OpenTechSchool

Introduction to Data Processing with Python

Recap of Python Essentials

This chapter is just a recap of some of the important points of the Introduction to Programming with Python course. Feel free to skip ahead if this course is still fresh in your memory.

Running Python

After installing Python on your system successfully, you can start the interactive Python prompt by typing `python` in the command line and pressing `<Enter>`. It will show you some context information about Python similar to this::

```
Python 3.3.5 (v3.3.5:62cf4e77f785, Mar  9 2014, 10:37:12) [MSC v.1600 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

On Windows you can open Python through the Start Menu.

To exit the Python interpreter, press `Ctrl-D`.

To run a program saved in a Python file, you can run it from the command line like so:

```
python program.py
```

On Windows you can run a Python file by double-clicking it.

Loops

What does this code do?

```
for i in 2, 4, 6, 8:
```

```
    print(i)
```

Solution

Show

Bonus Challenge

Python has a built-in function called `range` that can automatically generate a range of numbers like [2, 4, 6, 8]. For example, `range(1,10)` is a sequence of the numbers 1 through 9 (a common but sometimes confusing thing in programming is for the "end" number not to be included in a sequence.)

```
for i in range(1,10):
    print(i)
```

Can you make a `range` equivalent to [2, 4, 6, 8]? To get some clues, you can open an interactive Python Interpreter and type `help(range)`. The useful details are near the top. Press 'q' to exit the help viewer when you're done.

Variables

You can use variables to manipulate values inside code. What does this code do?

```
total = 0
for i in 1, 3, 7:
    total = total + i
print(total)
```

Solution

Show

Bonus Challenge

If you don't want to use a `for` loop for some reason, Python actually has a built-in function called `sum` that lets you bypass it completely. You can get the same result with this:

```
print(sum([1,3,7]))
```

Can you make a one line Python statement that uses both `sum` and `range` to print the sum of the numbers 1 through 10?

Functions

You can define your own functions with parameters in order to reuse some code again with slight differences. What does this code print?

```
def say_hello_to(name):
    print("Hello " + name)

say_hello_to("Miranda")
say_hello_to("Fred")
```

Solution

Show

Conditionals

You can use the 'if' statement to execute some statements only if a condition is true. What does this code print?

```
angle = 5
if angle > 0:
    print("Turning clockwise")
elif angle < 0:
    print("Turning anticlockwise")
else:
    print("Not turning at all")
```

Solution

Show

Next Chapter

All set with Python? On to the next chapter, Data Structures in Python