- munna's academy programming contest is a timed event that brings together budding programmers and problem solvers from various educational institutions to compete, learn, and grow. This contest is designed for students who are passionate about coding and eager to test their skills in a challenging environment.

MAPC | munna's academy programming contest

A. Summation Puzzle

Problem:
Calculate the sum of all integers from 1 to n that are divisible by 3 or 5.

Input:
A single integer n.

Output:
Print the sum.

Test Cases:

- Input: `10`
  Output: `33`
- Input: `15`
  Output: `60`

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 = $\sqrt{(x2 - x1)^2 + (y2 - y1)^2}$

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. Interval 2

Read an integer **N**. This N will be the number of integer numbers **X** that will be read.

Print how many these numbers **X** are in the interval [10,20] and how many values are out of this interval.

Input

The first line of input is an integer **N** (**N** < 10000), that indicates the total number of test cases.
Each case is an integer number **X** (-107 < **X** < 107).

Output

For each test case, print how many numbers are in and how many values are out of the interval.

Input Sample	Output Sample
4 14 123 10 -25	2 in 2 out

D. Game Time with Minutes

Read the start time and end time of a game, in hours and minutes (initial hour, initial minute, final hour, final minute). Then print the duration of the game, knowing that the game can begin in a day and finish in another day,

Obs.: With a maximum game time of 24 hours and a minimum game time of 1 minute.

Input

Four integer numbers represent the start and end time of the game.

Output

Print the duration of the game in hours and minutes, in this format: “O JOGO DUROU XXX HORA(S) E YYY MINUTO(S)” . Which means: the game lasted XXX hour(s) and YYY minutes.

Input Sample	Output Sample
7 8 9 10	**O JOGO DUROU 2 HORA(S) E 2 MINUTO(S)**
7 7 7 7	**O JOGO DUROU 24 HORA(S) E 0 MINUTO(S)**
7 10 8 9	**O JOGO DUROU 0 HORA(S) E 59 MINUTO(S)**

E. Minimum Steps to 1

Problem:
Given an integer N, find the minimum number of steps required to reduce it to 1.

You can:
Subtract 1,
Divide by 2 (if divisible),
Divide by 3 (if divisible).

Input:
A single integer N.

Output:
Print the minimum number of steps.

Test Cases:
Input: 10
Output: 3
Input: 15
Output: 4