Import this

Running scripts:

*Helloworld.py*

**Shell**

Basic math

2 + 2

2 \*\* 2

Print strings

Hello world

‘7’ \* 7

String manipulation

“hello”[1:3]

“hello”[1::2]

“hello”[::-1]

Variables

X = 2

Y = 4

Print x + y

Z = ‘hello’

Print x + z

*Sample.py*

Whitespace

REALLY IMPORTANT

No need of {} or ;

Multiple assignments

X, y = 2, 3

Range

Range(10), range(1, 10, 2)

Xrange(10)

Doc strings

Def my\_func():

“””do something, but document it.”””

Pass

My\_func.\_\_doc\_\_

**Data structures:**

Tuple, List

tu = (23, ‘abc’, 4.56, (2,3), ‘def’)

li = [“abc”, 34, 4.34, 23]

tu[1]

li[1]

Negative index: tu[-1], li[-1]

Slicing: tu[1:3], li[3:]

[1, 2, 3] + [5, 6]

[1, 2, 3] \* 3

Mutable vs Immutable

t = (23, ‘abc’, 4.56, (2,3), ‘def’)

t[2] = 3.14 🡪 error

li = [‘abc’, 23, 4.34, 23]

li[1] = 45

li

List comprehensions

concise way to create lists

squares = []

for x in range(10):

... squares.append(x\*\*2)

...

squares

[0, 1, 4, 9, 16, 25, 36, 49, 64, 81]

squares = [x\*\*2 for x in range(10)]

[(x, y) for x in [1,2,3] for y in [3,1,4] if x != y]

Dict

tel = {'jack': 4098, 'sape': 4139}

tel['guido'] = 4127

tel['jack']

{x: x\*\*2 for x in (2, 4, 6)}

Names = [‘karan’, ‘grant’, ‘owen’]

Grades = [4.00, 3.9, 3.9]

Dict(zip(names, grades))

**File IO**

With open(‘data.txt’) as f:

For line in f:

Print line

**Misc**

basket = ['apple', 'orange', 'apple', 'pear', 'orange', 'banana']

for i, v in enumerate(basket):

print I, v

for i in reversed(xrange(1,10,2)):

print i

for f in sorted(set(basket)):

print f

Sort list by length:

Print sorted(colors, key=len)

Default dict

From collections import defaultdict

basket = ['apple', 'orange', 'apple', 'pear', 'orange', 'banana']

D = defaultdict(int)

For fruit in basket:

D[fruit] += 1

Print d

String concat – join

Print ‘, ‘.join(range(1, 101))

One liners

Print sum([I \*\* 2 for I in range(10)])