Collections.namedtuple() ★

53/115 challenges solved

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collections.namedtuple()

Basically, namedtuples are easy to create, lightweight object types.

They turn tuples into convenient containers for simple tasks.

With namedtuples, you don't have to use integer indices for accessing members of a tuple.

Example

Code 01

```
>>> from collections import namedtuple
>>> Point = namedtuple('Point','x,y')
>>> pt1 = Point(1,2)
>>> pt2 = Point(3,4)
>>> dot_product = ( pt1.x * pt2.x ) +( pt1.y * pt2.y )
>>> print dot_product
11
```

Code 02

```
>>> from collections import namedtuple
>>> Car = namedtuple('Car','Price Mileage Colour Class')
>>> xyz = Car(Price = 100000, Mileage = 30, Colour = 'Cyan', Class = 'Y')
>>> print xyz
Car(Price=100000, Mileage=30, Colour='Cyan', Class='Y')
>>> print xyz.Class
Y
```

Task

Dr. John Wesley has a spreadsheet containing a list of student's ID, $marks$, $class$ and $name$.

Your task is to help Dr. Wesley calculate the average marks of the students.

$$Average = \frac{Sum\ of\ all\ marks}{Total\ Students}$$

Note:

1. Columns can be in any order. IDs, marks, class and name can be written in any order in the spreadsheet.

2. Column names are `ID`, `MARKS`, `CLASS` and `NAME`. (The spelling and case type of these names won't change.)

Input Format

The first line contains an integer N, the total number of students.

The second line contains the names of the columns in any order.

The next N lines contains the $marks$, ID, $name$ and $class$, under their respective column names.

Constraints

$0 < N \leq 100$

Output Format

Print the average marks of the list corrected to 2 decimal places.

Sample Input

TESTCASE 01

```
5
ID       MARKS     NAME      CLASS
1        97       Raymond   7
2        50       Steven    4
3        91       Adrian    9
4        72       Stewart   5
5        80       Peter     6
```

TESTCASE 02

```
5
MARKS     CLASS     NAME      ID
92        2         Calum     1
82        5         Scott     2
94        2         Jason     3
55        8         Glenn     4
82        2         Fergus    5
```

Sample Output

TESTCASE 01

```
78.00
```

TESTCASE 02

```
81.00
```

Explanation

TESTCASE 01

Average = $(97 + 50 + 91 + 72 + 80)/5$

Can you solve this challenge in `4 lines of code or less`?

NOTE: There is `no penalty` for solutions that are correct but have more than 4 lines.

Change Theme Python 3

```
1  from collections import namedtuple
2  import re
3
4  if __name__ == '__main__':
5      n = int(input())
6
7      columns = ','.join(input().split())
8
9
10     Student = namedtuple('Student', columns)
11
12     students = []
```

```
13
14      for _ in range(n):
15          data = input().split()
16          students.append(Student(*data))
17
18      marks = [int(getattr(s, 'MARKS')) for s in students]
19      result = sum(marks) / len(marks)
20
21      print('{:.2f}'.format(result))
22
23
```

Line: 7 Col: 40

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

You have earned 20.00 points!

53/115 challenges solved.

46%

Congratulations

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

Next Challenge

Test case 0

Test case 1

Test case 2

Test case 3

Test case 4

Test case 5

Compiler Message

Success

Input (stdin) Download

```
5
ID      MARKS   NAME    CLASS
1       97      Raymond 7
2       50      Steven  4
3       91      Adrian  9
4       72      Stewart 5
5       80      Peter   6
```

Expected Output Download