



HOME CONTESTS GYM PROBLEMSET GROUPS RATING API CANADA CUP 🛣 SECTIONS

PROBLEMS SUBMIT STATUS STANDINGS CUSTOM TEST

# B. Simple Molecules

time limit per test: 1 second memory limit per test: 256 megabytes input: standard input output: standard output

Mad scientist Mike is busy carrying out experiments in chemistry. Today he will attempt to join three atoms into one molecule.

A molecule consists of atoms, with some pairs of atoms connected by atomic bonds. Each atom has a valence number — the number of bonds the atom must form with other atoms. An atom can form **one or multiple** bonds with any other atom, but it cannot form a bond with itself. The number of bonds of an atom in the molecule must be equal to its valence number.

Mike knows valence numbers of the three atoms. Find a molecule that can be built from these atoms according to the stated rules, or determine that it is impossible.

#### Input

The single line of the input contains three space-separated integers a,b and c  $(1 \le a,b,c \le 10^6)$  — the valence numbers of the given atoms.

## Output

If such a molecule can be built, print three space-separated integers — the number of bonds between the 1-st and the 2-nd, the 2-nd and the 3-rd, the 3-rd and the 1-st atoms, correspondingly. If there are multiple solutions, output any of them. If there is no solution, print "Impossible" (without the quotes).

### Examples

input		
1 1 2		
output		
0 1 1		

input	
3 4 5	
output	
1 3 2	

input	
4 1 1	
output	
Impossible	

### Note

The first sample corresponds to the first figure. There are no bonds between atoms 1 and 2 in this case.

The second sample corresponds to the second figure. There is one or more bonds between each pair of atoms.

The third sample corresponds to the third figure. There is no solution, because an atom cannot form bonds with itself.

The configuration in the fourth figure is impossible as each atom must have at least one atomic bond.

#### → Attention

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

### Codeforces Round #200 (Div. 2)

#### **Finished**

## → 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 ACM-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



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## → Contest materials

- Announcement
- Tutorial

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