1. **Linear search**

**Code:**

#include <stdio.h>

// Function to perform linear search

int linearSearch(int arr[], int n, int key) {

for (int i = 0; i < n; i++) {

if (arr[i] == key) {

return i; // Return the index where the key is found

}

}

return -1; // Return -1 if the key is not found

}

int main() {

int arr[100], n, key, index;

printf("Enter the number of elements in the array: ");

scanf("%d", &n);

printf("Enter the elements of the array: ");

for (int i = 0; i < n; i++) {

scanf("%d", &arr[i]);

}

printf("Enter the element to search: ");

scanf("%d", &key);

index = linearSearch(arr, n, key);

if (index != -1) {

printf("Element found at index %d\n", index);

} else {

printf("Element not found\n");

}

return 0;

}

**Output:**

Enter the number of elements in the array: 10

Enter the elements of the array: 1 5 9 7 3 8 2 4 6 0

Enter the element to search: 3

Element found at index 4

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Process exited after 26.73 seconds with return value 0

Press any key to continue . . .

