


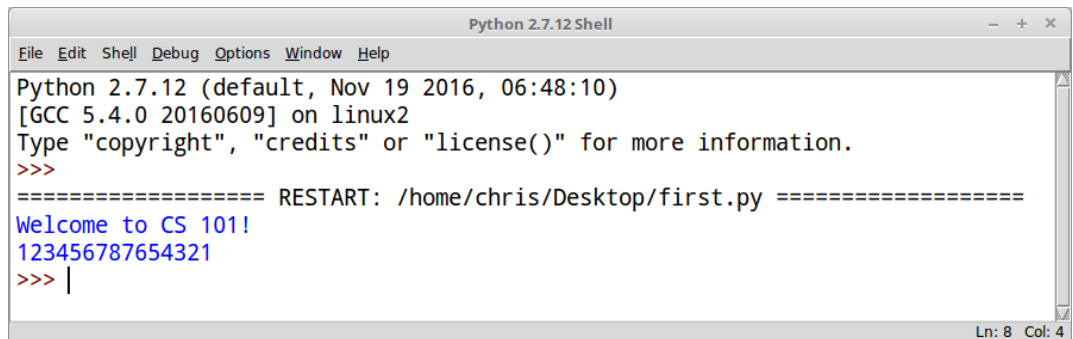
Model 1 Using IDLE

“IDLE is Python’s Integrated Development and Learning Environment. It has two main window types: the Shell window and the Editor window. It is possible to have multiple editor windows simultaneously.” (Source: <https://docs.python.org/2/library/idle.html>)



```
first.py - /home/chris/Desktop/first.py (2.7.12)
File Edit Format Run Options Window Help
# display a welcome message
print "Welcome to CS 101!"

# multiplying ones always gives you a palindrome
x = 11111111
print x * x
Ln: 7 Col: 0
```



```
Python 2.7.12 Shell
File Edit Shell Debug Options Window Help
Python 2.7.12 (default, Nov 19 2016, 06:48:10)
[GCC 5.4.0 20160609] on linux2
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: /home/chris/Desktop/first.py =====
Welcome to CS 101!
123456787654321
>>> |
Ln: 8 Col: 4
```

Questions (15 min)

Start time: _____

1. Which of the two screenshots in Model 1 is the Shell window? Which is the Editor window?

The top window is the editor, and the bottom window is the shell. You can tell based on the window titles.

2. Explain the terms “Editor” and “Shell” based on what you learned previously in the course.

An editor is a simple program for writing plain text files. A shell (or terminal) is an interface for running commands.

3. What is the name of the file in the editor? What directory is it saved in?

The name is first.py, and the directory is Desktop.

4. Explain the Python code in the editor window. What does each line do?

The first line is a comment, the second line displays a message, the third line is blank, the fourth line is another comment, the fifth line creates a variable named `x`, and the sixth line displays the value of `x` squared.

5. What is the output of the program? Where should you look for output?

The output is in the shell window (in blue):

```
Welcome to CS 101!  
123456787654321
```

6. Predict the output of each line below. Then type each line into the Shell window (one at a time) and check your answers.

a) `print 2 * 5` 10

b) `print 2 + 5` 7

c) `print "2 + 5"` 2 + 5 (without quotes)

d) `print CS rocks!` `SyntaxError: invalid syntax`

e) `print 2 # 5` 2 (because `#` makes a comment)

7. Explain the difference between b) and c) in the last question. Why are the results different?

`2 + 5` computes the number 7, whereas `"2 + 5"` is literal text.

8. What is wrong with the code in d)? Explain the error message. How do you fix the error?

It's interpreting the code `CS rocks!` as an arithmetic expression, but it's not valid (e.g, there's no operator). Syntax error means the code is not correctly structured. Add quote marks around `"CS rocks!"` to fix that line.