

## Python 05 Challenge!

Implement a `Polynomial` class with the following methods:

- ▶ Construction from coefficients, or from  $x$ - $y$  values
- ▶ Addition
- ▶ Evaluation at a point
- ▶ Differentiation and integration (to give new polynomials)
- ▶ Roots

Test your code on examples with known answers (e.g. from Wolfram Alpha).

Extra challenge: implement multiplication of two polynomials.

Does the code `5 + p` work, where `p` is a `Polynomial`? Hint: look up the difference between `__add__` and `__radd__`.