COP 1047C - Introduction to Python Programming

Assignment 4

Due on: 11/9/2022

It is the year 3042, Cruz Space Capable Vehicles Co. (CSCV Co.). has grown so much that it cannot find enough scientists and engineers to hire. Therefore, the company created the Miami Space Capable Vehicles College (MSCVC) to train the next generation of Space Capable Vehicles scientists and engineers. The company is keeping track of its students' information. using an old system of text files but plans to implement a new system soon. Your job for this project is to make sure that the data in the files is not corrupted.

Write a program that:

1- Asks the user for an input file name.

2- Validates that the user entered a valid file name (name of an existing file).

3- If the user enters invalid file names 3 times, displays an error message, and quits.

4- Reads from the input file the names of students (don't make assumptions about how many students) and their grades (0..5 grades per student, default to 0 for any grade less than 5 grades). The names of the students and the grades will be stored in a dictionary where the names are the keys, and the grades are stored in a list associated with the key.

5- After reading the student information into the dictionary, displays the name of each student followed by their grades followed by the grade average to the console as follows:

```
Student 1 Grade 1 Grade 2 Grade 3 Grade4 Grade 5 Average
Student 2 Grade 1 Grade 2 Grade 3 Grade4 Grade 5 Average
Student 3 Grade 1 Grade 2 Grade 3 Grade4 Grade 5 Average
Student 4 Grade 1 Grade 2 Grade 3 Grade4 Grade 5 Average
```

Dictionary + List:

{Student1:[Grade1, Grade2, Grade3, Grade4, Grade5], Student2:[Grade1, Grade2, Grade3, Grade4, Grade5], Student3:[Grade1, Grade2, Grade3, Grade4, Grade5]}

Structure of input file:

Student 1Name
Student 1 Grade 1
Student 1 Grade 2
Student 2 Name
Student 3 Name
Student 3 Grade 1
Student 4 Name
Student 4 Grade 1
Student 4 Grade 2
Student 4 Grade 3
Student 4 Grade 4
Student 4 Grade 5

For Example:

Rodolfo
98.9
99.5
Julio
Pedro
100
Maria
99
99.8
90
80
80

Submission guidelines: Send your **Assignment4.txt** file as attachments to my email, with the subject Python Assignment 4.

Note: Please include this comment at the top of your program. Replace the necessary information.

```
"""-------------------------------------------------

 Name:  Your Name

 Student ID: Your Student ID

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 Fall 2022 – Th 5:30 PM – 8:50 PM

 Assignment #

 Plagiarism Statement

I certify that this assignment is my own work and that I have not
copied in part or whole or otherwise plagiarized the work of other
students and/or persons.

I understand that students involved in academic dishonesty will face
disciplinary sanctions in accordance with the College's Student Rights
and Responsibilities Handbook (https://www.mdc.edu/rightsandresponsibilities)

01234567890123456789012345678901234567890123456789012345678901234567890123456789
---------------------------------------------------------"""
```