

A. Candy Sharing Puzzle

Problem:

Three friends, Alice, Bob, and Charlie, are sharing a bag of candies. Write a program to calculate if the candies can be evenly distributed among them. If there are leftover candies, find how many are left.

Input:

The total number of candies as an integer.

Output:

Print "Evenly distributed" if the candies can be evenly divided among three friends. Otherwise, print the leftover candies.

Test Cases:

• Input: 15

Output: Evenly distributed

• Input: 17

Output: Leftover candies: 2

B. Distance Between Two Points

Read the four values corresponding to the x and y axes of two points in the plane, p1 (x1, y1) and p2 (x2, y2), and calculate the distance between them, showing four decimal places, according to the formula:

Distance =
$$\sqrt{(x^2 - x^1)^2 + (y^2 - y^1)^2}$$

Input

The input file contains two lines of data. The first one includes two double values: **x1 y1** and the second one also contains two double values with one digit after the decimal point: **x2 y2**.

Output

Calculate and print the distance value using the provided formula, with 4 decimal places.

Input Sample	Output Sample
1.0 7.0 5.0 9.0	4.4721
-2.5 0.4 12.1 7.3	16.1484

C. Prime Check

Problem:

Write a program to check if a number N is prime.

Input:

A single integer N.

Output:

Print "Prime" or "Not Prime."

Test Cases:

Input: 7

Output: Prime

Input: 15

Output: Not Prime

D. Find the Missing Number

Problem:

A list of numbers from 1 to N is missing one number. Write a program to find the missing number.

Input:

An integer N and a list of N-1 integers.

Output:

Print the missing number.

Test Cases:

Input: 5 [1, 2, 3, 5]

Output: 4

Input: 7 [2, 3, 4, 5, 6, 7]

Output: 1

E. Robot Movement on a Grid

Problem:

A robot starts at position (0,0) on a grid. It receives a string of instructions:

U moves up by 1 unit,

D moves down by 1 unit,

L moves left by 1 unit,

R moves right by 1 unit.

Calculate the robot's final position after executing all instructions.

Input:

A string representing the robot's movement instructions.

Output:

The final coordinates (x,y).

Test Cases:

Input: UDLR Output: (0, 0)

Input: UUUDDDDRRR

Output: (3, -1)