



Real obtuse

Problem Code: **OBTTRNGL**

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as well.

On the occasion of the birthday, Chef bought a large circular cake and decorated it with **k** candles placed equally spaced around the circumference of the cake, i.e. the lengths of the arcs that connect any two adjacent candles are equal.

Chef enumerated the candles from **1** to **k** in clockwise manner. He then chose two candles, say **A** and **B** and lit them up. Now, he left the kitchen and decided to come back in some time with friends to celebrate the birthday.

Meanwhile Chef's little brother came to the kitchen and saw the cake. He wants to light up one of the not lit candles **C** such that angle **ACB** is an obtuse angle. He believes that such a pattern of lit candles will be auspicious. Can you find out how many candles **C** he can light up?

Input

The first line contains a single integer **T**, the number of test cases. Each test case is described by a single line containing three space-separated integers **k**, **A**, **B**.

Output

For each test case, output a single line containing one integer: the answer for the test case.

Constraints

- $1 \leq T \leq 10^5$
- $3 \leq k \leq 10^9$
- $1 \leq A, B \leq k$
- $A \neq B$

Example

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Input :

3
6 1 3
6 1 4
10 1 5

Output :

1
0
3

Explanation

Example case 1. Only candle with number **2** is suitable.

Example case 2. No matter how we choose **C** the angle would have **90** degrees.

Example case 3. Candles with numbers **2,3,4** are suitable.

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Date Added: 17-08-2017

Time Limit: 2 secs

Source Limit: 50000 Bytes

Languages: ADA, ASM, BASH, BF, C, C99 strict, CAML, CLOJ, CLPS, CPP
4.3.2, CPP 6.3, CPP14, CS2, D, ERL, FORT, FS, GO, HASK, ICK,
ICON, JAVA, JS, kotlin, LISP clisp, LISP sbcl, LUA, NEM, NICE,
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