



**PRO
SOL
VE**

7.0

TALK IS CHEAP, SHOW US THE CODE

Competitive Programming

MOCK

This problem set contains 5 questions (1-5)

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Organized by

Artificial Intelligence Society (AIS) UiTM Shah Alam

PROBLEM 1

TOTAL AND MEAN

Author: Amirun

You are required to find the total and mean of data collected for 10 cities for this month. The data contain the number of kidnapping that happened in the cities.

Input

The first line of the input contains an integer N ($1 \leq N \leq 5$), the number of test cases. Following the first line are the test cases. The line of input are 10 Integer numbers ($1 \leq N \leq 500$) which indicate the number of kidnapping happened in 10 cities.

Output

The output will show the total number of car thefts for all 10 cities and the mean score.

Sample Input	Sample Output
1 10 12 22 45 16 19 21 2 20 21	188 18
3 10 15 60 55 17 23 41 5 18 14 12 12 12 12 12 12 12 12 12 12 92 23 120 43 12 55 34 129 10 90	258 25 120 12 608 60

PROBLEM 2

CLUMSY HOUKI

Author: Azrai

Houki likes puzzles. She will always send tricky messages to her friend in emails. You found out that Houki types random characters and reverses her letters. In a sentence, characters are all jumbled up. Your task is to remove everything except the alphabet(s) and print out her actual message!

Input

The line contains a single string S , where length of S is n ($1 \leq n \leq 1000$). Inside S there shall be no whitespace and will have at least one alphabet.

Output

Print out only alphabet(s) in a reverse manner.

Sample Input	Sample Output
E2&(*v\$%^o798!L* @	LovE
y+3p[[p~1a69h-y=;k<#c\u2L	Luckyhappy

PROBLEM 3

MULTIPLICATION TABLE

Author: Syamim

Multiplication is one of the four elementary mathematical operations of arithmetic.

The multiplication of two numbers is equivalent to adding as many copies of one of them, the *multiplicand*, as the value of the other one, the *multiplier*.

Create a program to calculate a multiplication table from the input.

Input

The input contains 2 integer numbers, the *multiplicand* A ($1 \leq A \leq 10$) and the *multiplier* B ($1 \leq B \leq 100$)

Output

Print a table of the products.

Sample Input	Sample Output
10 6	10 x 1 = 10 10 x 2 = 20 10 x 3 = 30 10 x 4 = 40 10 x 5 = 50 10 x 6 = 60
4 8	4 x 1 = 4 4 x 2 = 8 4 x 3 = 12 4 x 4 = 16 4 x 5 = 20 4 x 6 = 24 4 x 7 = 28 4 x 8 = 32

PROBLEM 4

HELP

Author: Amirun

Faiz has always had difficulties learning Mathematics. He always gets the lowest mark for his examination in his class. One day, In order to improve his result, he has decided to code his own calculator to help him study for the exam. Here is the formula that he wants to solve.

$$z = x^2 + \sqrt{y}$$

Can you help him to make his own calculator?

Input

The first line contains the number of test cases. Each line on a test case contains two numbers, x and y.

Output

Output the answers. All output is in two decimal places.

Sample Input	Sample Output
2 2 4 56 100	Case 1: 6.00 Case 2: 3146.00
3 10 4 200 300 12 23232	Case 1: 102.00 Case 2: 40017.32 Case 3: 296.42

PROBLEM 5

2 AND 3

Author: Amzar

Tiara is a new student and she needs to attend a program for 2 days. During the program, she needs to play many games and one of it is called "2 and 3" game. In the beginning, she has a number n and to complete the game she needs to transform it to m . The rule is, in one move, she can multiply n by 2 or multiply m by 3.

Because she is a computer science student, she decides to write a code to solve the problem. She needs to find the number of moves needed to transform n to m . However, print "No solution" if it is no solution at all. She can perform any number of moves.

Input

The only line of the input contains two integers n and m ($1 \leq n \leq m \leq 5 \cdot 10^8$).

Output

Find and print the number of moves needed to transform n to m , or "No solution" if it is impossible to do so.

Sample Input	Sample Output
1 512	Number of moves = 9
7 15	No solution
1 362797056	Number of moves = 22