HackerRank

Linear Algebra

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The NumPy module also comes with a number of built-in routines for linear algebra calculations. These can be found in the sub-module linalg.

linalg.det

The linalg.det tool computes the determinant of an array.

```
print numpy.linalg.det([[1 , 2], [2, 1]])     #Output : -3.0
```

linalg.eig

The linalg.eig computes the eigenvalues and right eigenvectors of a square array.

```
vals, vecs = numpy.linalg.eig([[1 , 2], [2, 1]])
print vals                          #Output : [ 3. -1.]
print vecs                          #Output : [[ 0.70710678 -0.70710678]
                                    #         [ 0.70710678  0.70710678]]
```

linalg.inv

The linalg.inv tool computes the (multiplicative) inverse of a matrix.

```
print numpy.linalg.inv([[1 , 2], [2, 1]])     #Output : [[-0.33333333  0.66666667]
                                              #         [ 0.66666667 -0.33333333]]
```

Other routines can be found here

Task

You are given a square matrix A with dimensions NXN. Your task is to find the determinant. Note: Round the answer to 2 places after the decimal.

Input Format

The first line contains the integer N.

The next N lines contains the N space separated elements of array A.

Output Format

Print the determinant of A.

Sample Input

```
2
1.1 1.1
1.1 1.1
```

Sample Output

```
0.0
```

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```
# Link = https://www.hackerrank.com/challenges/np-linear-algebra/problem

import numpy
import math

count = int(input())
my_array = []

for i in range(count):
    coefficients = list(map(float, input().split(" ")))
    my_array.append(coefficients)

result = round(numpy.linalg.det(my_array), 2)
print(result)

```

Line: 1 Col: 73

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Next Challenge

Test case 0

Compiler Message

Success

Test case 1

Test case 2

Input (stdin) Download

```
2
1.1 1.1
1.1 1.1
```

Expected Output Download

```
0.0
```