

Scaling Python With Generators

Welcome

I'm your host, Aaron Maxwell.

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In this class, you learn about **generators**. A powerful, rich tool for creating scalable Python software, and expressing clear, composable data pipelines inside your code.

How we will proceed

Download courseware ZIP:
Courseware-Generators.zip

What's included:

- Slides
- Labs (i.e., programming exercises - more on that later)
- Course workbook
- Text files

Python versions

In this class, we focus on Python 3.

Python 3.7 or later is **required**. We will not talk about earlier versions during the class. (There are just too many differences.)

I expect you have Python 3.7 installed on your system, so you can do the programming exercises.

(Slightly earlier versions, e.g. 3.6, are also likely to be sufficient.)

If you use Python 2.7 at work: read PYTHON2.txt after you've completed the class. (It's in the courseware bundle.)

What makes perfect?

Practice, practice, practice.

To give you the ABILITY to do useful, valuable things you could not do before.

- Practice syntax (typing things in)
- Practice programming (higher-level labs)

I expect you to do your part!

You **exponentially** get out of this what you put into it.

Running the labs

Labs are the main programming exercises. You are given a failing automated test; your job is to write Python code to make it pass.

Simply run it as a Python program, any way you like. (For example, `"python3 helloworld.py"`)

Run unmodified first, so you can see the failure report.

When done, congratulate yourself! (Ideally, find someone to high-five.)

Optionally: Move on to the extra credit.

Lab Demo

Here's how it works.

Solutions

You have solutions! Use them wisely, not foolishly:

- After you get the lab passing, compare it to the official solution. Is it different?
- Other than that, don't look at the solution if you can avoid it.
- If you need help on a lab, **peek** at the solution - just enough to make your light bulb go off!
- The more you do on your own, the more you will learn. Peek at the solution to get a hint when you really need it.

Lab: helloworld.py

Now it's your turn! Do your first lab now: `helloworld.py`

- In `labs` folder in the courseware

Instructions are in `LABS.txt` in the courseware.
You'll know the tests pass when you see:

```
*** ALL TESTS PASS ***  
Give someone a HIGH FIVE!
```