

## Problem 8. Romualdych and remainders

Input file: `input.txt`  
Output file: `output.txt`  
Time limit: 2 seconds  
Memory limit: 256 megabytes

Old man Romualdych learned about division with remainders and it just threw him off the hinges. The thing got him all mixed up and sweating like a pig. What a sad sight he was, hoping to find some number  $x$  in the interval  $[a, b]$ , that would produce the specified remainder  $r$  when divided by some number  $y$ . Let's face it — Romualdych is not the sharpest tool in the shed, and even if he sinks his few remaining teeth into the task, he is not likely to cope without your help.

### Input

The first line contains a single integer  $T$  — the number of tests in the file ( $1 \leq n \leq 200\,000$ ).

Each of the following  $T$  lines contains three integers:  $a$ ,  $b$  — interval bounds, and  $r$  — required remainder ( $0 \leq a \leq b \leq 10^{18}$ ,  $0 \leq r \leq 10^{18}$ ).

### Output

Print  $T$  answers in the same order as the tests in the input file are given, one answer per line.

Each answer consists of two integers  $x$  and  $y$ , such that  $a \leq x \leq b$ ,  $1 \leq y \leq 2 \cdot 10^{18}$ , and the remainder from the division of  $x$  by  $y$  equals  $r$ . If there are several possible answers that fit all the requirements, choose any answer with the minimal  $x$ . If there are no possible answers, print two integers:  $x = -1$  and  $y = -1$ .

### Example

<code>input.txt</code>	<code>output.txt</code>
2	6 3
6 8 0	-1 -1
3 5 10	

### Example explanation

In the first test, 6 is divided by 3, and the remainder is indeed 0. Since 6 is the smallest number in the interval  $[6, 8]$ , this is the correct answer. Instead, the following answer can be printed too:  $x = 6$  and  $y = 2$  (minimizing  $y$  is not required), while the answer  $x = 8$  and  $y = 4$  cannot be printed, because its  $x$  is not minimal.

In the second test, there are no answers, since it is impossible to get a remainder of 10 for  $x$  in the interval  $[3, 5]$  regardless of the  $y$  it is divided by.