

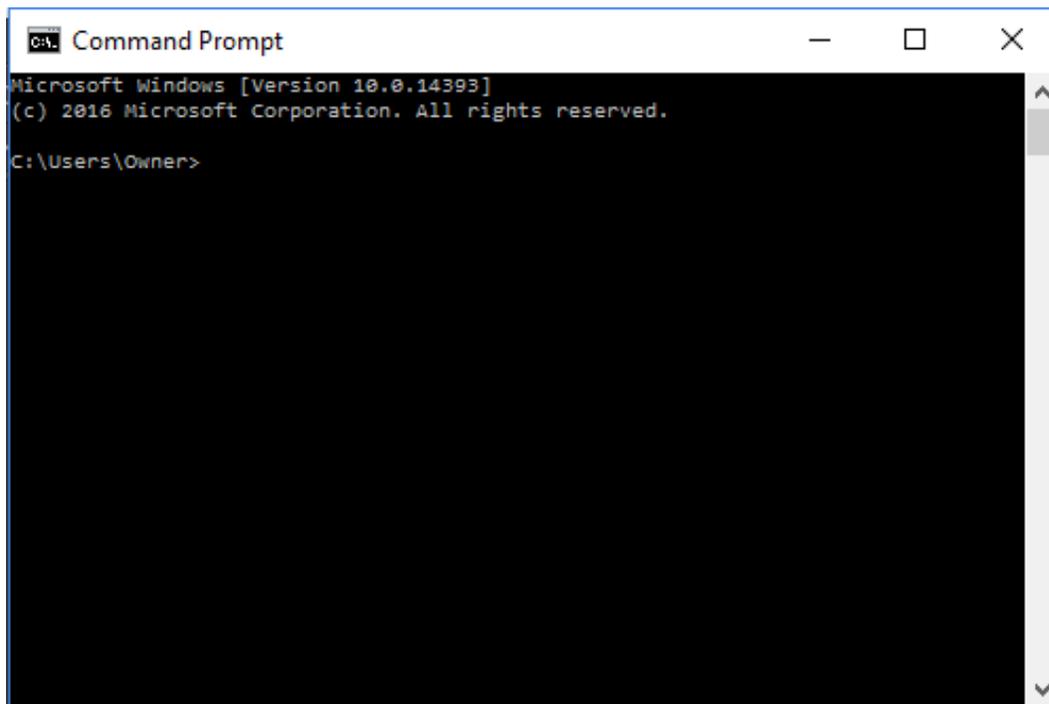
Chapter 9

Running Python Scripts

When you have a Python script ready to run, you can run it from the command window on a Windows machine and the Terminal on a Mac. We'll deal with each in turn.

Running Python Scripts Using the Windows Command Prompt

On a Windows machine, open the Command window by searching for CMD or Command in Windows search. This will open the command prompt.

A screenshot of the Windows Command Prompt window. The title bar reads "Command Prompt" with standard window controls (minimize, maximize, close). The main content area shows the following text: "Microsoft Windows [Version 10.0.14393] (c) 2016 Microsoft Corporation. All rights reserved. C:\Users\Owner>". The prompt is currently at the end of the line "C:\Users\Owner>".

```
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\Owner>
```

The command prompt harkens back to the days of MS DOS, the operating system that preceded Windows, when running the computer meant typing at the command line. It can still be used to manage files and directories and perform various other tasks.

Normally, the Python interpreter will be found in the Python27 folder on the root C drive of your computer. You can run the interpreter by switching to this folder by first typing **CD /** at the command prompt, to switch to the root directory, then typing **CD python27** to switch to the python27 directory.

Typing python will now start the interactive interpreter, which allows you to enter Python statements one at a time, and see the results immediately. This is just like using IDLE, as discussed in the tutorial **Getting Python up and Running**.

Of course, what we want to do is run a script we have written. You can do this by typing “python” followed by the full file path to the script you want to run, at the command prompt.

