**Example 1 on program development with loops**

Read in the particulars of an unknown number of triangles and determine for each triangle if it is right-angled or not. For each triangle, three side lengths have to be entered`. Input is terminated when a value of -1 is read for the first side length.

( a while loop with split input data)

**Input**

|  |  |  |
| --- | --- | --- |
| ***name*** | ***type*** | ***availability*** |
| side1 | float | kbd |
| side2 | float | kbd |
| side3 | float | kbd |

**Output**

|  |  |  |
| --- | --- | --- |
| ***name*** | ***type*** | ***where*** |
| comment | string | screen |

**Processing**

If #*apply Pythagoras theorem*

Side1 2 + Side2 2 = Side3 2

OR

Side2 2 + Side3 2 = Side1 2

OR

Side1 2 + Side3 2 = Side2 2

Then triangle is right=angled

Else is not

**Testdata**

|  |  |  |  |
| --- | --- | --- | --- |
| side1 | side2 | side3 | message |
| 3 | 4 | 5 | Yes is right-angled |
| 5.6 | 6.8 | 3.1 | **No is not right-angled** |
| 25 | 9 | 16 | **Yes it is right-angled** |

*#Note for extension could also check if data is actually a triangle*

**Testing plan**

Version 1

*# enterdata and check loop is working*

Enter side1

While side1 not equal to -1

Enter rest of data

#process data

#change loop condition

Enter side1

Version 2

#add in processing to check if right-angled or not

Version 3

#add in code to validate data