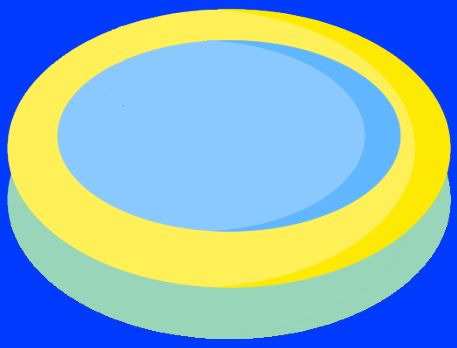
{EPITECH}

WADING POOL_

< DAY 02 />



WADING 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 1.1

Open the Python interpreter console and type :

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

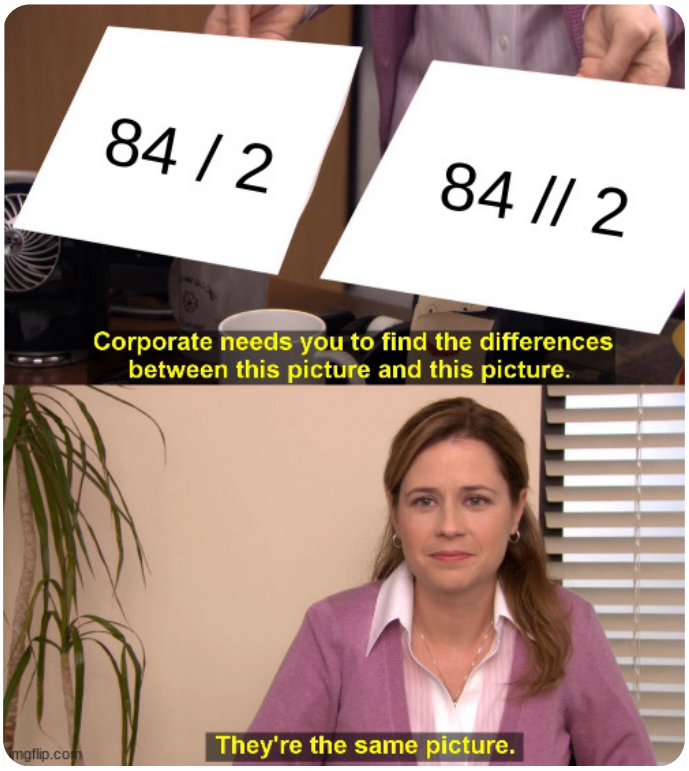
Task 1.2

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 1.3

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



Task 1.4

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

Variables

Task 2.1

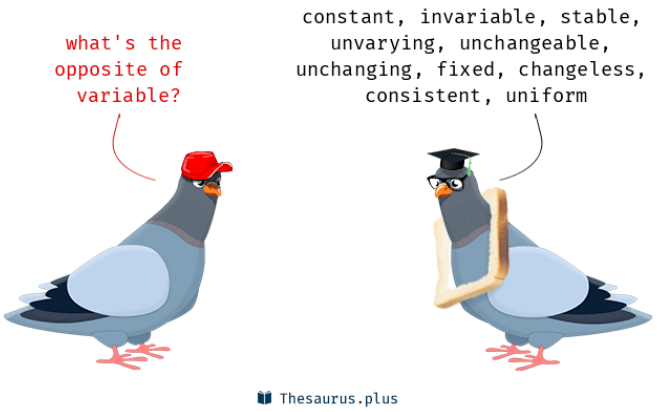
Compute the value of $1 + 11 + 111 + ... + 111111111$.
Then, computes this result power 2, power 3, power 4 and power 5.
Do the same job with:

