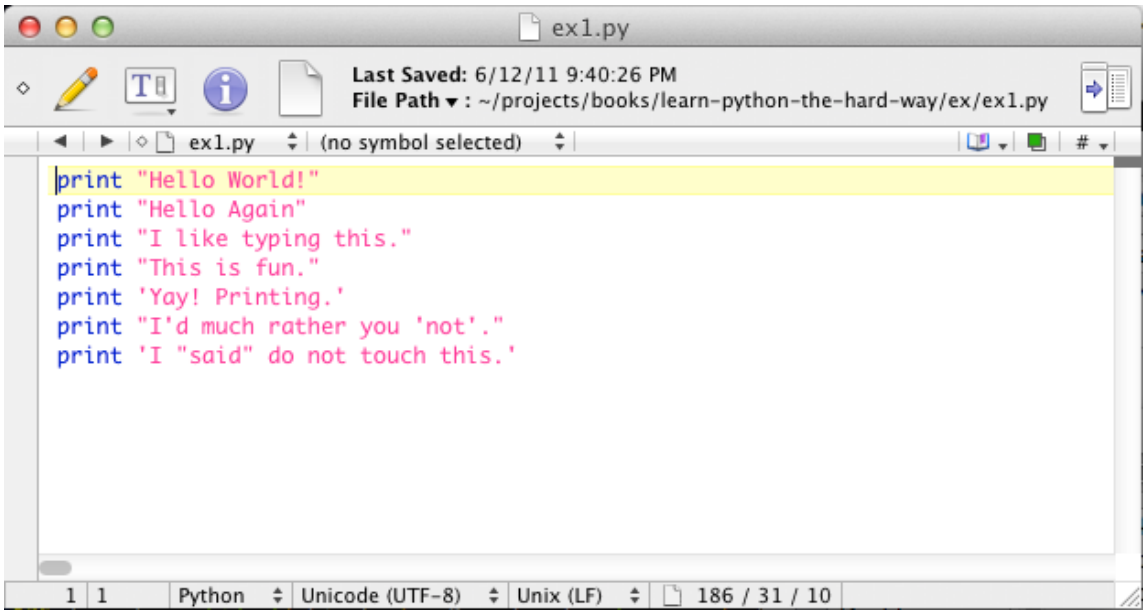
Exercise 1: A Good First Program

Remember, you should have spent a good amount of time in Exercise 0 learning how to install a text editor, run the text editor, run the Terminal, and work with both of them. If you haven't done that, then do not go on. You will not have a good time. This is the only time I'll start an exercise with a warning that you should not skip or get ahead of yourself.

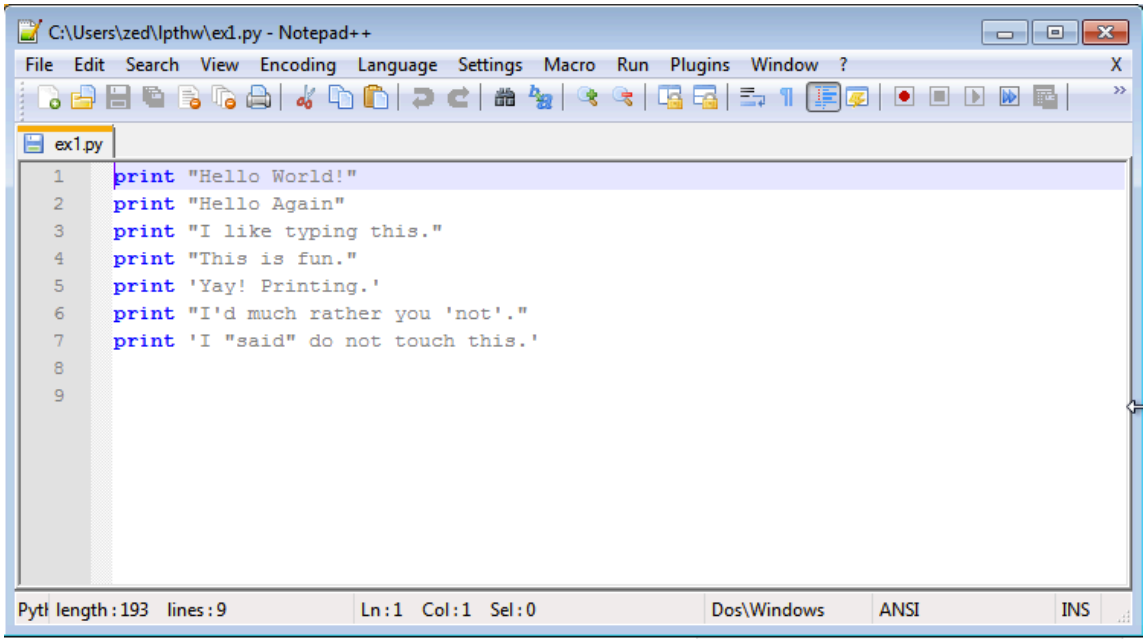
Type the following text into a single file named `ex1.py`. This is important as Python works best with files ending in `.py`.

```
1  print "Hello World!"
2  print "Hello Again"
3  print "I like typing this."
4  print "This is fun."
5  print 'Yay! Printing.'
6  print "I'd much rather you 'not'."
7  print 'I "said" do not touch this.'
```

