



UNSA

UNIVERSIDAD NACIONAL DE SAN AGUSTÍN DE AREQUIPA

**FACULTAD DE INGENIERÍA Y PRODUCCIÓN DE SERVICIOS
ESCUELA PROFESIONAL DE CIENCIA DE LA COMPUTACIÓN**

**CIENCIA DE LA COMPUTACIÓN II
PRÁCTICA DE LABORATORIO 01**

ALUMNA : Jenny Huanca Anquise
GRUPO : C
SEMESTRE : 2021 - A
PROFESOR : Álvaro Mamani Aliaga
FECHA DE ENTREGA : 23 de abril de 2021

**Arequipa – Perú
2021**

RESOLUCIÓN DE PROBLEMAS PROJECT EULER

Repositorio de los ejercicios:

<https://github.com/J-Machine/Ciencia-de-la-Computacion-II/tree/main/LAB/Practica%2001>

1.

Project Euler.net

Logged in as Jennyha
Fri, 23 Apr 2021, 15:20

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← **Even Fibonacci numbers** →

Problem 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.

Answer: 4613732
Completed on Fri, 23 Apr 2021, 15:20

Go to the thread for problem 2 in the forum.
Download overview for problem 2.

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→ **Multiples of 3 and 5**

Problem 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 1000.

Answer: 233168
Completed on Wed, 21 Apr 2021, 17:31

Go to the thread for problem 1 in the forum.
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2.

3.

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Fri, 23 Apr 2021, 16:09

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← **Largest prime factor** →

Problem 3

The prime factors of 13195 are 5, 7, 13 and 29.
What is the largest prime factor of the number 600851475143 ?

Answer: **6857**
Completed on Fri, 23 Apr 2021, 16:08

Go to the thread for problem 3 in the forum.
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4.

5.

6.

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Fri, 23 Apr 2021, 17:16

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← **Sum square difference** →

Problem 6

The sum of the squares of the first ten natural numbers is,
$$1^2 + 2^2 + \dots + 10^2 = 385$$
The square of the sum of the first ten natural numbers is,
$$(1 + 2 + \dots + 10)^2 = 55^2 = 3025$$
Hence the difference between the sum of the squares of the first ten natural numbers and the square of the sum is $3025 - 385 = 2640$.
Find the difference between the sum of the squares of the first one hundred natural numbers and the square of the sum.

Answer: **25164150**
Completed on Fri, 23 Apr 2021, 17:16

Go to the thread for problem 6 in the forum.
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7.

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Fri, 23 Apr 2021, 17:42

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←10001st prime→

Problem 7

By listing the first six prime numbers: 2, 3, 5, 7, 11, and 13, we can see that the 6th prime is 13.
What is the 10 001st prime number?

Answer: **104743**
Completed on Fri, 23 Apr 2021, 17:42

Go to the thread for problem 7 in the forum.
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8.

9.

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←Special Pythagorean triplet→

Problem 9

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

For example, $3^2 + 4^2 = 9 + 16 = 25 = 5^2$.
There exists exactly one Pythagorean triplet for which $a + b + c = 1000$.
Find the product abc .

Answer: **31875000**
Completed on Fri, 23 Apr 2021, 18:06

Go to the thread for problem 9 in the forum.
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10.