Getting Started

The purpose of this tutorial-style self-paced exercise is to help you learn the basics of Python. If at any point you get lost or stuck, go back to the beginning of the section and try again.

PyCharm is an Integrated Development Environment (IDE). It allows you to write and run your code all in one place. It also allows you to organize your work into different projects, each able to contain multiple files. The main components of an IDE are labeled below.

Note: In PyCharm you may need to click the Python Console button (circled above) in order to view the console and your output.
*** Important ***

In order for your progress on this tutorial to be saved, you must first change where your work is saved. To do this, open your Libraries folder. Select Computer on the left hand side and then UCSD (C:)

Then go to Users and find the folder with your user name. Your file path should look like this, where your user name is in the red box.

From there, open the folder named PycharmProjects. Inside this folder you should see another folder named PythonIntroduction.

Now, open a new Libraries window and navigate to your CSE3 folder. Once inside your CSE3 folder, drag the entire PythonIntroduction into your CSE3 folder. While the folder is copying over you should see a pop-up like this:

Once this has finished, you have successfully saved the files in the proper location. To verify, open your CSE3 folder > PythonIntroduction and you should see a list of 10 lessons as well as a few other files.
Part 2: Using PyCharm (Educational Edition)

Starting PyCharm:
To open PyCharm, use the Windows start menu to search for “JetBrains PyCharm”. Be sure you are opening version 2.0.1.

PyCharm may take a minute or two to load.

Once PyCharm has loaded, a start menu will appear. Select the Open option

We are going to open the files that we just saved into our CSE3 folder.

Be sure to select H:\, find your CSE3 folder, and select PythonIntroduction, then click OK.
Part 2: Beginning the Tutorial

Once PyCharm has finished loading, your screen should look similar to this. Again, if you do not see the console, click on the Python Console button at the bottom left of the PyCharm IDE.

The first part of the tutorial you will be completing is the Introduction. To begin the first task, either double click on the Introduction option in the Project Explorer, or the small arrow next to it. Then, to select the first task, double click on the Our first program option.

Each task will include a small description of the task as well as instructions to either write code or fill in a small portion of it. For this task, replace the text in the blue box with your name.

Once you have filled in the code, click the check mark button found above the text for that lesson (circled above) to compile and run your code.

If you have successfully completed the task, your output will be displayed in the console, the task name will be in green, and your number of tasks completed will increase by one. To continue on to the next task, either double click on the task in the Project Explorer menu, or click on the next arrow button (circled above).
If you have not successfully completed the task, the task name will turn red and the console will give you a hint about what is wrong with your code.

You are able to attempt each task as many times as you’d like, so you can start the task over using the refresh button. If you are still having trouble completing a task, you can click on the lightbulb button to receive a hint.

**Part 3: Completing the Tutorial**

For this assignment you are required to complete all the task in the Introduction, Variables, and Condition Expressions sections. These are the minimum requirements to receive full credit for this assignment, but feel free to complete more if you wish. We will also be doing loops in Python, so consider doing this section as well or referencing it later.

*****HINT*****

In the Boolean expressions section, for the third task titled “If Statement” you are asked to check if a list is empty. An empty list has a length of zero and you can find the length of a list using `len(ListName)`. How could you use an if statement to check if the Given list I empty?

Once you have completed these sections, you should be able to answer/explain the following:

- What are the two types of numbers in python and what is the difference between them?
- What does the modulus operator (%) calculate?
- What is the difference between `=` and `==`?
Part 4: Writing Your First Python Program
Now that you have learned a little bit more about how to code in Python, it’s time to write your first program!

Before we get started, create a Homework5 folder in your CSE3 folder. This is where we’ll be saving your new program.

To start a new file in PyCharm, click on File then New Project... at the top left hand side of your screen.

We want to save this into our Homework5 directory, so to change the location, click on the “...” button to the right of the Location box and the file path. From there you will be able to navigate to your CSE3 folder and then into your CSE folder.

Also be sure to have Pure Python selected on the left hand side.

When you have finished your file path should look similar to this:

Click the Create button
Once you have created your new project, we must create a new file inside of your project. To do so, right click on your Homework 5 directory in your Project Explorer and select New Python File.

Name your file HelloWorld and click OK.

Now that we have our file created it’s time to get coding! Because this is your first program, we will provide all of the code, but it is your job to understand what is happening and why. Type the following into your Python file:

```
# < Your Name > < Your lab day and time >
# < Today’s Date > Homework 5

print("Hello World!")  # Print Hello World

my_name = input("What is your name?")  # Ask the user what their name is and store it in the my_name variable

print("Hello " + my_name)  # Print Hello and the user’s name

my_major = input("What is your major?")  # Ask the user what their major is and store it in the my_major variable

my_year = input("What year are you?")  # Ask the user what year they are and store it in the my_year variable

print("You are a " + my_year + " year " + my_major + " major.")  # Print the user’s year and major
```

Be sure to replace anything in < > with your own information. Once you have completed typing this in, run your program by clicking the green arrow found next to the line 1 of your code, or right clicking on your file name and selecting Run.

If your program does not compile the first time you run it, don’t worry! It is normal to have to debug your code after you write it. Look at the errors the console displays and try to fix it yourself, and then go back and try to spot the difference between your code and the given code.
Once your program compiles and runs, you should be able to enter in your own information into the console and your program should print it out. Your output should look similar to this:

```
Hello World!
What is your name? Natic
Hello Natic
What is your major? Computer Science
What year are you? Fourth
You are a Fourth year Computer Science major.
```

Process finished with exit code 0

**Note:** The green text is the text that is entered by the user while the program is running (You type this in!).

As a bonus try adding in another question for the user to answer and printing that information out at the end of your program!

---

### Check-off Instructions:

1. Open PyCharm > Open File > PythonIntroduction
2. Make sure progress bar can be seen
3. Be able to answer questions about Python
4. Run your HelloWorld program with your tutor’s information