

Ungraded Homework 1

CSE110 Section 11, 39, 49

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Brac University

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Problem 1: The Christmas Tree

Every year, Roberto likes to choose his Christmas tree, he doesn't let anyone choose for him, because he thinks the tree to be beautiful, must meet some conditions, such as height, thickness and number of branches, so he can hang many Christmas decorations on it.

Roberto wants his tree to be at least 200 centimeters tall, but he doesn't want it to be larger than 300 centimeters, or the tree won't fit in his house. As for thickness, he wants his tree to have a trunk that is 50 centimeters in diameter or more. The tree must be 150 branches or greater.

Input

The input contains 3 integers each, **h**, **d** and **g**; the height of the tree in centimeters, its diameter in centimeters, and the amount of tree branches.

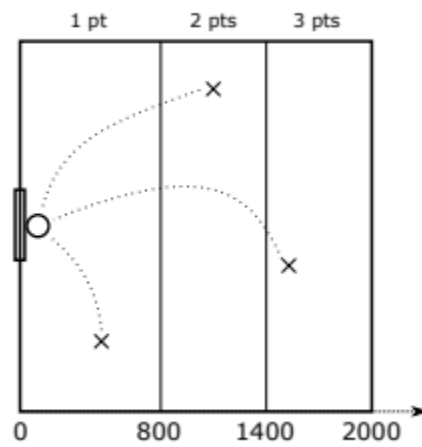
Output

Your task is to print "Sim", if it is a tree that Roberto can choose, or "Nao", if it is a tree he should not choose.

Input Samples	Output Samples
200 60 160	Sim
110 10 50	Nao

Problem 2: Robot Basketball

The OIBR organization, the International Robot Basketball Olympiad, is starting to have problems with two teams: the Bit Warriors and the Byte Bulls. It's just that the robots on these teams hit almost every pitch from any position on the court! Come to think of it, the basketball game would be awkward if players could hit any pitch, right? One of the measures that the OIBR is implementing is a new score for the launches, according to the distance from the robot to the beginning of the court. The court is 2000 centimeters long, as in figure.



Given the distance **D** of the robot to the beginning of the court, where the basket is, the rule is as follows:

- If $D \leq 800$, the basket is worth 1 point;
- If $800 < D \leq 1400$, the basket is worth 2 points;
- If $1400 < D \leq 2000$, the basket is worth 3 points. The OIBR organization needs help to automate the game's scoreboard. Given the value of distance **D**, you must write a program to calculate the number of launch points.

Input

The input contains an integer **D** indicating the distance of the robots to the start of the block, in centimeters, at launch.

Output

Your program should display an integer; 1, 2, or 3, indicating the launch season.

Input Samples	Output Samples
1720	3
250	1
1400	2

Problem 3: Balloon of Honor

Given a letter of the alphabet, state its position.

Input

A single character **L**, an uppercase letter ('A' - 'Z') of the alphabet.

Output

A single integer, which represents the position of the letter in the alphabet.

Input Samples	Output Samples
C	3
J	10
Y	25

Problem 4: Forgotten Grade

John learned in school that the average of two numbers is the value of the sum of those two numbers divided by two. That is, the average of two numbers **A** and **B** is **M** = **(A+B)/2** .

The teacher told John the grades he got on the two Geography tests. The two grades are whole numbers between **0** and **100**. John promptly calculated the average of the two tests, which also resulted in a whole number.

But John is very forgetful, and now he can't remember the two marks he got on the test. He can remember only one of the test scores. Luckily, he can also remember the average between the two grades. Can you help John determine his grade on the other test?

Input

The input contains an integer **A**, indicating the grade of an exam and another integer **M**, indicating the average between the two test scores.

Output

Your program should display an integer; the other test grade which John cannot remember.

Input Examples	Output Examples
100 70	40
80 75	70
1 50	99

Problem 5: [Hot Dogs](#)

In 2012 it was achieved a new world record in the famous Competition Hot Dogs Nathan: the champion, Joey Chestnut devoured 68 hot dogs in ten minutes, an increase amazing compared to 62 sandwiches devoured by the same Chestnut in 2011.

Nathan's Famous Corporation restaurant, located in Brooklyn, NY, is responsible for the competition. They produce delicious hot dogs, world famous, but when it comes to math, they are not as good. They wish to be listed in the Guinness Book of Records, but they should fill out a form describing the basic facts of the competition. In particular, they must inform the average number of hot dogs consumed by participants during the competition.

Can you help them? They promised to pay for it with one of their tasty hot dogs. Given the total of hot dogs consumed and the total of participants in the competition, you should write a program to determine the average number of hot dogs consumed by participants.

Input

The input consists of two integers **H** and **P**; indicating respectively the total number of consumed hot dogs and the total number of participants in the competition.

Output

Your program should display a single line with a rational number representing the average hot dogs consumed by the participants. The result should be written as a rational number with exactly two digits after the decimal point, rounded if necessary.

Input Examples	Output Examples
10 90	0.11
840 11	76.36
1 50	0.02

35	0.04
1000	
34	0.03
1000	

Problem 6: Time Conversion

Read an integer value, which is the duration in seconds of a certain event in a factory, and inform it expressed in **hours:minutes:seconds**.

Input

The input contains an integer **N**.

Output

Print the time in the input (seconds) converted in hours:minutes:seconds like the following examples.

Input Samples	Output Samples
556	0:9:16
1	0:0:1
140153	38:55:53

Problem 7: Weighted Average

Read three values (variables A, B and C), which are the three subjects' grades of a student. Then, calculate the [weighted average](#), considering that grade A has weight 2, grade B has weight 3 and the grade C has weight 5. Consider that each grade can go from 0 to 10.

Input

The input file contains 3 integer values which denote the three grades of the student.

Output

Print the message "MEDIA" (average in Portuguese) and the student's average according to the following example, with a blank space before and after the equal signal.

Input Samples	Output Samples
5 6 7	MEDIA = 6.3
5 10 10	MEDIA = 9.0
10 10 5	MEDIA = 7.5