Fall 2019
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PL401μ Optimisation Practices and Tips for Python Code

Coding 1: Measuring execution time

This assessment evaluates the following competencies:

- *PP601 – Measure the execution time of a given Python program*
- *PP701 – Understand main Python idioms*
- *PP702 – Write good Pythonic code for small programs*
- *PP703 – Optimise a Python program to improve execution speed*

This coding assessment asks you to write four functions to compute the sum of the elements of a list of integers and then makes some measurements to compare their performances:

- the first function has to loop through the list thanks to a `while` loop and an `i` "counter" variable;
- the second function has to use a `for...in...` loop and an `i` "counter" variable going through a `range` object;
- the third function has to use a `for...in...` loop to directly iterate the list;
- and the fourth function has to directly use the built-in `sum` function.

To succeed the assessment, your have to report your results in a table and plot a graph comparing the four functions for increasing list sizes (from 10 to 10000). Do not forget to run each experiment a certain number of times and to compute a mean value.