



Presentation on **Linear Search**

What is search?

Search is the process of looking for something.



What is linear search?

linear search or **sequential search** is a method for finding a target value within a list. It sequentially checks each element of the list for the target value until a match is found or until all the elements have been searched.

Pseudocode

For all elements

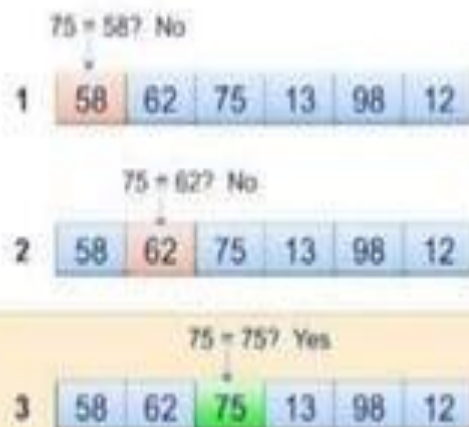
Check if it is equal to element being searched
for.

If it is, return its position.

else continue.

Example

Linear Search – Search for 75



Discussion

- ⦿ Sorted array is not needed.
- ⦿ Works fine for small number of elements .Search time increases with number of elements.
- ⦿ Elements with higher probability of being searched should be kept in the beginning.

```
Int main()
{
Int arr[5]={10,20,30,40,50};
Key=50;
// Linear Search
for(i = 0; i < 5; i++) {
    if(arr[i] == key) {
        printf("Element found at position %d\n", i + 1);
        found = 1;
        break;
    }
}

if(!found) {
    printf("Not Found\n");
}

return 0;
}
```



Problem Statement: Search Student Roll Number

A class teacher maintains an array of student roll numbers.

Write a C program using **linear search** to check whether a given roll number is present in the list.

If present, display "Roll number found";
otherwise display "Roll number not found".