Exercise 0: The Setup

This exercise has no code. It is simply the exercise you complete to get your computer to run Python. You should follow these instructions as exactly as possible. For example, Mac OS X computers already have Python 2, so do not install Python 3 (or any Python).

> ⚠ **Warning**
>
> If you do not know how to use `PowerShell` on Windows, `Terminal` on OS X or `bash` on Linux then you need to go learn that first. You should do the exercises in Appendix A first before continuing with these exercises.

Mac OS X

Do the following tasks to complete this exercise:

1. Go to https://atom.io/ (https://atom.io/) with your browser, get the `Atom` text editor, and install it.

2. Put `Atom` (your editor) in your dock so you can reach it easily.
3. Find your Terminal program. Search for it. You will find it.
4. Put your Terminal in your dock as well.
5. Run your Terminal program. It won't look like much.
6. In your Terminal program, run `python`. You run things in Terminal by just typing the name and hitting RETURN.
7. Type `quit()`, `Enter`, and get out of `python`.
8. You should be back at a prompt similar to what you had before you typed `python`. If not, find out why.
9. Learn how to make a directory in the Terminal.
10. Learn how to change into a directory in the Terminal.
11. Use your editor to create a file in this directory. You will make the file, "Save" or "Save As...," and pick this directory.
12. Go back to Terminal using just the keyboard to switch windows.
13. Back in Terminal, list the directory with `ls` to see your newly created file.

OS X: What You Should See

Here's me doing this on my OS X computer in Terminal. Your computer might be different, but should be similar to this.

```
Last login: Sat Apr 24 00:56:54 on ttys001
~ $ python
Python 2.5.1 (r251:54863, Feb  6 2009, 19:02:12)
[GCC 4.0.1 (Apple Inc. build 5465)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>> quit()
~ $ mkdir mystuff
~ $ cd mystuff
mystuff $ ls
# ... Use Atom here to edit test.txt....
mystuff $ ls
test.txt
mystuff $
```

Windows

1. Go to https://atom.io (https://atom.io) with your browser, get the `Atom` text editor, and install it. You do not need to be the administrator to do this.
2. Make sure you can get to `Atom` easily by putting it on your desktop and/or in `Quick Launch`. Both options are available during setup.
3. Run `PowerShell` from the Start menu. Search for it and you can just press `Enter` to run it.
4. Make a shortcut to it on your desktop and/or `Quick Launch` for your convenience.
5. Run your `PowerShell` program (which I will call Terminal later). It won't look like much.
6. In your `PowerShell` (Terminal) program, run `python`. You run things in Terminal by just typing the name and pressing `Enter`.

7. If you run `python` and it's not there (`python is not recognized..`). Install it from http://python.org/download (http://python.org/download).

8. *Make sure you install Python 2, not Python 3.*

9. You may be better off with ActiveState Python especially when you do not have Administrative rights

10. If after you install it `python` still isn't recognized then in `PowerShell` enter this:

```
[ENVIRONMENT]::SETENVIRONMENTVARIABLE("PATH",
"$ENV:PATH;C:\PYTHON27", "USER")
```

11. Close `PowerShell` and then start it again to make sure Python now runs. If it doesn't, restart may be required.

12. Type `quit()` and press `Enter` to exit python.

13. You should be back at a prompt similar to what you had before you typed `python` . If not, find out why.

14. Learn how to make a directory in the `PowerShell` (Terminal).

15. Learn how to change into a directory in the `PowerShell` (Terminal).

16. Use your editor to create a file in this directory. Make the file, `Save` or `Save As...` and pick this directory.

17. Go back to `PowerShell` (Terminal) using just the keyboard to switch windows. up if you can't figure it out.

18. Back in `PowerShell` (Terminal), list the directory to see your newly created file.

From now on, when I say "Terminal" or "shell" I mean `PowerShell` and that's what you should use.

> ⚠ **Warning**
>
> Sometimes you install Python on Windows and it doesn't configure the path correctly. Make sure you enter `[Environment]::SetEnvironmentVariable("Path", "$env:Path;C:\Python27", "User")` in `PowerShell` to configure it correctly. You also have to either restart `PowerShell` or your whole computer to get it to really be fixed.

