

Exp_01 - LInear and Binary Search (Recursive)\binSearch.c

```
1 #include <stdio.h>
2
3 int binarySearch(int arr[], int left, int right, int x)
4 {
5     if (right >= left)
6     {
7         int mid = left + (right - left) / 2;
8
9         if (arr[mid] == x)
10            return mid;
11
12        if (arr[mid] > x)
13            return binarySearch(arr, left, mid - 1, x);
14
15        return binarySearch(arr, mid + 1, right, x);
16    }
17
18    return -1;
19}
20
21 int main()
22 {
23     int arr[] = {2, 3, 4, 10, 40, 50, 70, 80};
24     int n = sizeof(arr) / sizeof(arr[0]);
25     int x;
26
27     printf("Enter element to search: ");
28     scanf("%d", &x);
29
30     int result = binarySearch(arr, 0, n - 1, x);
31
32     if (result == -1)
33         printf("Element is not present in array\n");
34     else
35         printf("Element is present at index %d\n", result);
36
37     return 0;
38 }
```