

Name \_\_\_\_\_

**CIS 130 - Intro to Programming**  
**Week 2 Lab - Wednesday, 01-24-07**  
**Week 2 Lab Exercise**

**Purpose:** get practice copying and pasting from within the **python** interpreter to a **pico** session (in the bizarre mouse-impaired world of ssh), get practice submitting something using **~st10/130submit** .

**YOU MAY WORK IN PAIRS FOR THIS LAB.** Submit one set of files if you do so; both involved will receive credit if all goes well. Make sure you understand how to do these actions on your own, also, so you'll be ready to do so for HW #1 (and beyond). One member of the pair should type ("drive") while the other says what to type ("navigates") for parts #1 - #5 below; you should then SWITCH roles (so the navigator is now the driver, and the driver is now the navigator) for parts #6 - #9 below.

1. Use **ssh** to connect to **cs-server.humboldt.edu**. Log into one of your cs-server accounts. You should now see a **cs-server prompt** --- it probably ends with `cs-server:~>`

That means cs-server is awaiting your command.

2. Now open a SECOND connection to **cs-server** using ssh. (If you are using the Windows Secure Shell Client version of **ssh**, this is easy: on one of the top toolbars, you see an icon shaped like a computer screen with a few circles curving over it. Click on that, and voila! You'll be logged onto a second cs-server session.) But you can also just start up a second session just like you did the first one, if you prefer.
3. As we discussed in class, once you are at cs-server, starting up the **python** interpreter there is easy: just type **python** and then the enter/return key at the cs-server prompt. Go ahead and try it in one of your cs-server windows --- remember, if you see `>>>` , that's good, since that's the **python** interpreter prompt, patiently awaiting your Python expressions.

(remember: you can end your **python** interpreter session by typing the ctrl key and letter d at the same time, abbreviated as ^D in UNIX parlance. But don't end it just yet.)

4. In your other cs-server window, start up the **pico** text editor program, creating a new file **130lab2\_test.txt** ; that is, at the cs-server prompt, type:

**pico 130lab2\_test.txt**

...followed by typing the enter/return key.

Now you are in the **pico** program. Remember that you can type the ctrl key and letter o at the same time (^O in UNIX abbreviation) to write out, or save, the changes you have made to this file, and you can type the ctrl key and letter x at the same time (^X in UNIX abbreviation) to exit pico. But, again, don't exit just yet.

Type your name or names in this file; I'll give credit based on whose names are here, so be sure to include both if you are working in a pair.

5. There will be times when I'd like you to verify that you have tried something within the **python** interpreter; at those times, I might ask you to copy and paste part of your **python** session into a file, and submit that file. That's what you are going to practice now.

Within the **python** interpreter, type in:

- \* an arithmetic expression using +
- \* an arithmetic expression using -
- \* an arithmetic expression using \*
- \* an arithmetic expression using /

(Did you expect the values **python** showed for each of your expressions?)

Now, use your mouse to highlight these four expressions and their values as shown in your **python** session. Copying this uses a different keyboard shortcut than copying in, say, Word; if you go to the Edit menu, you can select Copy (and see what the keyboard shortcut is, if you prefer) to copy what you've highlighted.

Now, go to your **pico** session. Pasting, again, uses a different keyboard shortcut than Word, etc.; but you can paste by selecting Paste from the Edit menu (and you can then see the different keyboard shortcut, if you prefer). You should now see your pasted python-session lines (please paste them AFTER the line containing your name(s).)

Save the contents of this file using ctrl and o typed at the same time (^O); exit pico by typing ctrl and x at the same time (^X).

6. Now let's try typing out a **python** function in a **Python module** (in our case, a file whose name ends in **.py**). Use **pico** to open a file named **130lab2.py**; at the cs-server prompt, type:

**pico 130lab2.py**

Within this pico session, type a Python **comment** containing your name (or both names, if you are working in a pair).

# **Name(s)**: <put your name(s) here>

...and then follow this with a blank line, and then the following Python function:

```
def circ_area(radius):  
    return 3.14159 * (radius * radius)
```

Save the contents of this file using ctrl and o typed at the same time (^O); exit pico by typing ctrl and x at the same time (^X).

7. You now need to try out your **circ\_area** function within **python**; fortunately, you still have your **python** session running in the other window.

Load your little Python module by typing the following at the **python** prompt:

```
from 130lab2 import *
```

... followed by typing the enter/return key. If all is well, you'll just see the next **python** prompt; otherwise, you'll see error messages.

Now, try to **run** **circ\_area**, typing the appropriate expression so that you get the area of a circle whose radius is **10** (which, in this case, should give an area of **314.159** --- for a proper test, you should know what value should result, so you can compare the actual value to your expected value.)

And, just to show that you can, call **circ\_area** so that it computes the area of a circle whose radius is the square root of 2. (What do you have to type to import the **math** module functions? And what is the **math** module function for computing the square root of something?)

8. You can modify an existing file using **pico** --- you should do so now, to modify **130lab2\_test.txt**, by typing at the cs-server prompt:

```
pico 130lab2_test.txt
```

Use the arrow keys to get to the bottom of **130lab2\_test.txt**, and then copy and paste the lines from your **python** session where you imported your module, ran your two **circ\_area** tests, and saw the results it gave for those two calls.

Save the modified contents of this file using ctrl and o typed at the same time (^O); exit pico by typing ctrl and x at the same time (^X).

9. Now, submit your files **130lab2\_test.txt** and **130lab2.py** using **~st10/130submit**;

that is, at the cs-server prompt, type:

**~st10/130submit**

...and follow the directions, **giving this homework the number 101**. Write your name(s) on the white board when you are done; I'll confirm that I have received your submission, and check your files' contents.

While you are awaiting your turn, you can experiment some more in Python, try out some UNIX commands, or even start on HW #1. Once I have confirmed with you that your submitted files have passed muster, you can continue your Python experimentation, continue to work on HW #1 (or even leave, if you wish).

You need to complete parts #1 through #9 above, and have them checked, by the end of lab.