

PRACTICE

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Polynomials ☆



40/115 challenges solved	ę
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poly

The poly tool returns the coefficients of a polynomial with the given sequence of roots.

print numpy.poly([-1, 1, 1, 10])

#Output: [1 -11 9 11 -10]

roots

The *roots* tool returns the roots of a polynomial with the given coefficients.

print numpy.roots([1, 0, -1])

#Output : [-1. 1.]

polyint

The *polyint* tool returns an antiderivative (indefinite integral) of a polynomial.

print numpy.polyint([1, 1, 1])

#Output: [0.33333333 0.5

1.

polyder

The polyder tool returns the derivative of the specified order of a polynomial.

print numpy.polyder([1, 1, 1, 1])

#Output : [3 2 1]

polyval

The polyval tool evaluates the polynomial at specific value.

print numpy.polyval([1, -2, 0, 2], 4) #Output: 34

polyfit

The polyfit tool fits a polynomial of a specified order to a set of data using a least-squares approach.

print numpy.polyfit([0,1,-1, 2, -2], [0,1,1, 4, 4], 2) #Output: [1.00000000e+00 0.00000000e+00 -3.97205465e-16]

The functions polyadd, polysub, polymul, and polydiv also handle proper addition, subtraction, multiplication, and division of polynomial coefficients, respectively.

Task

You are given the coefficients of a polynomial P.

Your task is to find the value of $m{P}$ at point $m{x}$.

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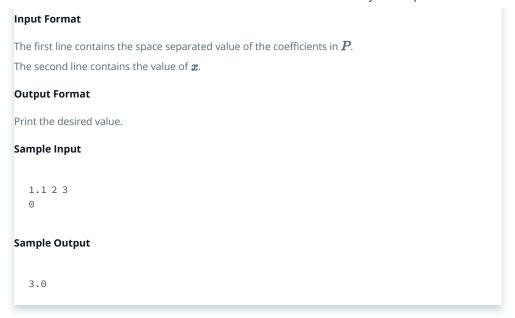
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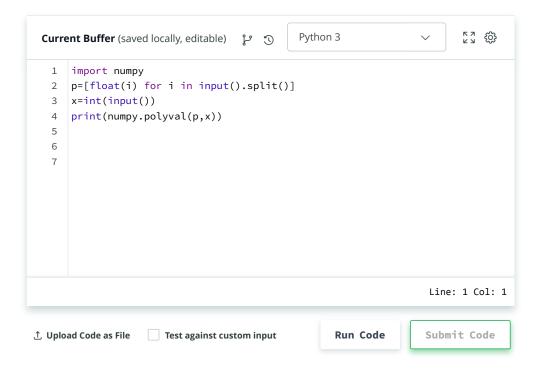
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