Windows: What You Should See

```
> python
ActivePython 2.6.5.12 (ActiveState Software Inc.) based on
Python 2.6.5 (r265:79063, Mar 20 2010, 14:22:52) [MSC v.1500 32 bit (Intel)]
Type "help", "copyright", "credits" or "license" for more information.
>>> quit()
> mkdir mystuff
> cd mystuff
... Here you would use Atom to make test.txt in mystuff ...
>
> dir
 Volume in drive C is
 Volume Serial Number is 085C-7E02

 Directory of C:\Documents and Settings\you\mystuff

04.05.2010  23:32    <DIR>          .
04.05.2010  23:32    <DIR>          ..
04.05.2010  23:32                 6 test.txt
               1 File(s)              6 bytes
               2 Dir(s)  14 804 623 360 bytes free

>
```

It is still correct if you see different information than mine, but yours should be similar.

Linux

Linux is a varied operating system with a bunch of different ways to install software. I'm assuming if you are running Linux then you know how to install packages so here are your instructions:

1. Use your Linux package manager and install the Atom (https://atom.io) text editor.
2. Make sure you can get to `Atom` easily by putting it in your window manager's menu.
3. Find your `Terminal` program. It could be called `GNOME Terminal` , `Konsole` , or `xterm` .
4. Put your `Terminal` in your dock as well.
5. Run your `Terminal` program. It won't look like much.
6. In your `Terminal` program, run `python` . You run things in `Terminal` by just typing the command name and pressing `Enter` .
    7. If you run `python` and it's not there, install it. *Make sure you install Python 2 not Python 3.*
8. Type `quit()` and press `Enter` to exit python.
9. You should be back at a prompt similar to what you had before you typed `python` . If not, find out why.
10. Learn how to make a directory in `Terminal` .
11. Learn how to change into a directory in `Terminal` .
12. Use your editor to create a file in this directory. Typically you will make the file, `Save` or `Save As...` , and pick this directory.
13. Go back to Terminal using just the keyboard to switch windows. Look it up if you can't figure it out.
14. Back in `Terminal` , list the directory to see your newly created file.

Linux: What You Should See

```
$ python
Python 2.6.5 (r265:79063, Apr  1 2010, 05:28:39)
[GCC 4.4.3 20100316 (prerelease)] on linux2
Type "help", "copyright", "credits" or "license" for more information.
>>> quit()
$ mkdir mystuff
$ cd mystuff
# ... Use Atom here to edit test.txt ...
$ ls
test.txt
$
```

It is still correct if you see different information than mine, but yours should be similar.

