#include <iostream>

const int NUMEL = 5;

int binarySearch(int [], int, int);

int main()

{

int nums[NUMEL] = {5,10,22,32,45};

int item, location;

cout << "\nEnter the item you are searching for: ";

cin >> item;

location = binarySearch(nums, NUMEL, item);

if (location > -1)

cout << "The item was found at index location " << location << endl;

else

cout << "The item was not found in the array\n";

return 0;

}

// this function returns the location of key in the list

// a -1 is returned if the value is not found

int binarySearch(int list[], int size, int key)

{

int left, right, midpt = 0;

right = size - 1;

while (left <= right)

{

midpt = (int) ((left + right) / 2);

if (key == list[midpt])

{

return midpt;

}

else if (key > list[midpt])

left = midpt + 1;

else

right = midpt - 1;

}// end while

return -1;

}// end function