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Practice problems aimed to improve your coding skills.

-  PRACTICE-02_SCAN-PRINT
-  PRACTICE-03_TYPES
-  LAB-PRAC-02_SCAN-PRINT
-  LAB-PRAC-01
-  PRACTICE-04_COND
-  BONUS-PRAC-02
-  LAB-PRAC-03_TYPES
-  PRACTICE-05_COND-LOOPS
-  LAB-PRAC-04_COND
 -  Trouble with Triangles
 -  Ms- Mathematica
 -  Pollution Problem
 -  In or Out
 -  Rick-s Number
 -  Its Tax Time
 -  The Toppers
 -  Isotonic Regression
 -  Super Leap Years
 -  Make Room for Rectangles
 -  Quadratic Quandry Revisited
 -  Grade Grab
-  LAB-PRAC-05_CONDLOOPS
-  PRACTICE-07_LOOPS-ARR
-  LAB-PRAC-06_LOOPS
-  LAB-PRAC-07_LOOPS-ARR
-  LABEXAM-PRAC-01_MIDSEM
-  PRACTICE-09_PTR-MAT
-  LAB-PRAC-08_ARR-STR
-  PRACTICE-10_MAT-FUN
-  LAB-PRAC-09_PTR-MAT
-  LAB-PRAC-10_MAT-FUN
-  PRACTICE-11_FUN-PTR
-  LAB-PRAC-11_FUN-PTR
-  LAB-PRAC-12_FUN-STRUC
-  LABEXAM-PRAC-02_ENDSEM
-  LAB-PRAC-13_STRUC-NUM
-  LAB-PRAC-14_SORT-MISC

Quadratic Quandry Revisited

LAB-PRAC-04_COND

Quadratic Quandry Revisited [20 marks]

Problem Statement

You are given a quadratic equation with **integer** coefficients in a format described below. You have to find out and output various quantities about this quadratic equation as given below.

1. In the first line of your output, print "Real" (without quotes) if the equation has real roots else print "Complex" (without quotes) if the equation has complex roots.
2. In the second line of your output, print the discriminant of the equation (it will also be an integer)

$$D = b^2 - 4ac$$

3. In the third line of your output, print the root which you get as

$$\frac{-b + \sqrt{D}}{2a}$$

4. In the fourth line of your output, print the root which you get as

$$\frac{-b - \sqrt{D}}{2a}$$

Caution

1. Be careful about extra/missing lines and extra/missing spaces.
2. If a root is real, output it **rounded off to 3 decimal places**.
3. If the root is imaginary, output it in the following format
 $r + qi$ or $r - qi$
where r and q should be **rounded off to 3 decimal places**
4. If the equation has repeated roots, you have to output the same root twice in both the third and the fourth lines.

INPUT:

$ax^2 + bx + c$

OUTPUT:

Real/Complex

Discriminant

Root1

Root2

EXAMPLE:

INPUT

$$1x^2 + 4x + 3$$

OUTPUT:

Real

4

-1.000

-3.000

Grading Scheme:

Total marks: **[20 Points]**

There will be partial grading in this question. There are four lines in your output. Printing each line correctly, in the correct order, carries 25% weightage. Each visible test case is worth 2 points and each hidden test case is worth 4 points. There are 2 visible and 4 hidden test cases.

Please remember, however, that when you press Submit/Evaluate, you will get a green bar only if all parts of your answer are correct. Thus, if your answer is only partly correct, Prutor will say that you have not passed that test case completely, but when we do autograding afterwards, you will get partial marks.

 **Start Solving!** (/editor/practice/6060)