

Introduction to Python

Python 2 -> Python 3

Python 3: introduced Dec. 2008; *in active development*

Python 2: introduced Oct. 2000, developed until mid-2010; *legacy*

Python 3 is not backward-compatible with Python 2. However at a basic level, differences are minimal. This list is not exhaustive, but covers the basics.

Python 3

print() is a function

```
print('hello!')
print('hello!', end='')
print('hello', 'world!')
print('hello', 'world!', sep='')
```

integer division results in float

```
print(5/3)    # 1.6666666666666667
print(4/2)    # 2.0
```

input(): take interactive keyboard input

```
num = input('pls enter a num: ')
```

Note that **input()** in Python 2 runs an "eval" (code evaluation and execution) on user input.

Selected functions and methods return *iterators* or *views* instead of lists. These can be used in **for** looping and in functions that accept iterables. To produce lists in Python 3, these can be passed to **list()**.

range(): return an *iterator* of integers
zip(): return an *iterator* of 2-item tuples
map(): return an *iterator* of items
dict.keys(): return a *view* of dict keys
dict.values(): return a *view* of dict values
dict.items(): return a *view* of dict items

All strings are Unicode by default

Python 2

print is a statement

```
print 'hello!'
sys.stdout.write('hello!')
print 'hello', 'world!'
```

Integer division results in int

```
print 5/3      # 1
print 5/3.0    # 1.6666666666666667
```

raw input(): same

```
num = raw_input('pls enter a num: ')
```

All strings are ascii by default