CODEFORCES β
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acmASCIS Session 1 (test)

A. Relations

time limit per test: 1 second
memory limit per test: 64 megabytes
input: standard input
output: standard output

You will be given two numbers X and Y and you will have to define the relation between them. It can be one of the following relations :

- X greater than Y.

- X smaller than Y.

- X equals Y.

Input
The input consists of two numbers X and Y (-10^12<x, y<10^12).

Output
Print one line containing the right relational operator ">", "<", "=" without quotes.

Sample test(s)

input
1 2
output
<

input
10 10
output
=

B. Calculator

time limit per test: 1 second
memory limit per test: 64 megabytes
input: standard input
output: standard output

Koko is a new student in FCIS and he has attended the first session in acmASCIS level 1. He wants to make a simple calculator. He wants his calculator to be able to add, subtract, multiply and divide two integers.

Input
The input consists of an integer X then symbol('+' or '-' or '*' or '/' without the quotes) then another integer Y. (0<|X|, |Y|<10^4).

Output
For each test case, print the result of the calculation made by koko's calculator.

Sample test(s)

input
3+5
output
8

input
5*5
output
25

input
25/3
output
8

Note
Note that the division in this calculator is an integer division.

C. Rectangle

time limit per test: 1 second
memory limit per test: 64 megabytes
input: standard input
output: standard output

Given two coordinates in a rectangle "ABCD", you are asked to calculate the other two coordinates.

Input

The first line contains four space-separated integers x1, y1, x2, y2 (-100 ≤ x1, y1, x2, y2 ≤100), (x1 ≠ x2 and y1 ≠ y2), where (x1,y1) and (x2,y2) are point D,B or B,D.

Output

Print the four coordinates in this format "(Ax,Ay)(Bx,By)(Cx,Cy)(Dx,Dy)" without the quotes.

Sample test(s)

input
0 0 10 5
output
(0,5)(10,5)(10,0)(0,0)

input
10 5 0 0
output
(0,5)(10,5)(10,0)(0,0)

D. Lucky mom

time limit per test: 1 second
memory limit per test: 64 megabytes
input: standard input
output: standard output

Our mother has N chocolates and she wants to divide them between her two children in a fair way.

So if the number of chocolate is odd she will have to take one from them.

Help us to know if our mother is lucky enough to take a chocolate or not.

Input
The input consists of one integer N, (0 < N < 2000), which indicates the number of chocolates our mother has.

Output
Print the word "lucky" if our mother is lucky enough to take a chocolate otherwise print "unlucky" without the quotes.

Sample test(s)

input
5
output
lucky

input
4
output
unlucky

E. Sprint

time limit per test: 1 second
memory limit per test: 64 megabytes
input: standard input
output: standard output

Ahmed is so competitive, in this weekend he challenged his friends Ali and Mohamed to reach the playground before them.

And because of his fitness, he won the race.

If you have the time that everyone took to reach the playground, Can you guess which one belongs to Ahmed?!

Input
Three integers A, B and C (1 <= A, B, C <=10000) represent the time that everyone took to reach the playground in seconds.

Output
Print which time did Ahmed take to reach the playground.

Sample test(s)

input
100 140 130
output
100

input
233 198 201
output
198

F. Esto3'omaya

time limit per test: 1 second
memory limit per test: 64 megabytes
input: standard input
output: standard output

Esto3'omaya is an old Egyptian game consisting of 4 players where one of them counts from 1 to 10 then searches for the other 3 players and the last one of those 3 players he finds wins the game.

Given the time at which each player appears, determine who the winner is.

In this problem you will be given 3 integers each one represents the time (in minutes) that the player appears in, find the winner of the game.

Input
The input consists of 3 integers A, B, C. (0 < A, B, C < 100) and (A≠B≠C).

Output
Output on a line that consists of the number of the winner.

