LINEAR SEARCH

C/C++

```
#include <iostream>
using namespace std;

int linearSearch(int arr[], int size, int target) {
	for (int i = 0; i < size; i++) {
		if (arr[i] == target) {
			return i;
		}
	}
	return -1;
}

int main() {
	int arr[] = {5, 3, 8, 4, 2};
	int size = sizeof(arr) / sizeof(arr[0]);
	int target;

	cout << "Enter a number to search: ";
	cin >> target;

	int result = linearSearch(arr, size, target);
	if (result != -1) {
		cout << "Element found at index: " << result << endl;
	} else {
		cout << "Element not found." << endl;
	}
	return 0;
}
```

Output

```
Enter a number to search: 5
Element found at index: 0
```

BINARY SEARCH

C/C++

```
#include <iostream>
using namespace std;

int binarySearch(int arr[], int size, int target) {
int left = 0;
int right = size - 1;

while (left <= right) {
	int mid = left + (right - left) / 2;
	if (arr[mid] == target) {
		return mid;
	}
	if (arr[mid] < target) {
		left = mid + 1;
	} else {
		right = mid - 1;
	}
}
return -1; // Return -1 if not found
}

int main() {
	int arr[] = {2, 3, 4, 5, 8};
	int size = sizeof(arr) / sizeof(arr[0]);
	int target;

	cout << "Enter a number to search: ";
	cin >> target;

	int result = binarySearch(arr, size, target);
	if (result != -1) {
		cout << "Element found at index: " << result << endl;
	} else {
		cout << "Element not found." << endl;
	}
	return 0;
}
```

Output

```
Enter a number to search: 5
Element found at index: 3
```