{EPITECH}
LEARN DIFFERENT*

PRE-POOL

DAY 02

PRE-POOL

BANDIT WARGAME
In addition to the tasks below, you must go as far as possible in this game.
Work on it as soon as you have a bit of time, or whenever you need a break in you day!

Operations

Task 01

Open the Python interpreter console and type :

- ✓ $1 + 1$
- ✓ $30 + 12$
- ✓ $777 + (-735)$
- ✓ $1 + 2 + 3 + 5 + 7 + 11 + 13$

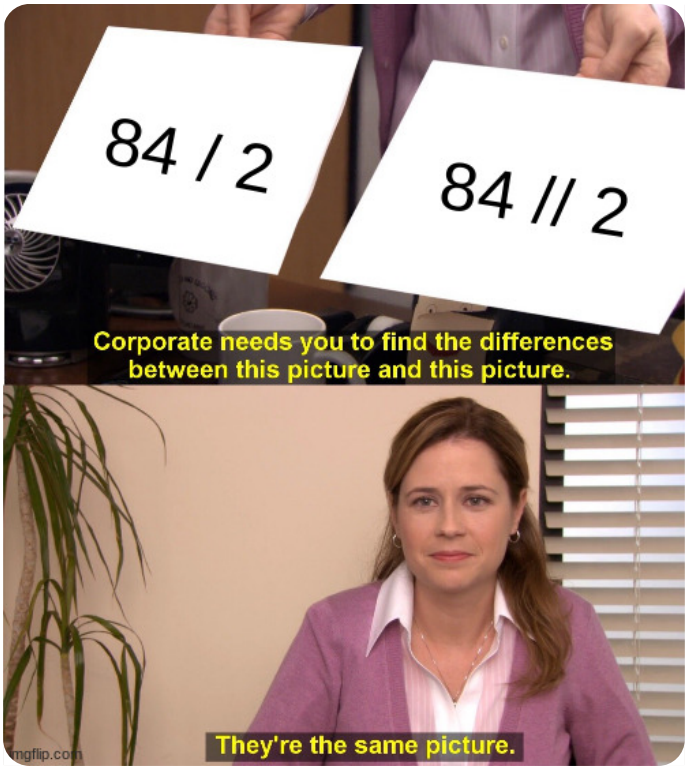
Task 02

Get the results of:

- ✓ $84 - 42$
- ✓ $0 - (-42)$
- ✓ $2 * 21$
- ✓ $(-6) * (-7)$
- ✓ $2 + 5 * 8$
- ✓ $(3 + (3 * 4 - 2 * 2) * 3 - 2) * 2 - 3$

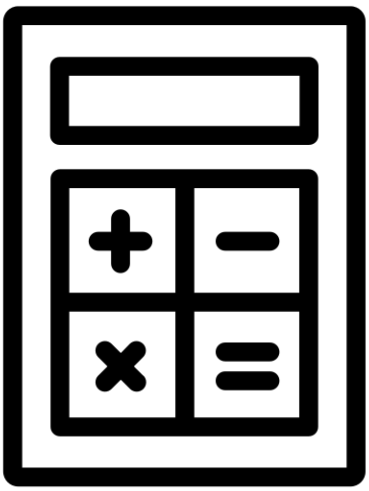
Task 03

What is the difference between $84/2$ and $84//2$?



Task 04

What happens when typing $84/(8 + (-3) + (-7) + 2)$?



Variables

Task 01

Compute $1 + 11 + 111 + ... + 111111111$.

Also computes this number power 2, power 3, power 4, power 5, power 6 and power 7.