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

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

Task 2.2

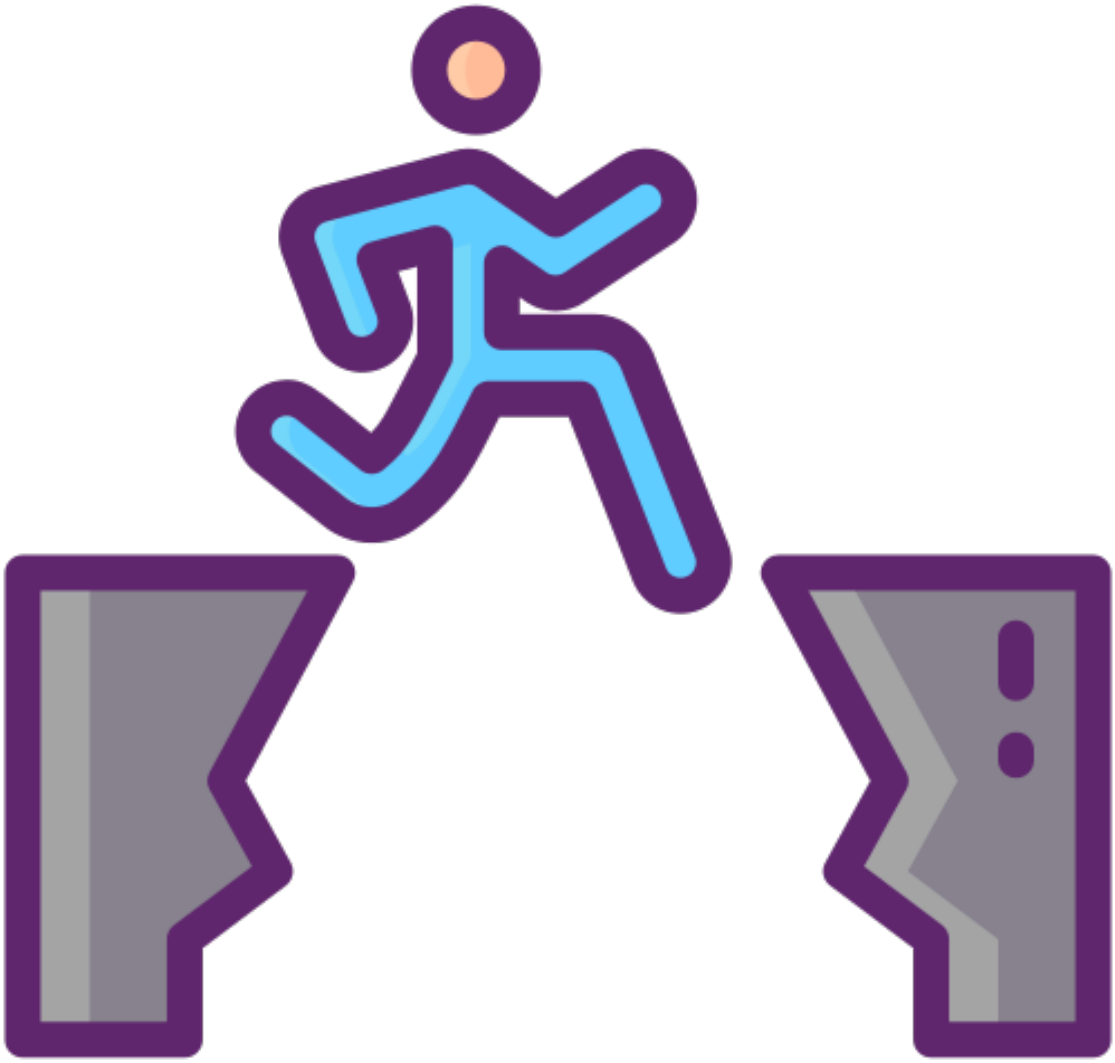
Computes the value of 17^{1024}.



CHALLENGE

Rewrite the previous task with few lines of code and the least possible number of characters.

You can have a look at the powerful Python **one-liners**.



Modulo

Task 3.1

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 3.2

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

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

Task 3.3

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 345567426, then 44490320097.

Task 3.4

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 3.5

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

- ✓ 12.24
- ✓ 424242.8412

You want some more?

Task 4.1

Calculate the first 6 decimals of Pi using the formula:

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

Task 4.2

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

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

v 2