

S.No: 1	Exp. Name: <b>Write a Program to Search an element using Linear Search and Recursion</b>	Date:2025-04-08
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### Aim:

Write a program to search the given element from a list of elements with linear search technique using recursion.

**Note:** Write the functions **read1()** and **linearSearch()** in Program911a.c

### Source Code:

#### Program911.c

```
#include <stdio.h>
#include "Program911a.c"
void main() {
    int a[20], n, pos, key;
    printf("Enter n value : ");
    scanf("%d", &n);
    read1(a, n);
    printf("Enter a key element : ");
    scanf("%d", &key);
    pos = linearSearch(a, 0, n - 1, key);
    if (pos == -1) {
        printf("The key element %d is not found\n", key);
    } else {
        printf("The key element %d is found at position : %d\n", key, pos);
    }
}
```

#### Program911a.c

```
void read1(int a[], int n){
    printf("Enter %d elements : ",n);
    for(int i=0; i<n; i++){
        scanf("%d", &a[i]);
    }
}
int linearSearch(int a[], int i, int m, int key){
    for(i=0; i<m; i++){
        if(a[i]==key){
            return i;
            break;
        }
    }
    return -1;
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output

Enter n value : 4
Enter 4 elements : 10 20 15 12
Enter a key element : 15
The key element 15 is found at position : 2

Test Case - 2
User Output
Enter n value : 6
Enter 6 elements : 2 6 4 1 3 7
Enter a key element : 5
The key element 5 is not found