Project #7 – Getting to know Python

Learning objectives

- Design and implement a complete program in an interpreted language.
- Use Classes, Iterators in Python.
- Perform file and console I/O in Python.

Overview

The objective of this assignment is to get to know Python classes, Iterators, and I/O. You will write a "Student Records" program. Reading from a provided text file and writing to the standard output and to a new text file.

Specifications and suggestions

When I run your program, it should produce a listing of the student records as follows:

```
Student Records
===============

UID:
First Name:
Last Name:
Level:
CLASSES:
CS3100
CEG2170
……
……

UID:
First Name:
Last Name:
Level:
```

```
CLASSES:
CEG3310
……
……
```

- When executed, your program should look for the file **`studentRecordsIn.txt`** (provided) in the same directory as your main program script. It should load the list of records from this file. If this file is not present, your program should exit gracefully (with a message).
- After reading records, your program should output the data to the console formatted as described above then print the output to text file **`studentRecordsOut.txt`** in the same format and save it in the same directory.
- Your program must have at least one defined **class** "Student" to hold a student record, a method **addClass**, and an **iterator** method. You may define more classes and methods as you need.
- Each line is a full student record with the last words are for the classes:
    - Student record order: UID, FIRST, LAST, LEVEL, CLASSES

What to Turn In

Submit, well-commented file with your Python code via the Pilot dropbox. The python filename should be Project7.py. Include your name in the header comments.

Grading

This project is worth 40 points. Your program will be graded as follows:

1. **Capabilities and Correctness (35 pts)** – your program should run correctly and read from the records file and output the data to console and to a text file formatted as described.
2. **Style and Efficiency (5 pts)** –Your program should be logically organized, well-commented with class and method headers.