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# Assignment 9 (Exploring Tuples of tuples)


#getAverageAge
def getAverageAge(big_tuple):

    total_age = 0
    for x in big_tuple:
        name, age, marks = x
        total_age = total_age + age

    no_of_students = len(big_tuple)

    average_age = total_age / no_of_students

    return average_age


 #getAverageMarks
def getAverageMarks(big_tuple):

    total_marks = 0
    for x in big_tuple:
        name, age, marks = x
        total_marks = total_marks + marks

    no_of_students = len(big_tuple)

    average_marks = total_marks / no_of_students

    return average_marks



 #get Lowest Mark
def getLowestMark(big_tuple):
#BEGIN your code here
    lowest_mark = 100

    for x in big_tuple:
        name, age, marks = x
        if marks < lowest_mark:
            lowest_mark = marks

    return lowest_mark

# END your code here


 #get Highest Mark
def getHighestMark(big_tuple):
    highest_mark = 0

    for x in big_tuple:
        name, age, marks = x
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        if marks > highest_mark:
            highest_mark = marks

    return highest_mark
#BEGIN your code here


# END your code here

#getSummary(big_tuple)
#This method returns a "tuple" reflecting these values
#  total_no_of_students
#  average_age
#  average_marks
#  highest_mark
#  lowest_mark
# ensure that this method calls other mini-methods

def getSummary(big_tuple):
#BEGIN your code
      #1. total_no_of_students
      total_no_of_students = len(big_tuple)

      #2. average_age
      average_age = getAverageAge(big_tuple)

      #3. average_marks
      average_marks = getAverageMarks(big_tuple)

      #4 highest_mark
      highest_mark = getHighestMark(big_tuple)

      #5 lowest_mark
      lowest_mark = getLowestMark(big_tuple)

      # construct the summary tuple
      summary_tuple =
(total_no_of_students,average_age,average_marks,highest_mark,lowest_ma
rk)

      return summary_tuple
#END your code



#========== Test Data ==========
# create student tuples
student_1 = ("abe", 16, 88)
student_2 = ("barb", 30, 72)
student_3 = ("chris", 14, 92)
student_4 = ("dan", 20, 80)
student_5 = ("ethan", 16, 60)

#create a bigger tuple representing the class
php_class = (student_1, student_2, student_3, student_4, student_5)
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# call the above method
summary_tuple = getSummary(php_class)
total_no_of_students, average_age, average_marks, highest_mark,
lowest_mark = summary_tuple

print("total no of students = ", total_no_of_students)
print("average age = ",average_age)
print("average marks = ",average_marks)
print("highest marks = ",highest_mark)
print("lowest marks = ", lowest_mark)
```