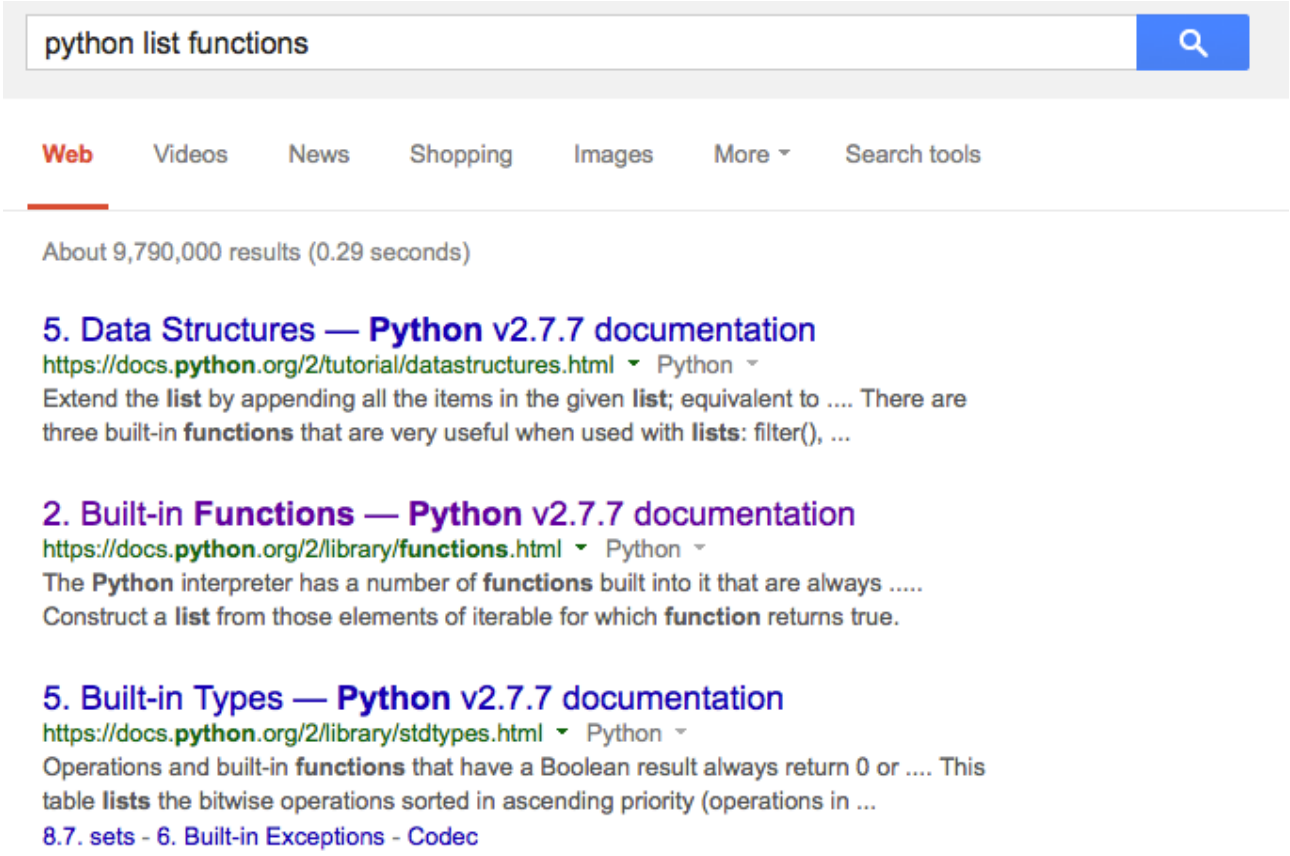
Finding Things on the Internet

A major part of this book is learning to research programming topics online. I'll tell you to "search for this on the internet," and your job is to use a search engine to find the answer. The reason I have you search instead of just giving you the answer is because I want you to be an independent learner who does not need my book when you're done with it. If you can find the answers to your questions online then you are one step closer to not needing me, and that is my goal.

Thanks to search engines such as Google you can easily find anything I tell you to find. If I say, "search online for the python list functions" then you simply do this:

1. Go to http://google.com/ (http://google.com/)
2. Type: `python list functions`
3. Read the websites listed to find the best answer.

Here's a screenshot of me doing this search:



Warnings for Beginners

You are done with this exercise. This exercise might be hard for you depending on your familiarity with your computer. If it is difficult, take the time to read and study and get through it, because until you can do these very basic things you will find it difficult to get much programming done.

If someone tells you to stop at a specific exercise in this book or to skip certain ones, you should ignore that person. Anyone trying to hide knowledge from you, or worse, make you get it from them instead of through your own efforts, is trying to make you depend on them for your skills. Don't listen to them and do the exercises anyway so that you learn how to educate yourself.

If a programmer tells you to use `vim` or `emacs`, just say "no." These editors are for when you are a better programmer. All you need right now is an editor that lets you put text into a file. We will use `Atom` (from now on called "the text editor" or "a text editor") because it is simple and the same on all computers. Professional programmers use these text editors so it is good enough for you starting out.

A programmer may try to get you to install Python 3 and learn that. Say, "When all of the Python code on your computer is Python 3, then I'll try to learn it." That should keep them busy for about 10 years. I repeat, *do not use Python 3*. Python 3 is not used very much, and if you learn Python 2 you can easily learn Python 3 when you need it. If you learn Python 3 then you'll still have to learn Python 2 to get anything done. Just learn Python 2 and ignore people saying Python 3 is the future.

A programmer will eventually tell you to use Mac OS X or Linux. If the programmer likes fonts and typography, they'll tell you to get a Mac OS X computer. If he likes control and has a huge beard, he will (or ze will if you prefer non-gendered pronouns of humans with beards) tell you to install Linux. Again, use whatever computer you have right now that works. All you need is an editor, a Terminal, and Python.

Finally, the purpose of this setup helps you do three things very reliably while you work on the exercises:

1. *Write* exercises using the Atom (https://atom.io) text editor.
2. *Run* the exercises you wrote.
3. *Fix* them when they are broken.
4. Repeat.

Anything else will only confuse you, so stick to the plan.

Ex0OSX.mp4

Ex0Windows.mp4