

8. Linear Search

Aim:

To search an element in an array using linear search.

Algorithm:

1. Read **n** and array elements.
2. Read search element **key**.
3. Traverse array: if element = key \rightarrow print position and exit.
4. Else element not found.

Code:

```
#include <stdio.h>

int main() {
    int a[20], n, i, key;
    printf("Enter size: ");
    scanf("%d", &n);
    printf("Enter elements: ");
    for (i=0; i<n; i++) scanf("%d", &a[i]);
    printf("Enter element to search: ");
    scanf("%d", &key);
    for (i=0; i<n; i++) {
        if (a[i]==key) {
```

```
        printf("Element found at position %d\n", i);  
        return 0;  
    }  
}  
  
printf("Element not found\n");  
  
return 0;  
}
```

Input & Output:

Enter size: 5

Enter elements: 10 20 30 40 50

Enter element to search: 30

Element found at position 2

Result:

Linear search is successfully implemented.