So typing **python c:/Scripts/Hello.py** will run the script myScript.py

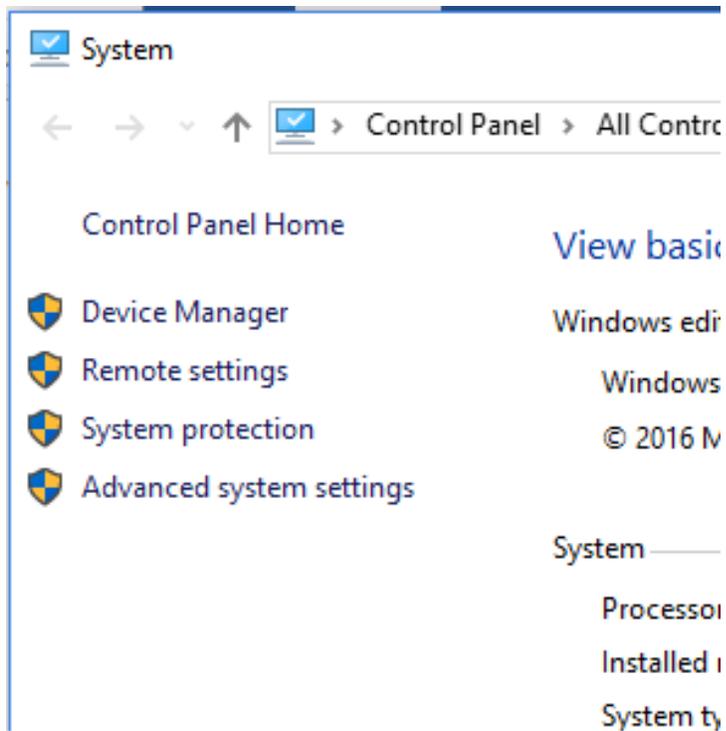
If you don't want to have to switch into the python27 directory, you can type the full path to the python executable, as in **c:/python27/python c:/Scripts/Hello.py**

If this is starting to seem like a lot of typing, we can make our job easier by making sure that the path to the python executable is included in the executable path. That way, we can type **python** from any prompt anywhere in the directory structure, and Python will run.

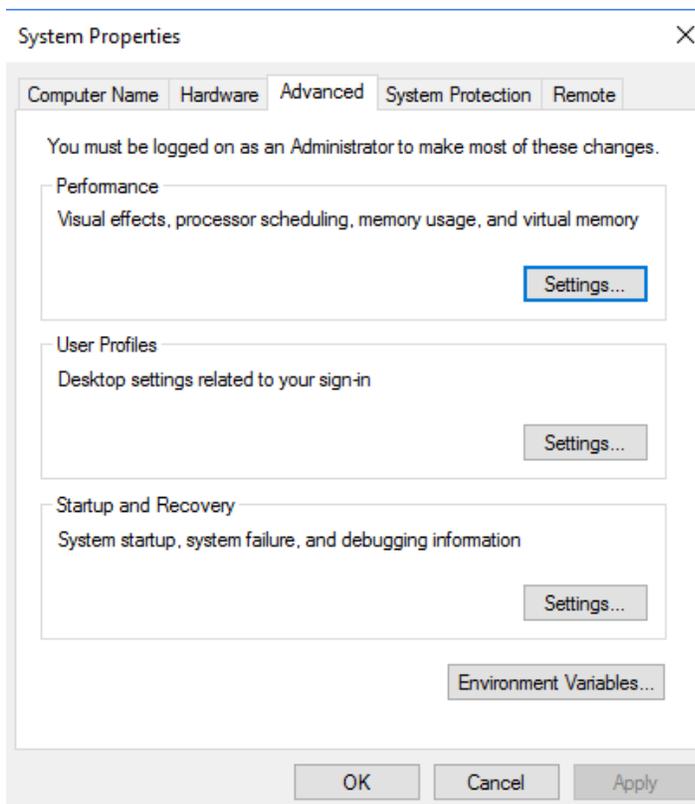
The simplest way to see if python is on the path is to type python at the command prompt, somewhere outside of the python27 directory. If the interpreter fires up, you know it is on the path.

