2022 Spring -- CSCI 1300L
Lab 01: Python programming environment setup and the first program

Introduction

In this lab, you will learn how to install and use Python and a Python IDE (Integrated Development Environment) to develop Python codes. You will also understand how the Python interpreter works. Finally, you will learn how to save your Python code into a source code file (.py).

Additionally, you will be familiar with the process of submitting your completed lab assignment to E-Learning Commons (eLC). A successful e-submission of any assignment is vital to your grade. You MUST master how to submit the assignments to eLC after this lab.

Lab objectives

After completing this lab, you will be able to:
(1) install and use Python version 3+,
(2) understand what a Python IDE is and use it for Python code development,
(3) create a simple Python program with multiple lines in the output, and
(4) make lab assignment submissions to the course eLC website from a Web browser.

Assignment

1. Install Python.

Depending on the operating system you are using, you may install the latest version of Python in Windows or MacOS, or any other available systems. Download Python from its official website: https://www.python.org/ . It is important that you download and use a version 3+, such as 3.8.x, 3.9.x, 3.10.x, not anything like 2.x.x.

After the successful installation, go to the command line terminal (in Windows, start->"cmd"; in MacOS, "terminal" from Launchpad/Applications), type "python --version" which is used to check the current Python version in your platform. If you see something that shows the version 3.x.x, it is done.

Special notice for some Mac users: In MacOS, you may see a version 2.x.x originally installed, such as 2.7. You must update Python into version 3+.

There is one way to install Python using command lines. Type "pip install python". Sometimes, you may try "pip3 install python" or "pip3 install python3". "pip" is the package manager that

includes Python for installation. For more information, go to https://packaging.python.org/en/latest/tutorials/installing-packages/ to see more details.

In some occasions, your operating system is equipped with multiple versions of Python, e.g. 2.x and 3.x. If you check the Python version by typing "python" in the command line and the result gives you "2.x..", try typing "python3" in the command line. If "python3" works in your system's terminal, then you will use "python3" instead of "python" for future Python programming.

2. Install a Python IDE.

A programming Integrated Development Environment (IDE) will facilitate programmers writing codes and maintaining them. In this class, we recommend that you use a popular IDE of your choice. Jupyter Notebook, Visual Studio Code, PyCharm, Spyder are among the top of the list for the most popular Python IDEs.

Check this webpage for the interesting data: https://www.kdnuggets.com/2020/10/most-popular-python-ides-editors.html

Keep in mind that you should install and use a Python IDE, not a text editor. Both the IDE and the text editor can help you edit the Python code. The difference between these two is that you can only run a Python program through an IDE but not a text editor.

We will mainly use Jupyter Notebook for this course. However, other IDEs are always an option as long as you prefer to use them. We will demonstrate how to install and use Jupyter Notebook during the lecture and the lab times.

3. Write and save your first Python program.

In whatever the Python IDE you are using, write the following lines of code:

```
print("Hello CSCI1300 class,")
print("My name is XXXX.")
print("Introduction: YYYY")
```

XXXX and YYYY are the customized messages created by yourself. XXXX is replaced with your name. YYYY is a short introduction about yourself. For example, after the execution of these three lines of code, the output can be:

```
Hello CSCI1300 class,
My name is Bull Dwag.
Introduction: I am a veteran student at UGA. I like sports and got the
2022 football champion. I also want to be a programmer Dwag.
```

You should put all three lines of code in one place, without running the interpreter to execute each line of code.

Save the Python code into the Python source code file. Name such a file as "*Lab01.py*". Make sure that the above three lines of code can work when you open the file and run the program later. Finally, upload the file into eLC as the lab assignment submission.

Submission instruction

After you have completed the assignment, upload and submit the Python source code file *Lab01.py* to eLC. Always double check that your submission was successful on eLC.

Grading

A score between 0 and 5 will be assigned, with a minimum of 1 point increment (i.e. only integers).

1. All three lines of print statements are written. (1 point)
2. Correct file format is used in the submission. (1 point)
3. Only the single source code file is submitted and no other file is submitted. (1 point)
4. The file contains YOUR customized information (not any fake "John Doe's introduction"). (1 point)
5. The Python program can be executed without any problem including displaying errors. (1 point)

Special notice regarding the submission:

Late submission penalty. Points will be deducted from the original grade. If your submission is after the posted deadline…
   (1) within 24 hours: -2
   (2) between 24 hours and 48 hours: -3
   (3) between 48 hours and 72 hours: -4
   (4) after 72 hours: assignment will not be accepted.