If you are on Mac OSX then this is what your text editor might look like if you use TextWrangler:



If you are on Windows using Notepad++ then this is what it would look like:



Don't worry if your editor doesn't look exactly the same; the key points are:

1. Notice I did not type the line numbers on the left. Those are printed in the book so I can talk about specific lines by saying, "See line 5..." You do not type those into Python scripts.
2. Notice I have the `print` at the beginning of the line and how it looks

exactly the same as what I have above. Exactly means exactly, not kind of sort of the same. Every single character has to match for it to work. But, the colors are all different. Color doesn't matter, only the characters you type.

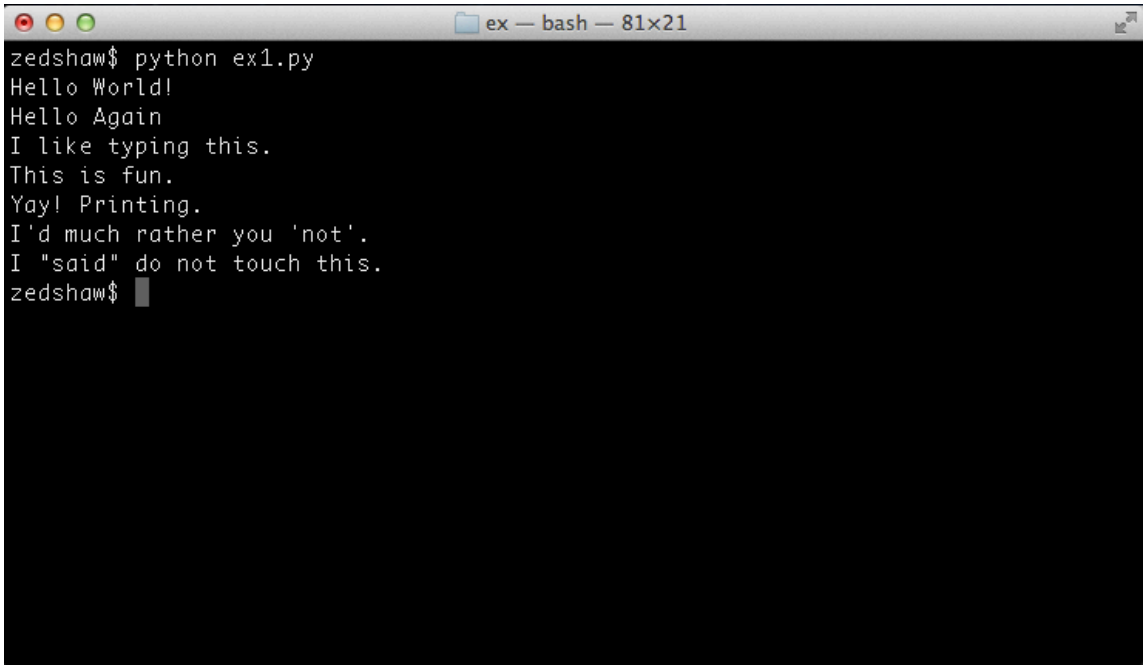
Then in Terminal *run* the file by typing:

```
python ex1.py
```

