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Dashboard > Python > Collections > Collections.namedtuple()

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# Collections.namedtuple() ■



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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
```

## Task

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

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

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

- 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, IDs, name and class, under their respective column names.

## Constraints

 $0 < N \le 100$ 

#### **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.

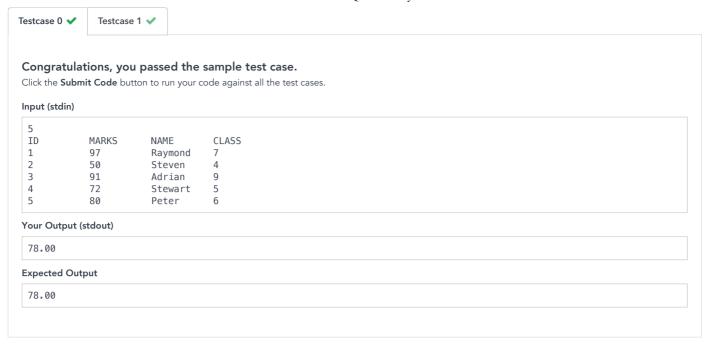
```
Current Buffer (saved locally, editable) &
                                                                                  Python 3
    import re
 2
    from collections import namedtuple
 3
    from functools import reduce
   tup_list = []
 5
 6
    n = int(input().strip())
    student = namedtuple('student', input().strip())
 9
10 \checkmark \text{for x in range(n):}
        data_list = re.findall(r'\w+', input().strip())
11
12
        tup_list.append(student._make(data_list))
13
   marks = [int(t.MARKS) for t in tup_list]
14
15
    avgnum = sum(marks) / len(marks)
    print('{:.2f}'.format(avgnum))
16
                                                                                                        Line: 16 Col: 31
```

Test against custom input

**1** Upload Code as File

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