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| Qatar University  College of Engineering  Dept. of Computer Science & Engineering | quLogo94x89NT | Computer Programming  GENG106  Fall 2020 |

**In lab assignment -5**

A teacher in a co-ed school wants to assess his student performance in math, so he collected the scores and genders of 1000 students that took his exam and stored them in the file math.txt.

The file contains records with the following format:

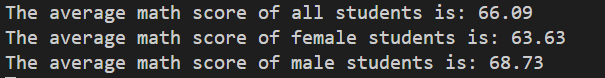
score(integer)**\n**gender(string)

Help the teacher with understanding his student’s performance by performing the following tasks:

* Write a function called **process\_list(file\_name)** that reads the student grades into a list called **grades**.
* Print the average math grade of all the students in the file.
* Print the average math grade for all female students in the file.
* Print the average math grade for all male students in the file.
* Show a pie chart of the average student grades for both males and females (hint: when you call plt.pie, provide the following arguments: labels = [‘Females’,’Males’],autopct=’%1.2%%’)
* Write a main function that calls the function **process\_list** and passes the file “math.txt” to it.

Note: You can use built-in functions in Python to get the average.

Here is some sample run for your reference:



Your pie chart should look like this:

Chart, pie chart

Description automatically generated

Submission instructions » Read carefully

1. Solve the question using Visual Studio Code by creating a .py file and writing your code in it.
2. Name your file *Assignment-5-Your Name-QUID.py*
3. Write your name and QU ID in your .py file as comments at the top of the file as well.
4. Take a screenshot of your program run and the produced figure, then name it *Assignment-5-Your Name-QUID-output.png*, *Assignment-5-Your Name-QUID-pie.png*.
5. Submit both your **.py** and **two** **.png** file to Blackboard in a **.zip** file.