Welcome to the ESC180 lab!

This lab will introduce you to the tools we will be using throughout the term.

If, at any point, you encounter problems, don't hesitate to ask your TAs for help. They are there to answer all of your questions about the lab.

At the **end of the lab**, you should show your work to a TA. If you have made a good effort towards completing the lab , you will be given full marks for the lab. Make sure that you do not leave before a TA has graded your work.

You must work with a partner – if you cannot find a partner, talk to a TA and they will find you one. At the end of the lab, both partners should be prepared to explain the work to the TA.

Question 1. Logging on to ECF

Your login name is likely your UTORid (a username that appears on your T-card). You can activate your account here:

`https://undergrad.engineering.utoronto.ca/undergrad-resources/engineering-computing-facility-e ecf-account-activation/`

Question 2. Installing Pyzo

After logging in, you should open a *terminal window*. To do that, press the Windows logo key, type in `terminal` and press Enter.

In the terminal window that opens, copy in the following, and press Enter.

`pip3 install pyzo --user`

You can now run Pyzo by opening a terminal window and entering the command

`python3 ~/.local/pyzolauncher.py`

Once the Pyzo window opens, in the upper right corner, you will be prompted to select the version of Python you will be using. Click "set the exe in the shell config". In the window that opens, select python3.9 using the dropdown menu next to "exe".

You only need to install Pyzo once. Once Pyzo is installed, it can always be started using `python3 ~/.local/pyzolauncher.py`.

Question 3. Your first Python program

Start up Pyzo using the instructions above. Click `File->New` to create a new file. Now click `File->Save` in order to save the file. In the dialogue that opens, create a directory called `esc180` in your home folder, then create a directory called `labs` inside `esc180`, and then create a directory called `lab01` inside `labs`. Finally, save your new file as `hello.py`.

Type the following in `hello.py`:

```
print('Hello, Python')
```

Save `hello.py`, and use `Run->Execute file` to run your program and display the message.

Question 4. Greetings

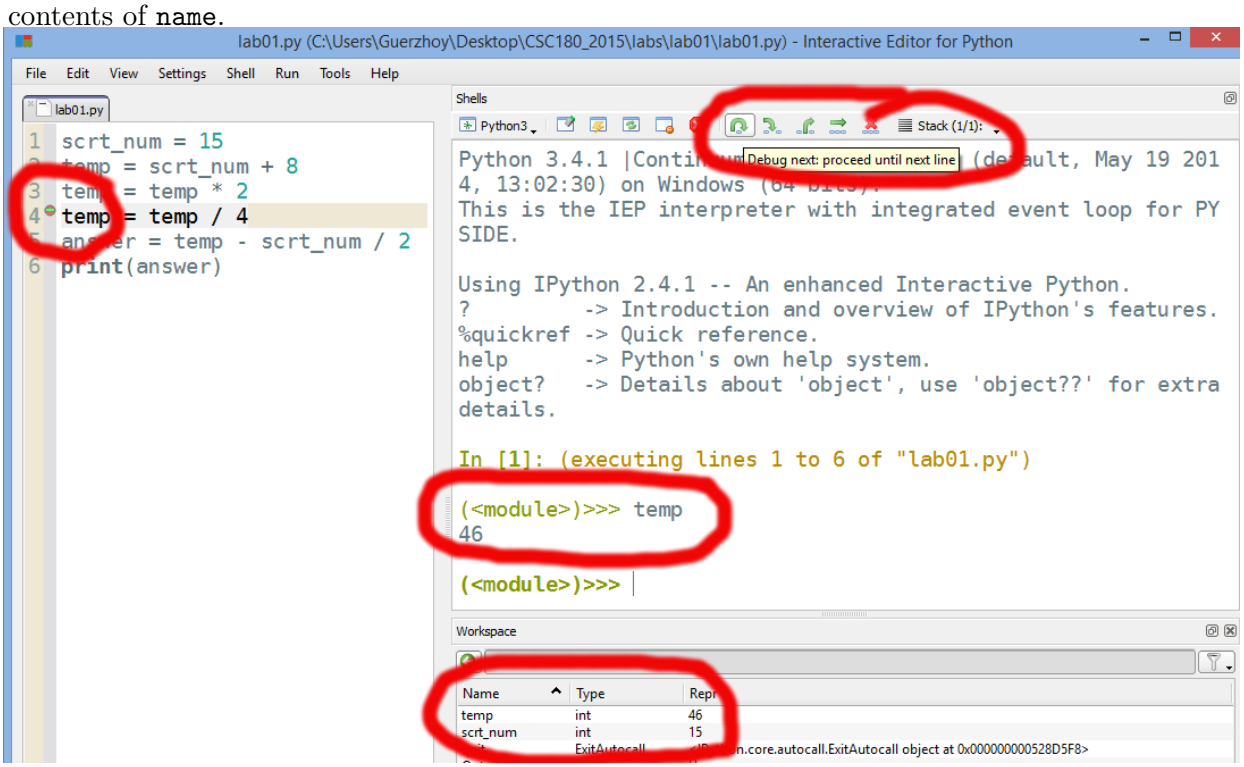
Modify `hello.py` to greet you by your names. For example, if your names happen to be Hermione Granger and Harry Potter, the program should print out the following:

```
Hello, Hermione Granger
Hello, Harry Potter
```

In lecture, we talked about variables. Variables are used, among other things, in order to avoid entering the same information more than once. Use variables to print (again, assuming you are Hermione and Harry) the following without entering either of your names more than once into `hello.py`

```
Hello, Hermione Granger and Harry Potter. Your names are Harry Potter and Hermione Granger.
Hi there. Your names are still Hermione Granger and Harry Potter.
```

Hint: you can use the expression `"Hi " + name` to obtain a string that consists of `"Hi"` combined with the contents of `name`.



Question 5. Tracing

Modify your program so that, *after printing the greetings*, the values of the variables that contain your names are changed to `Prof. Cluett` and `Prof. Davis`. Put a breakpoint on line 1 by clicking in the grey area to the right of the digit 1. There should now be a red dot there. Enable the `Workspace` tool by pressing `Tools->Workspace`. Now Trace the code by executing it (using `Run->Execute file`) and then pressing the `Debug next` button and make sure you observe (and can point out to the TA) the change in the values of the variables.

Question 6. More Greetings

Not everybody should be greeted by name. Write Python code that greets by name the person whose name is stored in a variable called `greetee`, except if the person's name is Lord Voldemort, in which case the program should print the message "I'm not talking to you."

Hint: you can use something like

```
if a == "hello":
  print("The value of a is hello")
else:
  print("The value of a is not hello")
```