AIM

To write a C program to search for a given number in an array using the Linear Search method.

ALGORITHM

1. Start
2. Read the number of elements `n` and the array elements.
3. Read the search element `key`.
4. Repeat from `i = 0` to `n-1`:
    - If `arr[i] == key`, then the element is found at position `i+1`.
    - Exit loop.
5. If the loop ends and the element is not found, print “Element not found”.
6. End
1.

CODE:

```
#include <stdio.h>

int main() {
    int arr[100], n, key, i, found = 0;

    printf("Enter number of elements: ");
    scanf("%d", &n);

    printf("Enter %d elements:\n", n);
    for (i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }
```

```
    printf("Enter the element to search: ");
    scanf("%d", &key);

    for (i = 0; i < n; i++) {
        if (arr[i] == key) {
            printf("Element %d found at position %d.\n", key, i + 1);
            found = 1;
            break;
        }
    }

    if (!found) {
        printf("Element %d not found in the array.\n", key);
    }

    printf("\nProgram executed successfully - Linear Search done.\n");
    return 0;
}
```

INPUT AND OUTPUT

```
Enter number of elements: 2
Enter 2 elements:
5
2
Enter the element to search:
5
Element 5 found at position 1.

Program executed successfully - Linear Search done.


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

RESULT:

The C program to search a number using the Linear Search method was successfully executed and the expected output was obtained.