

## Translating Python 2 to Python 3

### Prof. Amenta – Fall, 2010

The older edition of our textbook, *Python Programming: an Introduction to Computer Science*, and the online book we are using, *Think Like a Computer Scientist*, were written for Version 2 of the Python language. We are using the newer Version 3. Most of the differences that affect this class have to do with how data gets into and out of programs, so unfortunately we'll see them in the very first weeks. After that, we will encounter (almost) no other differences. If you keep this cheat sheet handy while reading the books, you will be able to convert their Python 2 examples to Python 3 and get them to run.

The first difference is printing.

| Python 2                               | Python 3                                |
|--|---|
| <code>print "Hello world"</code>       | <code>print("Hello world")</code>       |
| <code>print "I have ",2," cats"</code> | <code>print("I have ",2," cats")</code> |
| <code>print 1, 2,</code>               | <code>print(1, 2, end="")</code>        |

The Python 2 commands on the left have the same effect as the Python 3 commands on the right.

The second issue is getting input from the user.

| Python 2                                   | Python 3                                     |
|--|--|
| <code>raw_input("Enter a number: ")</code> | <code>input("Enter a number: ")</code>       |
| <code>input("Enter a number: ")</code>     | <code>eval(input("Enter a number: "))</code> |

I disapprove of the command in the bottom row (in either Python 2 or Python 3), since depending on what the user types in the program might crash. So we will never use it in this class.