**Ex. No. 10a Linear Search**

**Date:**

**Aim :**

To perform linear search of an element on the given array.

**Algorithm :**

1. Start

2. Read number of array elements n

3. Read array elements Ai, i = 0,1,2,…n–1

4. Read search value

5. Assign 0 to found

6. Check each array element against search

If Ai = search then

found = 1

Print "Element found" Print position i

Stop

7. If found = 0 then

print "Element not found"

8. Stop

**Program:**

/\* Linear search on a sorted array \*/

#include <stdio.h>

#include <stdlib.h>

void main()

{

int a[50],i, n, val, found;

system("clear");

printf("Enter number of elements : ");

scanf("%d", &n);

printf("Enter Array Elements : \n");

for(i=0; i<n; i++)

scanf("%d", &a[i]);

printf("Enter element to locate : ");

scanf("%d", &val);

found = 0;

for(i=0; i<n; i++)

{

if (a[i] == val)

{

printf("Element found at position %d", i);

found = 1;

break;

}

}

if (found == 0)

printf("\n Element not found");

}

**Output:**

**Result :**

Thus an array was linearly searched for an element's existence