

Objectives: You will gain experience:

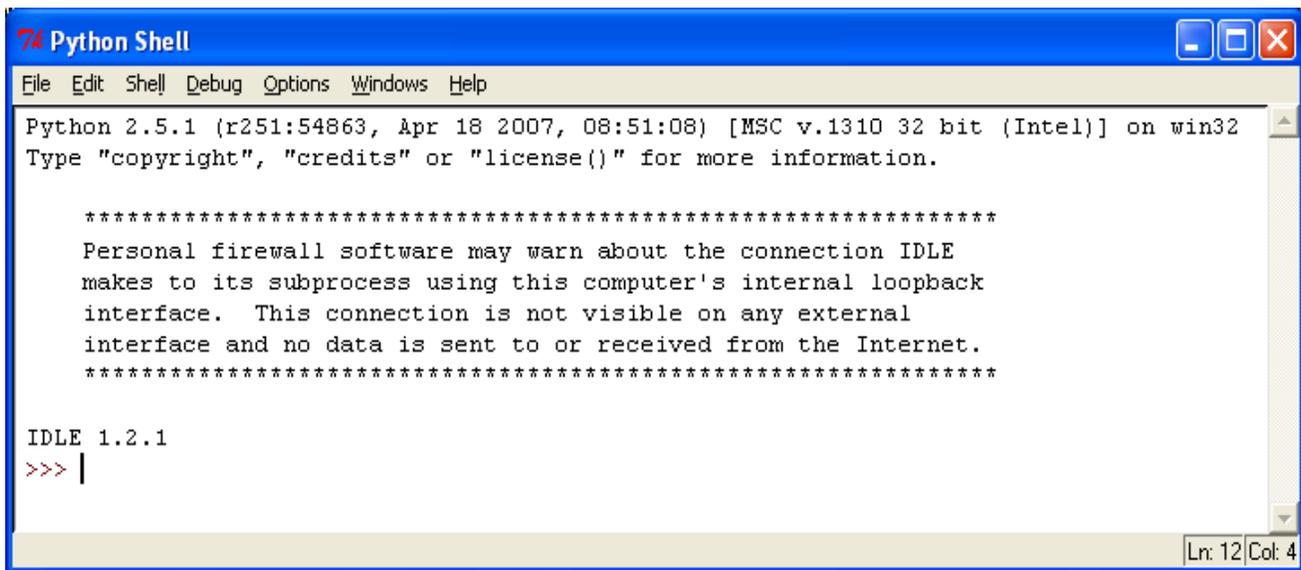
- using IDLE (Integrated DeveLopment Environment) interactively to execute individual Python statements
- running an existing Python program (script) in IDLE and outside of IDLE
- using IDLE to develop and run a simple Python program

Download the following file to your desktop: <http://www.cs.uni.edu/~fienu/cs051f10/labs/lab1.zip>

Extract this file by right-clicking on lab1.zip icon and selecting Extract All.

Part A: Using IDLE in interactive mode

1. Launch IDLE by selecting "Start | All Programs | Programming | Python | IDLE (Python GUI)"
2. When IDLE starts up it should look like:



```
Python 2.5.1 (r251:54863, Apr 18 2007, 08:51:08) [MSC v.1310 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.

*****
Personal firewall software may warn about the connection IDLE
makes to its subprocess using this computer's internal loopback
interface.  This connection is not visible on any external
interface and no data is sent to or received from the Internet.
*****

IDLE 1.2.1
>>> |
```

This is Python's interactive mode window. This means that you can type in a Python statement at the “>>>” prompt and then hit the *Enter* key to send it to the Python interpreter to be converted to machine language and then executed. (Note: If you ever find IDLE “up” and cannot get a new prompt, the interpreter is likely in a state where it is waiting for you to input some data. Hitting *Ctrl-c* will send a keyboard interrupt and should get you back to a prompt. It can also be used to interrupt any running command.)

Try the following:

1. At the prompt (>>>), type: `miles = 300`
This assigns the variable `miles` the integer value of 300. A *variable* is a named spot in memory. (Type the variable name `miles` to see its value)
2. At the prompt (>>>), type: `gallons = 10`
3. Calculate the mileage, type: `mileage = miles / gallons`
4. To view the value of a variable, just type its name at the prompt (>>>), type: `mileage`
5. What happens if you type the following? `mileage = 300 / 0`

After you have tried the above statements and answered question (5), raise your hand and show an instructor.

Part B: The lab1.zip file you downloaded and extracted contains the mileage.py Python script. Open mileage.py in IDLE by right-clicking on it with the mouse and selecting “Edit with IDLE.” This will pop-up two windows: one titled “mileage.py” and the other “Python Shell”. In the “mileage.py” window select Run | Run Module to execute the script. In the following table, predict the mileage.

miles entered	gallons entered	mileage predicted	mileage calculated by the program
300	10		
30	20		
10	9		

Repeat the “Run | Run Module” process to complete the last column of the table.

Why do you think that the predicted and calculated mileage differ?

After you have answered the above question, raise your hand and explain your answer to the instructor

Part C: In IDLE select Open | New Window, to create a blank window. In this window, write a simple program to calculate your gross pay after inputting the number of hours worked and your hourly pay rate. (Hint: the multiplication operator in Python is “*”).

The first time you try to execute (via Run | Run Module) your program, IDLE will ask you to save it. Save it in a file called wageCalc.py in the lab1 folder on the Desktop.

Copy the lab1 folder containing your wageCalc.py file to a USB drive or the Network R: drive (your student ID#) in the “Computer” folder, or e-mail it to yourself.

After you have your program working correctly (“debugged your program”), raise your hand and demonstrate your program.

If you complete all parts of the lab, nothing needs to be turned in for this lab. If you do not get done today, then show me the completed lab in next week’s lab period.

Make sure that you log off the computer before you leave.