

Q. Gazra and Complex

time limit per test: 1 second
memory limit per test: 64 megabytes

Gazra recently learned about triangular numbers. Complex thinks Gazra hasn't learnt it properly and started asking questions. But, As we all know Gazra is one of the most intelligent on this planet. He answered each and every question correctly. This annoyed Complex and he geared up his question's level and started asking even harder questions. Gazra can't answer such big questions manually. So, He decided to write a computer program which can answer Complex's questions.

Gazra is good at mathematics but not at programming (**Don't Doubt His Intelligence**). So, he hired you (**A World Class Programmer**) to write a computer program which can answer Complex's questions within time.

Each question, Complex has given a range $[L, R]$ and asked Gazra to calculate numbers of such triplets $[A, B, K]$ which follows.

$$A + B = K$$

where A, B are any two triangular numbers and K must be an integer that belongs to the given range $[L, R]$.

Input

The first line of input contains a single integer T ($1 \leq T \leq 100$) denotes the number of Complex's questions.

Next T lines of input each contains two space separated integers L and R ($1 \leq L \leq R \leq 10^9$) each describing one question.

Output

Output consists of T lines each containing answer to the corresponding question.

Example

input	Copy
2 1 5 16 16	
output	Copy
2 2	

Note

If you are not familiar with the triangular numbers learnt, follow this link first
http://en.wikipedia.org/wiki/Triangular_number.

For #test 1: $L = 1, R = 5$:: Two such triplets are $[1, 1, 2]$, $[1, 3, 4]$ which satisfies the given criteria. triplet $[3, 1, 4]$ also satisfies the given criteria but we will not consider it as this triplet contains the same set of elements as that of a triplet $[1, 3, 4]$.

For #test 2: $L = 16, R = 16$:: Two such triplets are $[1, 15, 16]$, $[6, 10, 16]$ which satisfies the given criteria.

ICPC Assiut University Training - Juniors Phase 1 Sheets-2022

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→ Group Contests

- Juniors Phase 1 Practice #5 (Bitmask, Bitset, Bits)
- Juniors Phase 1 Practice #4 (Binary search , Two pointers)
- Juniors Phase 1 Practice #3 (STL 2)
- Juniors Phase 1 Practice #2 (STL 1)
- Juniors Phase 1 Practice #1 (Prefix sum , Frequency Array)

Juniors Phase 1 Practice #4 (Binary search , Two pointers)

Finished

Practice

→ About Time Scaling

This contest uses time limits scaling policy (depending on a programming language). The system automatically adjusts time limits by the following multipliers for some languages. Despite scaling (adjustment), the time limit cannot be more than 30 seconds. Read the details by the [link](#).

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Submit?

Language: GNU G++20 13.2 (64 bit, win

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
312641672	Mar/27/2025 06:54	Accepted
312641618	Mar/27/2025 06:53	Wrong answer on test 2