Triangle Exercise

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BRICS
Basic Research
in Computer Science

Triangle Classification [Myers]

- "A program reads three integer values. The three values are interpreted as representing the lengths of the sides of a triangle. The program prints a message that states whether the triangle is scalene, isosceles, or equilateral."

- *Write a set of test cases to test this program*

Input data	Expected output
5,5,5	equilateral
...	

Triangle Classification [Myers]

Test cases for:

1. valid scalene triangle ?
2. valid equilateral triangle ?
3. valid isosceles triangle ?
4. 3 permutations of previous ?
5. side = 0 ?
6. negative side ?
7. one side is sum of others ?
8. 3 permutations of previous ?
9. one side larger than sum of others ?
10. 3 permutations of previous ?
11. all sides = 0 ?
12. non-integer input ?
13. wrong number of values ?
14. for each test case: is expected output specified ?
15. check behaviour after output was produced ?

TDD Exercise

- Develop a program that classifies triangles according to the given specification using TDD, i.e.
- **TEST FIRST+xUnit Testing**
- Get started with supplied skeleton (java or C# version)

New Requirement

- The program must also be able to classify “Rectangular” triangles

New Requirement

- The program must print out meaningful error messages why a given input is invalid.
  - "*The sides (a=1,b=2,c=9) is not a valid triangle because c is greater that the sum of a and b*"
- The program must print out meaningful explanations why a given triangle is a particular type
  - "*The sides (a=5,b=13,c=12) is a rectangular triangle because a squared plus c squared equals b squared*"