python

Cheat Sheet

Main

```
if __name__ == '__main__':
    main()
```

Numbers

```
8           # int
-10         # int
0           # int
0.0         # float
2.2         # float
4E2         # float (4*10^2)
10 + 3      # 10 + 3 = 13
10 - 3      # 10 - 3 = 7
10 * 3      # 10 * 3 = 30
10 ** 3     # 10 ^ 3 = 1000
10 / 3      # 3.333...335
10 // 3     # 3 (floor div)
10 % 3      # 1 (modulo op)
```

Strings

```
s = 'Hello'
s[4]        # o
s[:]        # Hello
s[1:]       # ello
s[:1]       # H
s[-1]       # o
s[::1]      # Hello
s[::-1]     # olleH
s[0:6:2]    # Hlo
'Hel' + 'lo'  # Hello
'H'*3       # HHH
```

String Functions

```
' Hello  '.strip()          # 'Hello'
'Cool'.strip('l')           # 'Coo'
'I am'.split()              # ['I', 'am']
'Cool'.replace('C', 'F')    # 'Fool'
'Cool'.startswith('C')      # True
'Cool'.endswith('ol')       # True
'Hi Hi'.index('i')          # 1
'me'.upper()                # ME
'YOU'.lower()               # you
'ok, thx'.title()           # Ok, Thx
'Cool'.find('o')            # 1
'Cool'.count('o')           # 2
```

Boolean

```
True                # True (1)
False               # False (0)
not True            # False
not False           # True
True and False      # False
True or False       # True
True + True         # 2
True * 8            # 8
False * 8           # 0
```

String Formatting

```
n1 = 'Tim'
n2 = 'Flo'
print(f'Hi {n1} & {n2}')          # 'Hi Tim & Flo'
print('Hi {} & {}'.format(n1, n2))  # 'Hi Tim & Flo'
print('Hi %s & %s' %(n1, n2))     # 'Hi Tim & Flo'
```

Lists (mutable)

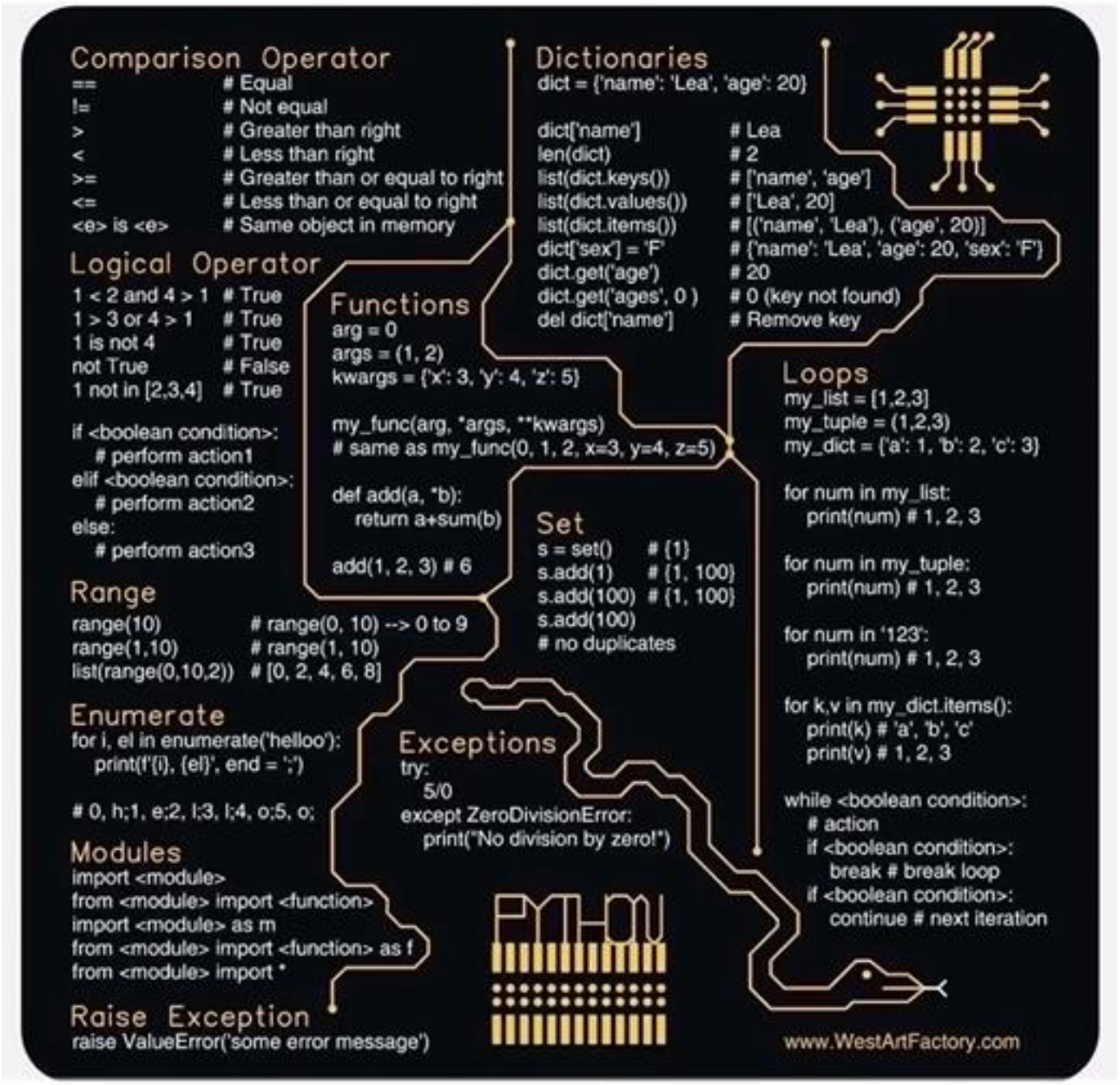
```
li = [1, 2, '3']
li.index('3')       # 2
li.count(2)         # 1
li[2]               # '3'
li[1:]              # [2, '3']
li[:1]              # [1]
li[-1]              # '3'
li[::1]             # [1, 2, '3']
li[::-1]            # ['3', 2, 1]

li * 2              # [1,2,'3',1,2,'3']
li + [9]            # [1, 2, '3', 9]
li.extend([9, 8])   # [1, 2, '3', 9, 8]
li.insert(2, 'i')   # [1, 2, 'i', '3']
' '.join(['A','B'])  # 'A B'

[1,2,5,3].sort()    # [1, 2, 3, 5]
[1,2,5,3].reverse() # [3, 5, 2, 1]
1 in [1,2,5,3]      # True
min([1,2,3,4,5])    # 1
max([1,2,3,4,5])    # 5
sum([1,2,3,4,5])    # 15
list('Cool')        # ['C', 'o', 'o', 'l']
```

