

Experiment 8: Linear Search

Aim:

To search a number using linear search.

Algorithm:

1. Start.
2. Input array.
3. Read key.
4. Loop through array to check key.
5. Print position if found, else not found.
6. Stop.

Code:

```
#include <stdio.h>
```

```
int main() {  
    int a[100], n, i, key, found = 0;  
    printf("Enter number of elements: ");  
    scanf("%d", &n);  
    printf("Enter %d elements: ", n);  
    for(i = 0; i < n; i++)  
        scanf("%d", &a[i]);  
  
    printf("Enter the element to search: ");  
    scanf("%d", &key);  
  
    for(i = 0; i < n; i++) {  
        if(a[i] == key) {  
            printf("Element found at position %d\n", i + 1);
```

```
        found = 1;
        break;
    }
}
if(!found)
    printf("Element not found\n");
return 0;
}
```

Sample Output:

```
Enter number of elements: 4
Enter 4 elements: 1 2 3 4
Enter the element to search: 2
Element found at position 2

=== Code Execution Successful ===
```

Result:

The program successfully implements linear search.