Practice Arena

Practice problems aimed to improve your coding skills.

- PRACTICE-02_SCAN-PRINT
- PRACTICE-03_TYPES
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- BONUS-PRAC-02
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- PRACTICE-05_COND-LOOPS
- LAB-PRAC-04_COND
  - Trouble with Triangles
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  - 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
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- PRACTICE-10_MAT-FUN
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- PRACTICE-11_FUN-PTR
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- LABEXAM-PRAC-02_ENDSEM
- LAB-PRAC-13_STRUC-NUM
- LAB-PRAC-14_SORT-MISC

Trouble with Triangles

LAB-PRAC-04_COND

Trouble with Triangles [10 marks]

Problem Statement
You will be provided the side lengths of a triangle in increasing order, **separated by commas**. Side lengths will be **strictly positive integers**. Depending on the input, you have to output **only one** of the following labels

1. **Invalid**: if the lengths provided cannot belong to a triangle. Remember that 3 positive integers can form the sides of a valid triangle if and only if the sum of any two of the side lengths is larger than or equal to the length of the third side. That means that if we have side lengths a, b, c, then for these to form a triangle, we must have

$$a + b \geq c$$
$$b + c \geq a$$
$$c + a \geq b$$

   The above inequalities are often called the **triangle inequalities**.
2. **Equilateral**: if all sides of the triangle are equal
3. **Isosceles**: if any two sides of the triangle are equal
4. **Scalene**: if all sides of the triangle are unequal

Caution

1. Be careful about extra/missing lines and extra/missing spaces.
2. Output only one label. If you feel that more than one label applies to the triangle, please follow the rules given below.
    1. If the side lengths are invalid, for example 3, 4, 8, print only "Invalid" (without quotes) for this case. Do not print "Scalene" or "Isosceles" for such examples since they do not form valid triangles.
    2. If all side lengths are equal, for example 5, 5, 5, print only "Equilateral" in this case. Do not print "Isosceles" in this case.
3. Side lengths will be integers and be given in increasing order.

INPUT:
length1, length2, length3

OUTPUT:
Label
EXAMPLE:
INPUT
3, 4, 5

OUTPUT:

Scalene

Grading Scheme:
Total marks: **[10 Points]**

There will be no partial grading in this question. An exact match will receive full marks whereas an incomplete match will receive 0 marks. Please be careful of missing/extra spaces and missing/lines (take help of visible test cases). Each visible test case is worth 1 point and each hidden test case is worth 2 points. There are 2 visible and 4 hidden test cases.

Start Solving! (/editor/practice/6050)