Tuples (immutable)

```
tup = (1, 2, '3')
tup[1]              # 2
tup[-1]             # '3'
tup.index(3)        # 2
tup.count(2)        # 1
tup[1]='d'          # TypeError
```

None

```
a = None            # NoneType
```


Comparison Operator
== # Equal
!= # Not equal
> # Greater than right
< # Less than right
>= # Greater than or equal to right
<= # Less than or equal to right
<e> is <e> # Same object in memory
Logical Operator
1 < 2 and 4 > 1 # True
1 > 3 or 4 > 1 # True
1 is not 4 # True
not True # False
1 not in [2,3,4] # True
if <boolean condition>:
# perform action1
elif <boolean condition>:
# perform action2
else:
# perform action3
Range
range(10) # range(0, 10) --> 0 to 9
range(1,10) # range(1, 10)
list(range(0,10,2)) # [0, 2, 4, 6, 8]
Enumerate
for i, el in enumerate('helloo'):
print(f'{i}, {el}', end = ';')
# 0, h;1, e;2, l;3, l;4, o;5, o;
Modules
import <module>
from <module> import <function>
import <module> as m
from <module> import <function> as f
from <module> import *
Raise Exception
raise ValueError('some error message')
Functions
arg = 0
args = (1, 2)
kwargs = {'x': 3, 'y': 4, 'z': 5}
my_func(arg, *args, **kwargs)
# same as my_func(0, 1, 2, x=3, y=4, z=5)
def add(a, *b):
return a+sum(b)
add(1, 2, 3) # 6
Set
s = set() # {1}
s.add(1) # {1, 100}
s.add(100) # {1, 100}
s.add(100)
# no duplicates
Exceptions
try:
5/0
except ZeroDivisionError:
print("No division by zero!")
Dictionaries
dict = {'name': 'Lea', 'age': 20}
dict['name'] # Lea
len(dict) # 2
list(dict.keys()) # ['name', 'age']
list(dict.values()) # ['Lea', 20]
list(dict.items()) # [('name', 'Lea'), ('age', 20)]
dict['sex'] = 'F' # {'name': 'Lea', 'age': 20, 'sex': 'F'}
dict.get('age') # 20
dict.get('ages', 0) # 0 (key not found)
del dict['name'] # Remove key
Loops
my_list = [1,2,3]
my_tuple = (1,2,3)
my_dict = {'a': 1, 'b': 2, 'c': 3}
for num in my_list:
print(num) # 1, 2, 3
for num in my_tuple:
print(num) # 1, 2, 3
for num in '123':
print(num) # 1, 2, 3
for k,v in my_dict.items():
print(k) # 'a', 'b', 'c'
print(v) # 1, 2, 3
while <boolean condition>:
# action
if <boolean condition>:
break # break loop
if <boolean condition>:
continue # next iteration
PYTHON
www.WestArtFactory.com