Sample test(s)

input
3 2 1
output
1

input
10 15 20
output
3

G. Leap of Faith

time limit per test: 1 second
memory limit per test: 64 megabytes
input: standard input
output: standard output

You may have played "Assassin's Creed" game before, but did you try to perform it yourself?! Excited?!

Before doing it you must realize the risks of the jump to decide performing it or not.

You will be given the height of the building in meters. You have to calculate your velocity at the moment you will hit the floor (m/s).

Input
You will be given an integer H (1 <= H <= 1000) the height of the building in meters.

Output
Print the impact velocity. The output should be rounded to three decimal points.

Sample test(s)

input
15
output
17.321

input
18
output
18.974

input
720
output
120.000

Note
- Assume that the acceleration of the gravity = 10 m/s^2.

- You are initially standing on the top of the building.

- (Velocity)^2 = (initial Velocity)^2 + 2*G*H (m/s).

H. Recognize The Shape

time limit per test: 1 second
memory limit per test: 64 megabytes
input: standard input
output: standard output

Ahmed has a shape and doesn't know if that shape is a square or a rectangle or both, but he has the area of the shape.

Please help Ahmed recognize the shape.

Input
The single line of the input contains integer A (1 ≤ A ≤ 10^5) which denotes the area of a shape.

Output
Print "Rectangle" if the shape is a rectangle, "Square" if the shape is a square, and if it can be both print "Unknown".

Sample test(s)

input
6
output
Rectangle

I. To Buy or not to Buy

time limit per test: 1 second
memory limit per test: 64 megabytes
input: standard input
output: standard output

Temoon decided to buy a new car, he has L pounds and he wants to buy a good car, but the price of good cars begins at R pounds.

He goes to a car agency on Friday to buy a new car. Write a program to help Temoon.

Input
The input consists of two lines.

The first line consists of two numbers L, R (3000 ≤ L, R ≤ 10^10, L ≥ R).

The second one consists of one number P (3000 ≤ P ≤ 10^10) which denotes to price of a car.

Output
Print "YES" if he can buy a car otherwise Print "NO" without quotes.

Sample test(s)

input
15000 10000 13000
output
YES

input
25000 17000 30000
output
NO

J. Absolute Subtraction

time limit per test: 1 second
memory limit per test: 64 megabytes
input: standard input
output: standard output

Omar has a problem calculating the absolute subtraction of two numbers, since he can’t recognize the bigger number. Your objective is to write a program which takes the value of two numbers and output the absolute difference between the two numbers.

Input
The input consists two integers X and Y (0 ≤ |x|,|y| < 10^3).

Output
Print one line containing the absolute (non-negative) value of the difference between the two numbers.

Sample test(s)

input
5 7
output
2

input
7 5
output
2

K. Mysterious Machine

time limit per test: 1 second
memory limit per test: 64 megabytes
input: standard input
output: standard output

"MUWAHAHAHAHAHAA, IT IS ALIVE!" Dr.Codenstein said in his lab. Dr.Codenstein has just invented a mysterious machine that no one knows what it does. Not even himself!

Trying to figure out what the machine does he gave it some numbers, "SUM...SUM..SUM..SUM" the machine said, then it gave back some other numbers, but the doctor can't figure out the relation between the input and output.

Can you find the relation and simulate the machine?

Input
Tests consist of a single integer N (1≤ N ≤10^9).

Output
Print the machine's response.

Sample test(s)

input
1
output
1

input
10
output
55

input
4
output
10

L. Boring

time limit per test: 1 second
memory limit per test: 64 megabytes
input: standard input
output: standard output

Have you ever heard about "Loops"?!..

Hmmm.."Loop" is a way that we use in problem solving to repeat some operations many times without writing the same code again and again.

To understand the concept of "Loops" you will have to pass this problem in the boring way.

Input
Given 5 integers N (1≤N≤10^9).

Output
Print X Y - which X is the number of odd numbers, and Y is the number of even numbers .

Sample test(s)

input
1 2 3 4 5
output
3 2

input
10 100 1000 10000 100000
output
0 5

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