

## 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 `summation(n)` that computes the sum of integers from 0 to  $n$ .
2. Test several algorithms / implementations and find the fastest for large  $n$ .

### 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.