

Python 04 MMSC Challenge!

MMSC students have to work harder (as they get credit).

Project Euler is a series of mathematical and programming puzzles to teach programming and number theory. Any programming language can be used, but the code must run in under 10 seconds.

Problem 48 reads: the series $1^1 + 2^2 + \dots + 10^{10} = 10405071317$. Find the last 10 digits of the series $1^1 + 2^2 + \dots + 1000^{1000}$.

Compute the answer in one line of Python that uses $\mathcal{O}(1)$ memory. (Without googling.)

Email your one-liner and computed answer to `patrick.farrell@maths.ox.ac.uk`.