# 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\_marks = min(big\_tuple[0][2],big\_tuple[1][2], big\_tuple[2][2], big\_tuple[3][2],big\_tuple[4][2])

return lowest\_marks

# END your code here

#get Highest Mark

def getHighestMark(big\_tuple):

#BEGIN your code here

highest\_marks = max(big\_tuple[0][2],big\_tuple[1][2], big\_tuple[2][2], big\_tuple[3][2],big\_tuple[4][2])

return highest\_marks

# 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\_mark)

return summary\_tuple

#END your code

#========== Test Data ===========

# create student tuples

student\_1 = ("abe", 16, 88)cc

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)

# just for testing the mini-method

print("average age ", getAverageAge(php\_class))

# 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 makrs = ", lowest\_mark)