Lab Assignment Week 01

CSC/DSCI 1301 – Principles of CS/DS I

Week of August 26th, 2024

Introduction

Welcome to the first programming lab of CSC/DSCI 1301! Today, we will be covering the following topics:

1. Logging into the lab computers
2. Accessing the Lab Assignment on iCollege
3. Setting up your programming environment
4. Writing your very first Python program
5. Submitting deliverables on iCollege

We will also be going over the lab policies and procedures.

- Attendance is mandatory.
- Labs must be completed **individually.**
- TAs are here to help you. Ask them for help!
- Lab assignments are due at midnight on the day of your lab.

Deliverables:

1. The source code of your program. (**.py files**)
2. A screenshot of the terminal output of your program

If you have any questions, please do not hesitate to ask your TA. They are here to help you! We are excited to get started learning Python with you!

1 – How to login to the lab computers?

All GSU students have a university domain account created for them when they first enroll at the university. To access any public-use computer on campus, you can login using your Campus ID and password. This is the same Campus ID and password used to log into PAWS, iCollege, and the GSU Wi-Fi.

- Logging in can typically take a minute or two when it is the first time you have used the computer.
- Although you use the same login for all university computers, your files are not shared between computers! If you move workstations, your files will not be transferred.
- Back up your lab assignments! (Dropbox, Google Drive, OneDrive, etc…)

My advice would be to pick a workstation to use for the semester.

2 – How to access the lab assignments?

In the future, you will need to download the lab assignment and any supporting files at the start of each lab from iCollege or Top Hat. Here are the steps for iCollege:

1. Go to https://icollege.gsu.edu/ in your favorite web browser.
2. Login using your Campus ID and password.
3. Go to our class – Principles of Computer Science I.
4. Click on the **Assessments** Tab.
5. Select the **Assignments** from the dropdown menu.
6. Open the Week 1 Lab Assignment.
7. Download the attached Lab Assignment PDF.

Your favorite browser should save the file into the downloads folder on your lab computer.

3 – Setting Up Visual Studio Code

Before you can begin writing your first programs, you will need to set up your Integrated Development Environment (IDE). An IDE is a software application that provides a complete set of tools for writing, editing, debugging, and testing software. IDEs typically include a text editor, a compiler or interpreter, a debugger, and a variety of other tools. IDEs can be very helpful for programmers, as they can save time and effort by providing a single place to do all the tasks involved in software development.

1. First, you will need to open Visual Studio Code on your lab computer.
    a. Click on the shortcut on the desktop, or search for it by name in the windows search bar.
2. Next, you will need to install the Python Extension
    a. Open the *Extensions* panel by clicking on the symbol with the 4 squares, press Ctrl + Shift + X on your keyboard.
    b. Search for "Python" in the extensions search bar.
    c. Install the extension by Microsoft.

Very useful keyboard shortcuts in VS Code

Keyboard Shortcut	Description
Ctrl + /	Comment / Uncomment selected lines
Alt + ↑	Move a line of code (selected lines) up
Alt + ↓	Move a line of code (selected lines) down
Shift + Alt + ↑	Copy a line of code (selected lines) up
Shift + Alt + ↓	Copy a line of code (selected lines) down
F2	Rename (refactor) every usage of an object (variable/function)
Ctrl + Shift + K	Delete (kill) a line (selected lines)
Shift + Home	Go the beginning of a line
Shift + End	Go the end of a line
Tab	Indent a line of code (selected lines)
Shift + Tab	Remove indentation from a line of code (selected lines)
Ctrl + `	Show / Hide Terminal

4 – Writing your very first Python Program

For your first Python program, you will need to write a *Hello World* program. This program will display the phrase Hello World! into the terminal when it is executed. You will use the built-in Python print() function to accomplish this. The print() function will display any message surrounded by quotes you that type in between its parenthesis. When you execute/run your program, the message will appear in the terminal.

1. Create a new file.
    a. Click ***New File*** in Welcome Tab or Click ***File*** in the top right corner and select ***New File*** from the drop-down menu.
    b. Type in your file name into the text box
        i. Always end your python file names with .py (Some programs do not add this automatically)
    c. Choose a location to save your file.
2. Write a program that displays the message shown in the example output.
    a. Writing your first line of code
        i. Type in print function – print ()
        ii. Within the parentheses type in your message surrounded by single quotes.
    b. You write using a single print() statement or one for each line of the message. (Either works great!)
3. After you are done writing your message, executing your program.
    a. Click the Run (Play) button in the top right corner or press the F5 key.

Example Output

Your program's output in the terminal should look like the image below. **Replace [Day] and [Time] placeholders with the information for your lab session!**

```
Hello!
Welcome to CSC 1301 Principles of Computer Science I Course!
Our class is held every Tuesday and Thursday at 5:30pm.
Our Lab session is held every [Day] at [Time]
```

Skills Covered

- Displaying output on the Terminal/Console

Deliverables

For this program you will need to provide the python file containing your code as well as a screenshot of the output of your program. Please name your files as follows:

- Python Files
    - lastname_firstname_filename.py
    - For example: **hawamdeh_faris_hello_world.py**
- Screenshots
    - lastname_firstname_filename.png
    - For example: **hawamdeh_faris_hello_world.png**

5 – Submitting lab assignments

When you complete your lab assignment, call over your TA to have them verify that you have successfully completed the assignment correctly. Then ***upload your screenshot and program source code*** to the iCollege assignment for the Week 1 Lab Assignment. Here are the steps:

1. Go to https://icollege.gsu.edu/ in your favorite browser.
2. Login using your Campus ID and password.
3. Go to our class – Principles of Computer Science I
4. Click on the Assessments Tab.
5. Select Assignments.
6. Open the Week 1 Lab Assignment.
7. Attach your deliverables.
    a. **Upload both the screenshot and source code! (.py file)**
8. Click Submit.

Optional – Set up iCollege Alerts!

All course content, announcements, and homework assignments will be posted/assigned through our courses iCollege page. I highly recommend setting up your iCollege alerts, so you do not miss out on any assignments or announcements posted to our course page. These steps will also apply to all other course pages on iCollege.

1. Go to https://icollege.gsu.edu/ in your favorite web browser.
2. Login using your Campus ID and password.
3. Click on your name or profile picture on the top right of the page.
4. Select the **Notifications** from the dropdown menu.
5. Turn on Instant Notifications
    a. Recommended Notifications
        i. Announcements – new announcement available
        ii. Assignments – assignment due date
        iii. Content – content item created
        iv. Quizzes – quiz due date

Optional – Additional Program

Fun problem for those who already feel comfortable with Python

Write a program that prints the numbers from 1 to 100. For multiples of three, print “Fizz” instead of the number, and for multiples of five, print “Buzz”. For numbers that are multiples of both three and five, print “FizzBuzz”.

If you are unsure how to approach this problem, do not worry – you will learn soon! There is no need to submit this problem on iCollege. Instead, check your solution with your lab instructor.