

# CS 1213

## Programming with Python Assignment 5: Practice With Dictionaries

Create a Python program in a single file named `your4x4_5.py` (where *your4x4* is replaced with your OU 4x4 username, `_5` is the literal underscore and number five character (representing this is Assignment 5), and `.py` is the literal suffix to the file) which meets the following requirements:

### Requirements:

Repeatedly prompt the user whether they want to input new data, print a summary of entered data, or quit.	2 points
When the user indicates they want to enter new data, prompt them for a name of a student, an assignment name (e.g., "Homework 1" or "Midterm 1"), and a grade (int value).	3 points
Data entered by user must be stored in dictionaries. One way to accomplish this is to use two levels of dictionaries, the primary dictionary will use student names as the keys and the values will be a unique dictionary per student whose keys are an assignment name and the associated value a grade.	10 points
When the user indicates they want to print a summary of entered data, prompt them whether they want to see: <ol style="list-style-type: none"><li>total - for each student print an average grade by averaging all that student's individual grades on each assignment (you can assume each assignment is worth the same amount of credit as any other assignment)</li><li>average - for each assignment (by name) print an average score earned on that assignment for all students</li></ol>	12 points
At the top of your file <b>must</b> be a comment the text of which is your name	1 point
For each function, loop, and any other potentially complicated section of code write a comment explaining what the code is doing	2 points

You must complete the assignment by **Friday, November 15 at 11:59 PM** and submit the `.py` file containing Python code on Canvas to Assignment 5. Do not submit any other files, or a ZIP of the `.py` file, or anything else. Should Canvas be down or unavailable, you may e-mail the file to [nicgrounds@ou.edu](mailto:nicgrounds@ou.edu)

Rubric for grading:

	Acceptable	Needs Improvement	Fail
Functionality	Meets all requirements listed above. May have additional commands or functions to better organize the code.	One or two basic requirements are unmet (e.g., some of the commands given by user input).	Program fails to execute or is missing even basic functionality (e.g., prompting the user for input, printing simple messages).
Non-Functional	Clear comments explaining what each function is doing. Clear variable names that intuitively relate what the variable's purpose is.	Unclear comment(s) or variable names which are arbitrary and uninformative.	Missing comment or comment that merely re-stated the requirement. Variable names are misleading for what their purpose actually is.

Sample potential execution of a program meeting the requirements:

```
Would you like to enter new data, see a summary of data, or quit?
(Enter 'new' or 'summary' or 'quit'): new
Student name: Nic
Assignment name: Homework 1
Grade: 90
```

```
Would you like to enter new data, see a summary of data, or quit?
(Enter 'new' or 'summary' or 'quit'): new
Student name: Bob
Assignment name: Homework 1
Grade: 87
```

```
Would you like to enter new data, see a summary of data, or quit?
(Enter 'new' or 'summary' or 'quit'): new
Student name: Chuck
Assignment name: Homework 1
Grade: 94
```

```
Would you like to enter new data, see a summary of data, or quit?
(Enter 'new' or 'summary' or 'quit'): new
Student name: Nic
Assignment name: Homework 2
Grade: 99
```

```
Would you like to enter new data, see a summary of data, or quit?
(Enter 'new' or 'summary' or 'quit'): new
Student name: Bob
Assignment name: Homework 2
Grade: 70
```

```
Would you like to enter new data, see a summary of data, or quit?
(Enter 'new' or 'summary' or 'quit'): new
Student name: Chuck
Assignment name: Homework 2
Grade: 98
```

```
Would you like to enter new data, see a summary of data, or quit?
(Enter 'new' or 'summary' or 'quit'): summary
Would you like to see a 'total' summary or summary of assignment 'average'
grades? average
Homework 1 average: 90.3
Homework 2 average: 89.0
```

```
Would you like to enter new data, see a summary of data, or quit?
(Enter 'new' or 'summary' or 'quit'): summary
Would you like to see a 'total' summary or summary of assignment 'average'
grades? total
Nic average: 94.5
Bob average: 78.5
Chuck average: 96.0
```

```
Would you like to enter new data, see a summary of data, or quit?
(Enter 'new' or 'summary' or 'quit'): quit
Thanks for using my program.
```