

Understanding Time and Space Complexity in Non-Recursive Algorithms

Write a C Program and calculate its time complexity

```
#include <stdio.h>

int linear_search(int arr[], int n, int target) {
    for (int i = 0; i < n; i++) {
        if (arr[i] == target) {
            return i; // Target found, return its index
        }
    }
    return -1; // Target not found, return -1
}

int main() {
    int arr[] = {3, 5, 2, 4, 9, 10, 7};
    int n = sizeof(arr) / sizeof(arr[0]);
    int target = 9;

    int result = linear_search(arr, n, target);

    if (result != -1) {
        printf("Element found at index %d\n", result);
    } else {
        printf("Element not found in the array\n");
    }

    return 0;
}
```