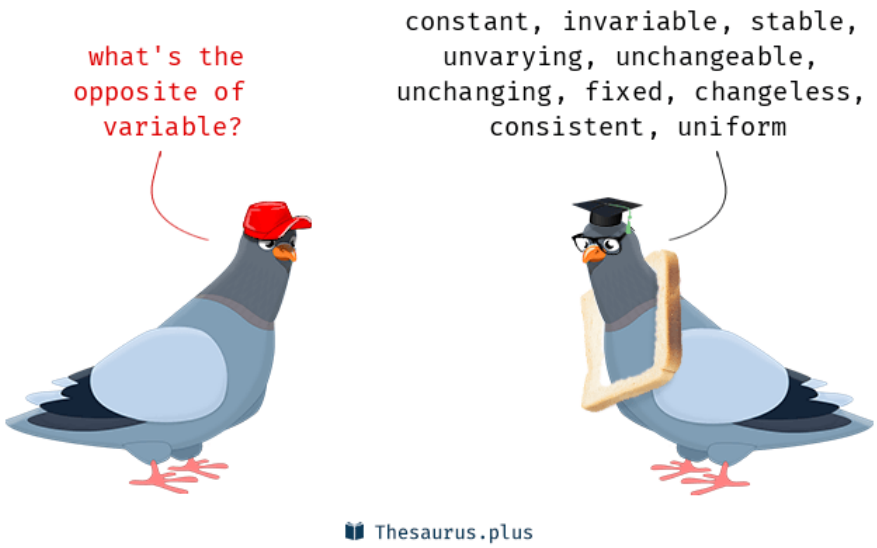
Do the same job with:

- ✓ $1 + 11 + 111 + ... + 111111111 + 1111111111$.
- ✓ $1 + 11 + 111 + ... + 111111111 + 1111111111 + 11111111111$.
- ✓ $1 + 11 + 111 + ... + 111111111 + 1111111111 + 11111111111 + 111111111111$.

Compare with others'code to try to produce the most elegant code possible.

Task 02

Computes 17^{1024} in less than 10 lines of code.



Modulo

Task 01

Write a snippet of code that computes the result, as well as both the quotient and the remainder of the euclidean division $42/4$. It should output something like:

```
Terminal
10.5
10
2
```

If you are not familiar with the euclidean operator, you'd better search for it on Internet. And also check the modulo operator…

Task 02

Write a snippet of code in order to check if a number is odd or even.

It would be nice if your program could print "odd" or "even", depending of the result.

Task 03

Write a snippet of code that calculates the sum of the digits of 123434565.
Use the same code to calculates the sum of the digits of the following numbers:

- ✓ 345567426
- ✓ 44490320097

Task 04

Getting inspiration from your previous code, write a snippet of code that extracts the integer part of the following numbers:

- ✓ 12.24
- ✓ 424242.8412

Task 05

Getting inspiration from your previous code, write a snippet of code that extracts the decimal part of the following numbers:

- ✓ 12.24
- ✓ 424242.8412

CHALLENGE

Rewrite the previous task with the least possible number of characters.

Archimedes constant and more

Task 01

Calculate the first 6 decimals of Pi using the formula:

$\pi = 4x(1/1 - 1/3 + 1/5 - 1/7...)$

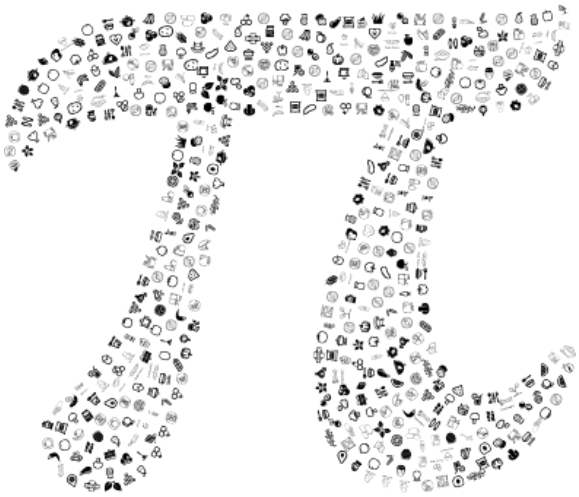
Task 02

Calculate the first 6 decimals of Pi using this amazing formula:

$$\pi - 3 = \cfrac{1^2}{6+\cfrac{3^2}{6+\cfrac{5^2}{6+\cfrac{7^2}{6+...}}}}$$

Task 03

Write a program to reduce fractions.



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