Problem 2: Simple Queries

Time Limit: 1 sec

Memory Limit: 32 MB

You don't have much time to read stories so we are going directly to the problem-

You have an array **A[1......],** with infinitely many elements. Initially all elements are set to **0.** You need to answer **Q** queries. Each Query is given in form **[L$_i$, R$_i$].** To answer a query you need to do 3 jobs -

1. Print the value of **A[L] + A[R].**
2. Set **A[L] = A[R] = 0**
3. Add 1 to the values of **A[L+1], A[L+2], ... , A[R-2], A[R-1].**

Input Description

First line of the input file contains a number **Q-** the number of queries. Then there will be **Q** lines, **i-th** line will contain 2 integers **L$_i$, R$_i$**

Output Description

Print the desired value in a seperate line and also update the main array as expected.

Constrains

For 40% of the total score, **Q <= 100, 1 <= L < R <= 2500**

For perfect score, **Q <= 10^5, 1 <= L < R <= 10^5**

Sample

Input	Output
4 1 4 3 7 1 6 2 6	0 1 1 2

Explanation

Initially the array is **{0,0,0,0,0,0,0,0.........}**
First query [1,4] - A[1] + A[4] = 0, so we print 0, Set A[1] = A[4] = 0 and now add 1 to the elements A[2], A[3]. The array look like **{0,1,1,0,0,0,0,0,0,.......}**
Second query [3,7] - A[3] + A[7] = 0, so we print 0, Set A[3] = A[7] = 0 and now add 1 to the elements A[4], A[5], A[6]. The array look like **{0,1,0,1,1,1,0,0,0,...}**
Third query [1,6] - A[1] + A[6] = 1, we print 1. Set A[1] = A[6] = 0, and add 1 to the elements A[2], A[3], A[4], A[5]. The array look like **{0,2,1,2,2,0,0,0.....}**
Forth query [2,6] - A[2] + A[6] = 2, we print 2, set A[2] = A[6] = 0, and add 1 to the elements A[3], A[4], A[5]. The array look like - **{0,0,2,3,4,0,0,0,.....}**
Hint: We never wanted you to output the main array :D It is infinity in size :D