

# Problem 3. Quadratic equation

## Problem description

Solving a linear equation is too hard, so we will solve a quadratic equation. A quadratic equation is of the form  $ax^2 + bx + c = 0$ , where  $a, b, c$  are constant real numbers and the unknown  $x \in \mathbb{R}$ .

Given the coefficients  $a, b$  and  $c$ , your task is to solve the quadratic equation  $ax^2 + bx + c = 0$ .

To make the problem easier,  $a$  **may be zero**. To make the problem harder, it is guaranteed that  $a, b, c \in \mathbb{Z}$ .

Solve the equation and output the solution(s).

- If the equation is a quadratic one, your output should be of one of the following forms (where `???` is replaced with the exact solution):
  - `x1 = x2 = ???`
  - `x1 = ???, x2 = ???` where  $x_1 < x_2$
  - `No solution.`
- Otherwise, your output should be of one of the following forms (where `???` is replaced with the exact solution):
  - `x = ???`
  - `No solution.`
  - `x \in \mathbb{R}`, indicating  $x \in \mathbb{R}$  in *L<sup>A</sup>T<sub>E</sub>X*

All the output numbers should be rounded to **three decimal places**.

It is guaranteed that  $|a|, |b|, |c| \leq 100$ .

The first five testcases are linear equations. The rest are quadratic equations.

## Examples

### Example 1

Input

```
1 2 1
```

Output

```
x1 = x2 = -1.000
```

### Example 2

Input

```
1 0 1
```

Output

No solution.

### Example 3

Input

0 0 0

Output

$x \in \mathbb{R}$

### Example 4

Input

1 3 2

Output

$x_1 = -2.000, x_2 = -1.000$