Mean, Var, and Std

111/115 challenges solved

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mean

The mean tool computes the arithmetic mean along the specified axis.

```
import numpy

my_array = numpy.array([ [1, 2], [3, 4] ])

print numpy.mean(my_array, axis = 0)      #Output : [ 2.  3.]
print numpy.mean(my_array, axis = 1)      #Output : [ 1.5  3.5]
print numpy.mean(my_array, axis = None)    #Output : 2.5
print numpy.mean(my_array)              #Output : 2.5
```

By default, the axis is `None`. Therefore, it computes the mean of the flattened array.

var

The var tool computes the arithmetic variance along the specified axis.

```
import numpy

my_array = numpy.array([ [1, 2], [3, 4] ])

print numpy.var(my_array, axis = 0)       #Output : [ 1.  1.]
print numpy.var(my_array, axis = 1)       #Output : [ 0.25  0.25]
print numpy.var(my_array, axis = None)     #Output : 1.25
print numpy.var(my_array)               #Output : 1.25
```

By default, the axis is `None`. Therefore, it computes the variance of the flattened array.

std

The std tool computes the arithmetic standard deviation along the specified axis.

```
import numpy

my_array = numpy.array([ [1, 2], [3, 4] ])

print numpy.std(my_array, axis = 0)       #Output : [ 1.  1.]
print numpy.std(my_array, axis = 1)       #Output : [ 0.5  0.5]
print numpy.std(my_array, axis = None)     #Output : 1.11803398875
print numpy.std(my_array)               #Output : 1.11803398875
```

By default, the axis is `None`. Therefore, it computes the standard deviation of the flattened array.

Task

You are given a 2-D array of size $N \times M$.

Your task is to find:

1. The mean along axis **1**

2. The var along axis **0**

3. The std along axis ***None***

Input Format

The first line contains the space separated values of N and M.

The next N lines contains M space separated integers.

Output Format

First, print the mean.

Second, print the var.

Third, print the std.

Sample Input

```
2 2
1 2
3 4
```

Sample Output

```
[ 1.5  3.5]
[ 1.  1.]
1.11803398875
```

Change Theme Language Python 3

```
1  import numpy as np
2
3  n, m = map(int, input().split())
4  arr = np.array([input().split() for _ in range(n)], int)
5
6  print(np.mean(arr, axis=1))
7
8  print(np.var(arr, axis=0))
9
10 # round is used to meet the requirement
11 print(round(np.std(arr),11))
12
```

EMACS Line: 12 Col: 1

Upload Code as File | Test against custom input | Run Code | Submit Code

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97%

Congratulations

You solved this challenge. Would you like to challenge your friends?

Next Challenge

Test case 0

Test case 1

Test case 2

Compiler Message

Success

Input (stdin) Download

```
2 2
1 2
3 4
```

Expected Output Download

```
[1.5 3.5]
[1. 1.]
1.11803398875
```