



## LMC Programming Assignment

This is an example assignment showing many of the features of the Little Man Computer put to use, as well as some of the pitfalls. A suitable form of submission is assembly code for the program as a plaintext file with sufficient comments to indicate how the code works.

**Basic objective:** Create a Little Man Computer program to take three inputs (a, b, and c) and determine if they form a Pythagorean triple (i.e.  $a^2+b^2=c^2$ ). Your program should output a zero (000) if the inputs are not a Pythagorean triple, and a one (001) if the inputs are a Pythagorean triple.

**Intermediate objective:** Enhance your program to accept Pythagorean triples presented in any order, i.e. 3,4,5, or 5,3,4 or 4,5,3 would all be accepted (output 001), though obviously 3,4,6 in any order would not.

**Advanced objective:** Incorporate a check for any overflow, and use the output two (002) to indicate that the inputs are outside the range that your program can handle. Also ensure that the program runs successfully a second time if a run is stopped at any point of operation, or terminates normally, then the program counter is reset to zero and the LMC is run again.