linear search using recursion:

```cpp
#include<iostream>
using namespace std;
int recSearch(int arr[], int l,
              int r, int x)
{
    if (r < l)
        return -1;
    if (arr[l] == x)
        return l;
    if (arr[r] == x)
        return r;
    return recSearch(arr, l + 1,
                     r - 1, x);
}

int main()
{
    int arr[] = {12, 34, 54, 2, 3}, i;
    int n = sizeof(arr) / sizeof(arr[0]);
    int x;
    cout<<"the array is\n";
    for(int i=0;i<n;i++)
    cout<<arr[i]<<endl;
    cout<<"enter the element to be searched\n";
    cin>>x;
    int index = recSearch(arr, 0, n - 1, x);
    if (index != -1)
    cout << "Element "
         << " is present at position "
         << index;
```

```cpp
    int index = recSearch(arr, 0, n - 1, x);
    if (index != -1)
    cout << "Element "
         << " is present at position "
         << index;
    else
        cout << "Element" << x
             << " is not present" ;
    return 0;
}
```

Output:

```
the array is
12
34
54
2
3
enter the element to be searched
54
Element  is present at position 2

...Program finished with exit code 0
Press ENTER to exit console.
```