

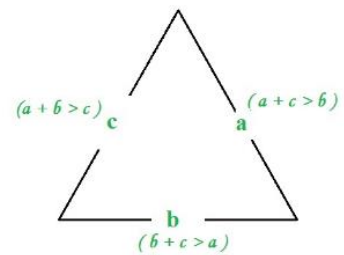
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- Rules:

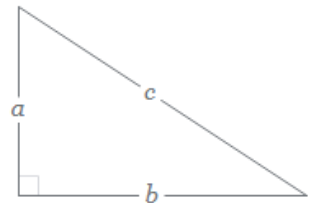
- A triangle is valid if and only if the sum of each two sides is greater than the third side, i.e.:

- $a + b > c$
- $a + c > b$
- $b + c > a$



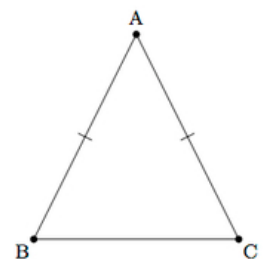
- According to the Pythagorean theorem, a triangle is orthogonal if and only if:

- $a^2 + b^2 = c^2$



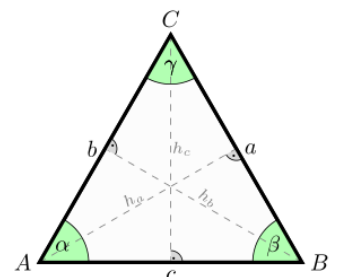
- A triangle is said to be isosceles triangle if and only if it has two sides of equal length, i.e.:

- $|AB| = |AC|$



- A triangle is said to be equilateral triangle if and only if all of its three sides are of equal length, i.e.:

- $|AB| = |AC| = |BC|$



- Code:
  - Where:
    - t denotes valid triangle
    - ot denotes orthogonal triangle
    - it denotes isosceles triangle
    - et denotes equilateral triangle
  - Github repository
  - Screenshots:

The first screenshot shows a DOSBox window titled "DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: PROLOG". The menu bar includes Files, Edit, Run, Compile, Options, and Setup. The status bar shows "Line 5 Col 10 C:\TASK.PRO Indent Insert". The code in the window is as follows:

```
domains
    n=integer
predicates
    t(n,n,n)
    ot(n,n,n)
    it(n,n,n)
    et(n,n,n)
clauses
    t(X,Y,Z):- X+Y>Z, X+Z>Y, Y+Z>X.
    ot(X,Y,Z):- t(X,Y,Z), (X*X+Y*Y)=Z*Z; (X*X+Z*Z)=Y*Y; (Y*Y+Z*Z)=X*X.
    it(X,Y,Z):- t(X,Y,Z), X=Y; X=Z; Y=Z.
    et(X,Y,Z):- t(X,Y,Z), X=Y, X=Z.
```

The second screenshot shows the same DOSBox window with the "Run" button highlighted. The output in the window is:

```
Goal: t(3,5,7)
Yes
Goal: t(1,2,2)
Yes
Goal: t(1,7,5)
No
Goal: ot(3,4,5)
Yes
Goal: ot(1,2,2)
No
Goal: it(3,3,5)
Yes
Goal: it(3,4,5)
No
Goal: et(3,3,3)
Yes
Goal: et(3,3,5)
No
Goal:
```

The bottom status bar of the DOSBox window shows: F2-Save F3-Load F5-Zoom F6-Next F8-Previous goal Shift-F10-Resize F10-End.