Online Test 1, Question 8

Due on 2021-03-09, 12:00 IST

Write a Python function `aboveaverage(l)` that takes a list of pairs of the form (name,score) as argument, where name is a string and score is an integer. Each pair is to be interpreted as the score of the named player. For instance, an input of the form [('Kohli',73),('Ashwin',33),('Kohli',7),('Pujara',122), ('Ashwin',90)] represents two scores of 73 and 7 for Kohli, two scores of 33 and 90 for Ashwin and one score of 122 for Pujara. Your function should compute the list of players whose individual average score is greater than or equal to the overall average score. For an individual player, the average score is the total across all scores for that player divided by number of entries for that player. The overall average score is the total across all scores for all the players divided by the total number of entries across all players. The list should be sorted in ascending order by the name of the player.

For instance, `aboveaverage([('Kohli',73),('Ashwin',33),('Kohli',7), ('Pujara',122),('Ashwin',90)])` should return `['Pujara']` because the overall average score is 65 (325 divided by 5), Kohli's average is 40, (80 divided by 2), Ashwin's average is 61.5 (123 divided by 2) and Pujara's average is 122 (122 divided by 1).

Sample Test Cases

	Input	Output
Test Case 1	`aboveaverage([('Kohli',73),('Ashwin',33),('Kohli',7), ('Pujara',142),('Ashwin',90)])`	`['Pujara']`
Test Case 2	`aboveaverage([('Kohli',73),('Ashwin',33),('Kohli',7), ('Pujara',100),('Pujara',25),('Pujara',35), ('Ashwin',109)])`	`['Ashwin']`

function definitions, sorting ()

Week 3 Programming Assignment ()

Week 4: Sorting, Tuples, Dictionaries, Passing Functions, List Comprehension ()

Week 4 Quiz ()

Week 4 Programming Assignment ()

Week 5: Exception handling, input/output, file handling, string processing ()

Week 5 Programming Assignment ()

Week 6: Backtracking, scope, data structures; stacks, queues and heaps ()

Week 6 Quiz ()

Test Case 3	`aboveaverage([('Kohli',73)])`	`['Kohli']`
Test Case 4	`aboveaverage([('Kohli',73),('Ashwin',33),('Kohli',69),('Pujara',102),('Pujara',40),('Ashwin',109)])`	`['Ashwin', 'Kohli', 'Pujara']`
Test Case 5	`aboveaverage([('Kohli',73),('Ashwin',33),('Kohli',7),('Pujara',142),('Ashwin',90)])`	`['Pujara']`
Test Case 6	`aboveaverage([('Kohli',73),('Ashwin',33),('Kohli',7),('Pujara',22),('Ashwin',47)])`	`['Ashwin', 'Kohli']`

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment.

Sample solutions (Provided by instructor)

```
def aboveaverage(l):
  aggregate = {}
  innings = {}
  totalscore = 0
  totalinnings = 0
  for (name,score) in l:
    totalscore += score
    totalinnings += 1
    try:
      aggregate[name] += score
      innings[name] += 1
    except KeyError:
      aggregate[name] = score
      innings[name] = 1

  overallaverage = totalscore/totalinnings

  aboveaverage = []

  for name in aggregate.keys():
    average = aggregate[name]/innings[name]
    if average >= overallaverage:
      aboveaverage.append(name)

  return(sorted(aboveaverage))

import ast

def tolist(inp):
  inp = ast.literal_eval(inp)
  return (inp)

fncall = input()
lparen = fncall.find("(")
rparen = fncall.rfind(")")
fname = fncall[:lparen]
farg = fncall[lparen+1:rparen]

if fname == "aboveaverage":
  arg = tolist(farg)
  print(aboveaverage(arg))
```

- **Week 7: Classes, objects and user defined datatypes ()**
- **Week 7 Quiz ()**
- **Week 8: Dynamic programming, wrap-up ()**
- **Week 8 Programming Assignment ()**
- **Text Transcripts ()**
- **Books ()**
- **Download Videos ()**
- **Online Programming Test - Sample ()**
- **Online Programming Test 1, 01 Dec 2020, 10:00-12:00 ()**
- **Online Programming Test 2, 01 Dec 2020, 20:00-22:00 ()**
- **Online Programming Test 1, 09 Mar 2021, 10:00-12:00 ()**

- Online Test 1, Question 1 (/noc20_cs26/progassignment?name=148)
- Online Test 1, Question 2 (/noc20_cs26/progassignment?name=149)
- Online Test 1, Question 3 (/noc20_cs26/progassignment?name=151)
- Online Test 1, Question 4 (/noc20_cs26/progassignment?name=152)
- Online Test 1, Question 5 (/noc20_cs26/progassignment?name=155)
- Online Test 1, Question 6 (/noc20_cs26/progassignment?name=156)
- Online Test 1, Question 7 (/noc20_cs26/progassignment?name=157)
- **Online Test 1, Question 8 (/noc20_cs26/progassignment?name=158)**

Online Programming Test 2, 09 Mar 2021, 20:00-22:00 ()