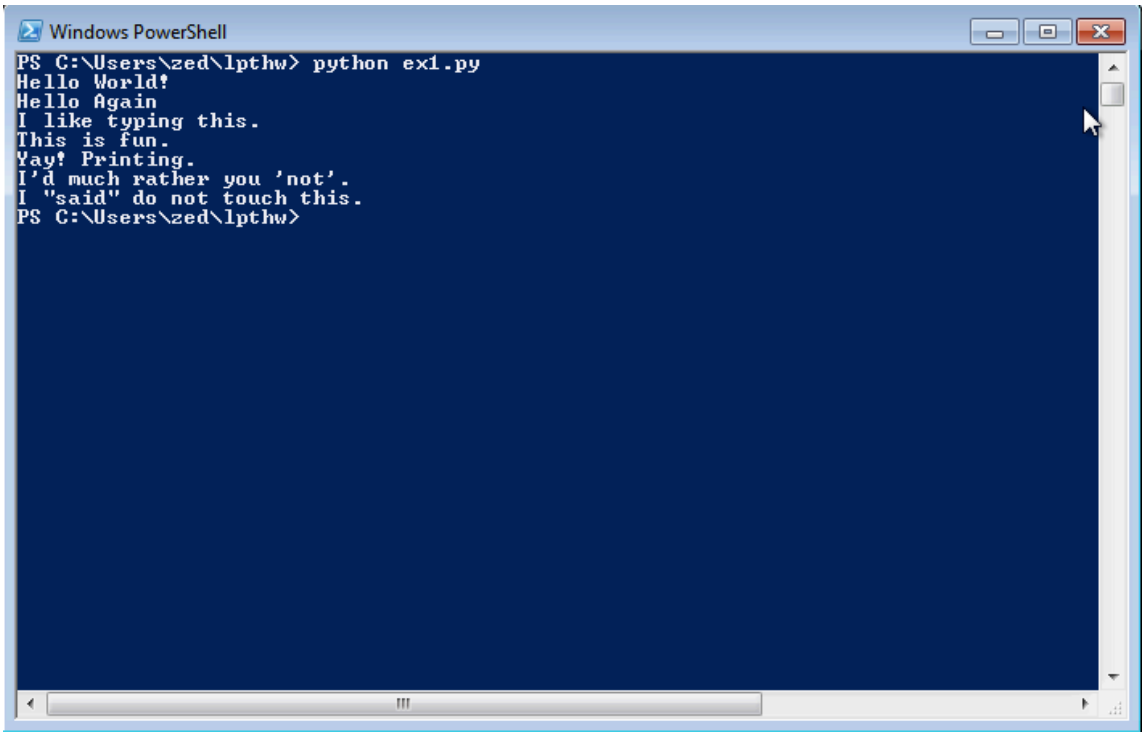
If you did it right then you should see the same output I have below. If not, you have done something wrong. No, the computer is not wrong.

What You Should See

On Max OSX in the Terminal you should see this:



On Windows in PowerShell you should see this:



You may see different names, the name of your computer or other things, before the `python ex1.py` but the important part is that you type the command and see the output the is same as mine.

If you have an error it will look like this:

```
$ python ex/ex1.py
  File "ex/ex1.py", line 3
    print "I like typing this.
                              ^
SyntaxError: EOL while scanning string literal
```

It's important that you can read these since you will be making many of these mistakes. Even I make many of these mistakes. Let's look at this line by line.

1. Here we ran our command in the Terminal to run the `ex1.py` script.
2. Python then tells us that the file `ex1.py` has an error on line 3.
3. It then prints this line for us.
4. Then it puts a `^` (caret) character to point at where the problem is. Notice the missing `"` (double-quote) character?
5. Finally, it prints out a "SyntaxError" and tells us something about what

might be the error. Usually these are very cryptic, but if you copy that text into a search engine, you will find someone else who's had that error and you can probably figure out how to fix it.

Warning

If you are from another country, and you get errors about ASCII encodings, then put this at the top of your Python scripts:

```
# -*- coding: utf-8 -*-
```

It will fix them so that you can use Unicode UTF-8 in your scripts without a problem.

Study Drills

You will also have `Study Drills`. The Study Drills contain things you should *try* to do. If you can't, skip it and come back later.

For this exercise, try these things:

1. Make your script print another line.
2. Make your script print only one of the lines.
3. Put a '#' (octothorpe) character at the beginning of a line. What did it do? Try to find out what this character does.

From now on, I won't explain how each exercise works unless an exercise is different.

Note

An "octothorpe" is also called a "pound", "hash", "mesh", or any number of names. Pick the one that makes you chill out.

Common Student Questions

These are *actual* questions by real students in the comments section of the book when it was online. You may run into some of these, so I've collected them into answers for you.

Can I use IDLE?

No, you should use Terminal on OSX and PowerShell on Windows, just like I have here. If you don't know how to use those, then you can go read the Command Line Crash Course in Appendix A.

How do you get colors in your editor?

Save your file first as a .py file, such as ex1.py. Then you'll have color when you type.

I get `SyntaxError: invalid syntax` when I run ex1.py.

You are probably trying to run Python, then trying to type Python again. Close your Terminal, start it again, and right away type only `python ex1.py`.

I get `can't open file 'ex1.py': [Errno 2] No such file or directory.`

You need to be in the same directory as the file you created. Make sure you use the `cd` command to go there first. For example, if you saved your file in `lpthw/ex1.py`, then you would do `cd lpthw/` before trying to run `python ex1.py`. If you don't know what any of that means, then go through the Command Line Crash Course (CLI-CC) mentioned in question #1.

How do I get my country's language characters into my file?

Make sure you type this at the top of your file: `# -*- coding: utf-8 -*-`.

My file doesn't run; I just get the prompt back with no output.

You most likely took the code in my file above literally and thought that `print "Hello World!"` meant to literally print just `"Hello World!"` into the file, without the `print`. Your file has to be *exactly* like mine, and in the code above and all of the screenshots, I have `print "Hello World!"` and `print` before every line. Make sure your code is like mine and it should work.

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