// CPP program to implement

// Binary Search in

// Standard Template Library (STL)

#include <algorithm>

#include <iostream>

using namespace std;

void show(int a[], int arraysize)

{

    for (int i = 0; i < arraysize; ++i)

        cout << a[i] << ",";

}

int main()

{

    int a[] = { 1, 5, 8, 9, 6, 7, 3, 4, 2, 0 };

    int asize = sizeof(a) / sizeof(a[0]);

    cout << "\nThe array is : \n";

    show(a, asize);

    cout << "\n\nLet's say we want to search for ";

    cout << "\n2 in the array So, we first sort the array";

    sort(a, a + asize);

    cout << "\n\nThe array after sorting is : \n";

    show(a, asize);

    cout << "\n\nNow, we do the binary search";

    if (binary\_search(a, a + 10, 2))

        cout << "\nElement found in the array";

    else

        cout << "\nElement not found in the array";

    cout << "\n\nNow, say we want to search for 10";

    if (binary\_search(a, a + 10, 10))

        cout << "\nElement found in the array";

    else

        cout << "\nElement not found in the array";

    return 0;

}