Polynomials ★

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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.        0.      ]
```

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 P at point x.

Input Format

The first line contains the space separated value of the coefficients in P.

The second line contains the value of x.

Output Format

Print the desired value.

Sample Input

```
1.1 2 3
0
```

Sample Output

```
3.0
```

Change Theme Python 3

```
1  import numpy as np
2
3  if __name__ == '__main__':
4      coefficients = list(map(float, input().split()))
5
6      x = int(input())
7
8      y = np.polyval(coefficients, x)
9
10     print(y)
11
```

Line: 11 Col: 1

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63%

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