

Basic exercises in Python

Exercise 1

1. Code a function that takes an integer and returns the sum of its digits.
2. Write a file `somme.py` and run it so that the command `python somme 12456` returns the sum of the digits of the number in the command line.
3. Code a script that asks the user to enter an integer and returns the sum of its digits.
4. Change your code so that it asks an integer as long as it has not been given a valid integer.

Exercise 2

1. Code a function that checks whether a string is a palindrome.
2. Change your code to raise an exception if the argument given is not a string.

Exercise 3

1. Code a function `reorder(names)` that would reorder the string `names = 'Louis, Benoît, Bintou, Abder, Lola'` into `'Abder, Benoît, Bintou, Lola, Louis'`.
2. Change your code to include a separator argument with `'` as default value.

Exercise 4

Code a function that checks whether a string is a valid IPv4 address.

Exercise 5

Code a function that only keeps the multiples of 3 in a list.

Exercise 6

Create a decorator that logs the function that is called, the arguments given and the value returned.

Exercise 7

1. Code a class `Point` whose attributes are the cartesian coordinates of a point `x` and `y`.
2. Code a class `Triangle` that needs three (non-aligned) points to be built.
3. Code two methods `perimeter` and `surface...` that compute what their name suggest!