If you get an error saying python is not recognized, check to be sure you spelled it correctly. If you have, you'll have to add Python to the path. The path is a list of system directories that Windows will look in automatically if you try to run an executable file directly from the command line.

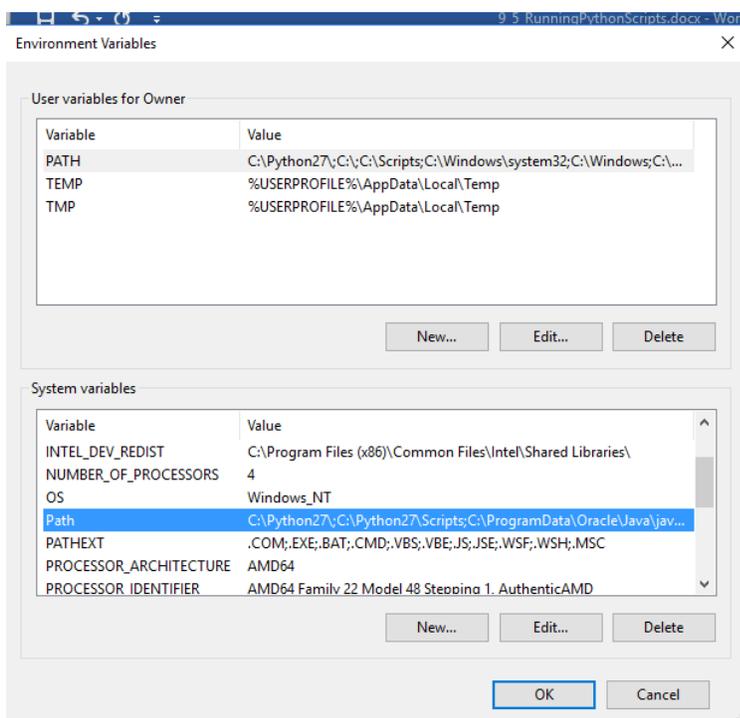
If you are using a recent version of Windows, open up the Control Panel and choose System. A dialogue will open. Click on Advanced System Settings, seen here.



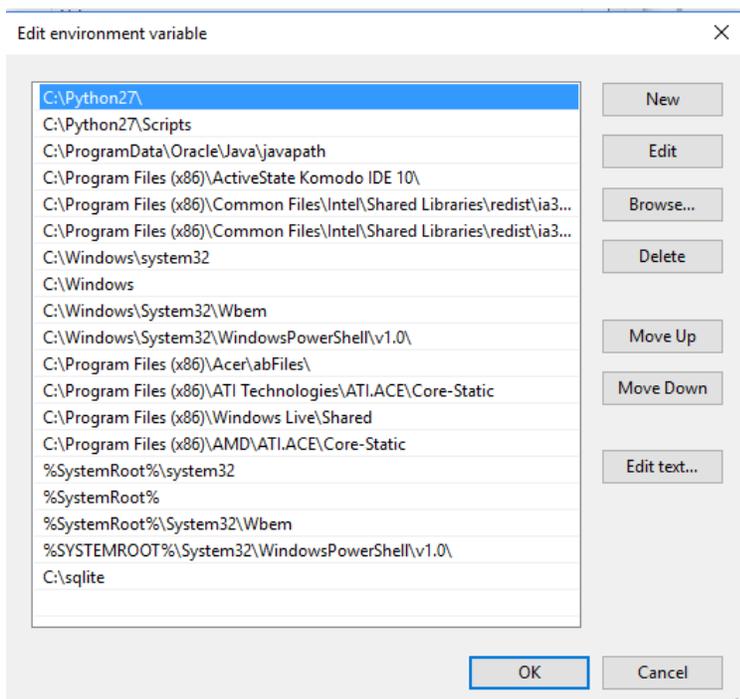
The System Properties dialogue will open to the Advanced tab. Click on Environment Variables.



In the next dialogue, highlight Path in the system variables area, then click Edit.



This will open up the Edit Environment Variable dialogue.

