#include <stdio.h>

int binary_search(int arr[], int len, int k) {
    int low = 0, high = len - 1, mid;
    while (low <= high) {
        mid = (low + high) / 2;
        if (arr[mid] == k)
            return mid;
        else if (arr[mid] > k)
            high = mid - 1;
        else
            low = mid + 1;
    }
    return -1;
}

int main() {
    int arr[] = { 3, 5, 5, 7, 8, 10, 13, 24, 29, 29, 30, 33 };
    int x = 33;
    int idx = binary_search(arr, 12, x);
    if (idx == -1)
        printf("%d could not be found in the array\n", x);
    else
        printf("%d is in idx %d\n", x, idx);
    return 0;
}