#include <iostream>

using namespace std;

//非递归二分查找

int binSearch(int srcArray[], int n, int key) {

int mid;

int start = 0;

int end = n - 1;

while (start <= end) {

mid = (end - start) / 2 + start;

if (key < srcArray[mid]) {

end = mid - 1;

}

else if (key > srcArray[mid]) {

start = mid + 1;

}

else {

return mid;

}

}

return -1;

}

//递归二分查找

int binSearch(int srcArray[], int start, int end, int key) {

int mid = (end - start) / 2 + start;

if (srcArray[mid] == key) {

return mid;

}

if (start >= end) {

return -1;

}

else if (key > srcArray[mid]) {

return binSearch(srcArray, mid + 1, end, key);

}

else if (key < srcArray[mid]) {

return binSearch(srcArray, start, mid - 1, key);

}

return -1;

}

int main() {

int srcArray[] = { 3,5,11,17,21,23,28,30,32,50,64,78,81,95,101 };

int len = sizeof(srcArray) / sizeof(int);

cout << binSearch(srcArray, 0, len - 1, 110) << endl;

cout << binSearch(srcArray, len, 81) << endl;

}