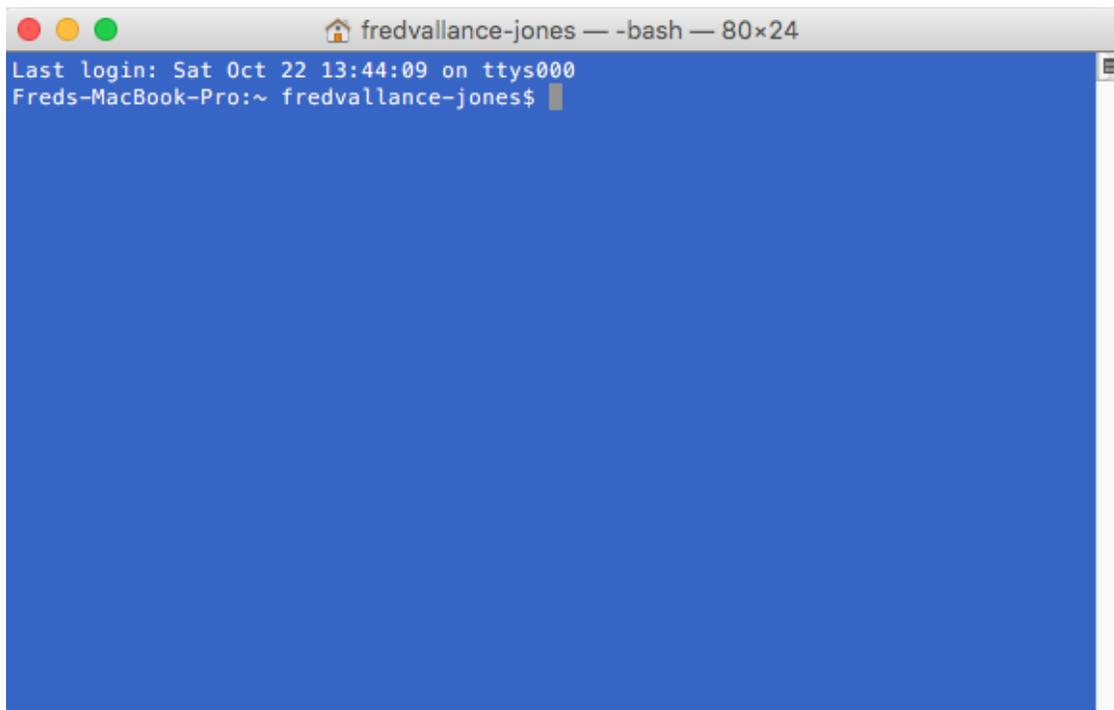


Click New, then add C:\Python27\ to the list. Click OK, close all dialogues, and you should now be able to run Python scripts from the command line without explicitly switching to the Python director or typing the full path.

Running your Scripts on a Mac

On a Mac running OS X, or macOS as the latest versions are called, you can run your Python scripts in the Terminal window, the terminal emulator that comes pre-packaged with the operating system. Like the Windows command prompt, Terminal allows you to control many aspects of your computer's operation directly from a command line interface.

A Terminal window looks like this (colour scheme can be changed by the user):



If you want to run the Python interpreter, type `python` at the `$` prompt and push Enter. You can now enter Python statements one at a time and see the response in real time. This is a great way to test out code to see if it performs as expected. To run a script, type `python` followed by the name of the script you wish to run, including its whole folder path. For example, this would run a script called `Hello.py`

```
python /user/yourusername/scripts/Hello.py
```

The installer for the Mac version of Python normally takes care of the details of putting Python on the executable PATH, so you can run Python scripts from the \$ prompt no matter what directory you currently have open. The most recent versions of Python also include the pip package installer, so you can install third party modules from the command line by typing `pip install modulename`.

If for some reason you need to add Python to the PATH manually you can type `export PATH=/[the path to python]` at the \$ prompt.

Some advanced code editors and integrated development environments allow you to run your scripts from within the coding application. For a discussion of this subject, see the tutorial **Choosing a Code Editor**.