

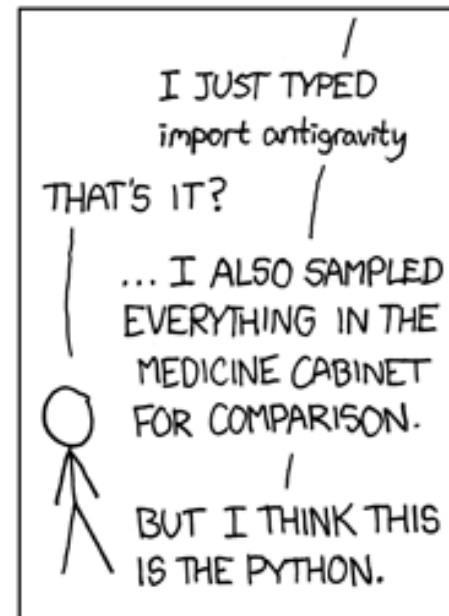
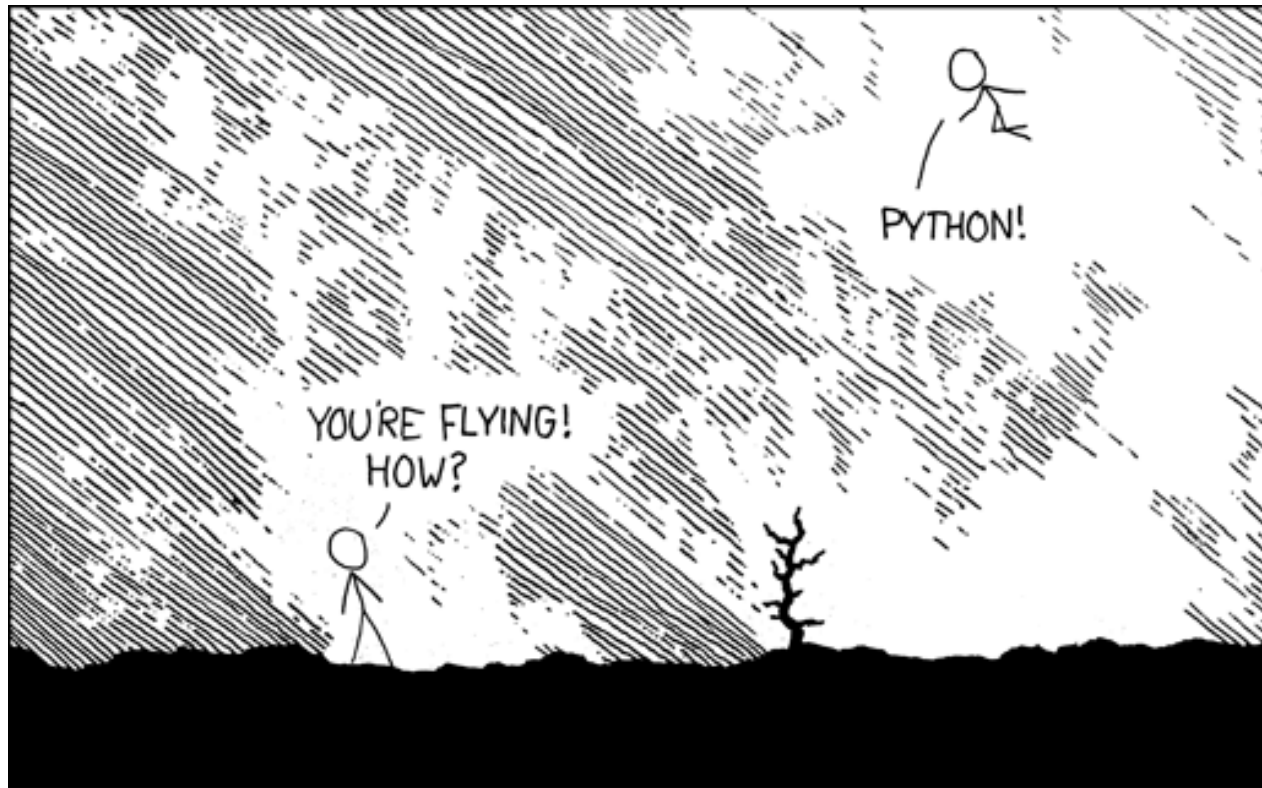
# Introduction to Programming for Journalists

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# Basic Concepts

Computers are dumb, they do what you tell them.

Computer programmers are smart, and many of them have already solved your problem.

Programming is writing a series of instructions about what to do.

# Python-specific stuff

Python scripts end in `.py`

Whitespace is important; there is no 'end' statement. Most use 4 spaces of indentation after a semi-colon (in functions and loops). Try to avoid tabs.

If you have Python installed, you can follow along by using a text editor and the Python prompt (type "python" at the command prompt) or using IDLE, the Python interactive shell.

When testing whether a variable is equal to a scalar, use `==`.

# Semi-advanced Concepts

```
name = 'Bob'
```

```
def add(x,y):  
    print x+y
```

```
p = Person()  
p.first = 'Bob'  
p.last = 'Smith'
```

A **variable** is a place to store information.

A **function** is a set of instructions that takes and returns parameters after doing something to them or with them.

An **object**, in most languages, describes a piece of information and its attributes.

# Advanced Concepts

A **scalar variable** is a variable with a single value e.g. 7, "True", "King George", 2.45, 9/11/2001.

```
mylist = [1,2,3]
```

An **array** is a list of scalar variables. In Python, it's known simply as a list.

```
p = {'name': 'Bob', 'age':  
35}
```

```
p[name] = 'Bob'
```

A **hash** is a set of pairs of scalar variables where one (the 'key') is a unique way to reference the other (the 'value').

# Flow Control: Loops and Such

Many programming tasks are repetitive, which usually mean using some kind of loop.

Python has several kinds, depending on what you need:

- for loop
- while loop
- if/else/end
- try/except

```
# do something 10 times
mylist = [1,2,3,4,5,6,7,8,9,10]
for num in mylist:
    print num
```

```
x = 0
while x < 10:
    print x
    x = x + 1
```

```
name = 'Bob'
if name == 'Bob':
    print "That's right!"
else:
    print "Nope"
```

# Visit the Libraries

Python's standard library and modules have:

- Support for dealing with csv files, xml and other formats
- The ability to use your filesystem (directories, etc.)
- It's all about the import:

```
import [module_name]
```

So:

```
import csv    # working with csv files
import urllib # fetching urls
import re     # regular expressions
```

**Example Time**

# Tutorials & Resources

[Guide for Non-Programmers](#)

[Python.org list for Python beginners](#)

[Python Style Guide](#) (yes, really)