mid = (lo + hi) / 2;
53      if (list[mid] == key)
54      {
55          printf("Key found\n");
56      }
57      else if (list[mid] > key)
58      {
59          binary_search(list, lo, mid - 1, key);
60      }
61      else if (list[mid] < key)
62      {
63          binary_search(list, mid + 1, hi, key);
64      }
65  }
66
```

Compiler Resources Compile Log Debug Find Results

Line: 1 Col: 1 Sel: 0 Lines: 66 Length: 1282 Insert Done parsing in 0.094 seconds

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ENG 15:12 12-10-2020

C:\Users\sohan\Desktop\C Programs\Data Structures Lab\binary search\binary.exe

```
Enter size of a list: 5
Enter elements
12
32
1
54
3

Enter key to search
54
Key found

--------------------------------
Process exited after 13.72 seconds with return value 0
Press any key to continue . . .
```