**10. E is Scary (Part 2)**

# Program Name: E.java Input File: e.dat

Sammy Klaws has decided to work on overcoming his fears. As we all know, Sammy is notoriously afraid of two things: Shroud, and the mathematical constant e (2.71). The latter fear was later expanded to fear of any and all mathematical constants after he discovered that more than one existed. Sammy plans to overcome his fear of mathematical constants by memorizing them. However, being a timeless undead Christmas spirit has taken its toll on him, and his memory is quite bad, so his attempts at estimating constants are often quite off. Sammy wants to test his accuracy in hopes that it will improve, and he needs your help doing this. Given three of his guesses and the real value of the constant he is trying to guess, output the accuracy of his guesses in the form of a percentage.

**Input**

The first line of input will contain an integer n which is the number of test cases. The first three numbers in any following line are the three guesses. The next value is the actual value of the constant.

**Output**

The output should be the percent error between the three guesses and the actual value of the constant, formatted as a percentage with two decimal places. The equation for percent error is as follows:

**Example Input File**

4

110.89 111.61 111.98 129.30

209.69 210.68 212.69 257.24

188.01 187.07 188.54 234.01

1106.79 1112.62 1101.08 1291.01

**Example Output to Screen**

13.77%

17.97%

19.72%

14.27%