

# 1 - Fibonacci

The fibonacci sequence is a sequence of numbers in which the previous two numbers add to form the next number. The first two elements of the sequence are 0 and 1, generate the first 100 elements of this sequence.

For example, the first 5 elements would be: 0, 1, 1, 2, 3.

## 2 - Pythagorean primitive triples

Given 3 integers, determine whether or not the 3 integers are a pythagorean triple. A pythagorean triple is a set of 3 numbers in which all of the elements are co-prime (has a highest common factor of 1).

The input is on a single line, with each integer separated by a space.  
Output a single integer, 0 if it's not a pythagorean triple and 1 if it is.

For example:

Input:

>2 3 5

Output:

>1

### 3 - Square coordinates

Given 4 cartesian coordinates that represent a square on a cartesian plane, output the number of points with integer coordinates that lie within, or on the sides of the square.

The input is given in a 2x4 2D array denoting the x y coordinates of each point that makes up the square in a clockwise direction.

Output a single integer denoting the number of points.

For example:

Input:

>[[1,1],[1,-1],[-1,-1],[-1,1]]

Output:

>9 (4 vertices, 4 on the edges, 1 within)

