Quelques problèmes issus du site : *https://projecteuler.net*

1. Problème 9

A Pythagorean triplet is a set of three natural numbers, $a < b < c$, for which, $a^2 + b^2 = c^2$

There exists exactly one Pythagorean triplet for which $a + b + c = 1000$.

Find the product abc.

- boucle for
- test ==
- puissance
- pour continuer *liste, liste.append*

2. Problème 1

If we list all the natural numbers below 10 that are multiples of 3 or 5, we get 3, 5, 6 and 9. The sum of these multiples is 23.

Find the sum of all the multiples of 3 or 5 below 1 000. (*below* signifie *strictement inférieur à*)

- boucle for
- test if / or
- modulo (%)

3. Problème 2

Each new term in the Fibonacci sequence is generated by adding the previous two terms. By starting with 1 and 2, the first 10 terms will be : $1, 2, 3, 5, 8, 13, 21, 34, 55, 89$

By considering the terms in the Fibonacci sequence whose values do not exceed four million, find the sum of the even-valued terms. (*even* = *pair*)

- boucle while / break
- test if
- modulo
- liste : append
- affectation en parallèle

4. Problème 4

A palindromic number reads the same both ways. The largest palindrome made from the product of two 2-digit numbers is $9009 = 91 \times 99$. Find the largest palindrome made from the product of two 3-digit numbers.

- boucle for, range pas négatif
- test if
- copie de chaîne
- conversion de typage

5. Problème 13

Work out the first ten digits of the sum of the following one-hundred 50-digit numbers. le fichier est ici :*http://frederic.leon77.free.fr/formations/bestiaire*

- boucle for
- utilisation de \ pour écrire à la ligne
- conversion de typage
- travail sur les listes

6. Problème 20

Find the sum of the digits in the number 100!

- fonction / fonction récursive
- boucle for
- conversion de typage