Program

```c
#include <stdio.h>
int linearSearch(int arr[],int n,int target)
{
        for(int i=0;i<n;i++)
        {
                if(arr[i]==target){
                        return i+1;
                }
        }
        return -1;
}
void main()
{
        int n,i,target,result;
        printf("Enter array size:");
        scanf("%d",&n);
        int arr[n];
        for(i=0;i<n;i++)
        {
                printf("Enter element:");
                scanf("%d",&arr[i]);
        }
        printf("Enter element to be searched:");
        scanf("%d",&target);
        result=linearSearch(arr,n,target);
        if(result!=-1){
                printf("Element %d found at %d position.\n",target,result);
                }
        else{
                printf("Element %d not found in the list.\n",target);
        }
}
```

LINEAR SEARCH

Aim:

To implement the linear search algorithm.

Algorithm:

1. Start

2. Define a function linearSearch(int arr[],int n,int target)

3. In the linearSearch() function
   Begin for loop from i=0 to n

   ```
   if(arr[i]==target)
       return i+1
   End If
   return -1
   ```

4. In main function.
   Print "Enter array size:"
   Read input to n.
   Begin for loop from i=0 to n

   ```
   {
       Print"Enter element:"
       Read it to  arr[i]
   }
   ```

   Print "Element to be searched".
   Read it to target.
   result = linearSearch(arr,n,target)

   ```
   if(result!=-1){
       Print "Element (target) found at (result)"
   }
   else{
       Print "Element (target) not found in the list"
       }
   ```

5. Stop

Output

```
Enter array size:5

Enter element:3

Enter element:5

Enter element:7

Enter element:19

Enter element:13

Enter element to be searched:5

Element 5 found at 2 position.


Enter array size:5

Enter element:3

Enter element:5

Enter element:7

Enter element:19

Enter element:13

Enter element to be searched:12

Element 12 not found in the list.
```

Result:

Program has been executed successfully and obtained the output.