#include<vector>

using namespace std;

int firstOcc(vector<int>& arr, int n, int key) {

int s = 0, e = n-1;

int mid = s + (e-s)/2;

int ans = -1;

while(s<=e) {

if(arr[mid] == key){

ans = mid;

e = mid - 1;

}

else if(key > arr[mid]) {//Right me jao

s = mid + 1;

}

else if(key < arr[mid]) {//left me jao

e = mid - 1;

}

mid = s + (e-s)/2;

}

return ans;

}

int lastOcc(vector<int>& arr, int n, int key) {

int s = 0, e = n-1;

int mid = s + (e-s)/2;

int ans = -1;

while(s<=e) {

if(arr[mid] == key){

ans = mid;

s = mid + 1;

}

else if(key > arr[mid]) {//Right me jao

s = mid + 1;

}

else if(key < arr[mid]) {//left me jao

e = mid - 1;

}

mid = s + (e-s)/2;

}

return ans;

}

pair<int, int> firstAndLastPosition(vector<int>& arr, int n, int k)

{

pair<int,int> p;

p.first = firstOcc(arr, n, k);

p.second = lastOcc(arr, n, k);

return p;

}