Python for Beginners – Cheat Sheet

Data types and Collections

integer	10
float	3.14
boolean	True/False
string	'abcde'
list	[1, 2, 3, 4, 5]
tuple	(1, 2, 'a', 'b')
set	{'a', 'b', 'c'}
dictionary	{'a':1, 'b':2}

Numerical Operators

+	addition
–	subtraction
*	multiplication
/	division
**	exponent
%	modulus
//	floor division

Comparison Operators

<	less
<=	less or equal
>	greater
>=	greater or equal
==	equal
!=	not equal

Logical Operators

and	logical AND
or	logical OR
not	logical NOT

Membership Operators

in	value in object
not in	value not in object

Conditional Statements

```
if condition:
    <code>

elif condition:
    <code>

else:
    <code>
```

List Methods

l.append(x)	append x to end of list
l.insert(I, x)	insert x at position i
l.remove(x)	remove first occurrence of x
l.reverse()	reverse list in place

Dictionary Methods

d.keys()	returns a list of keys
d.values()	returns a list of values
d.items()	returns a list of (key, value)

String Methods

s.strip()	remove trailing whitespace
s.split(x)	return list, delimiter x
s.join(l)	return string, delimiter s
s.startswith(x)	return True if s starts with x
s.endswith(x)	return True if s ends with x
s.upper()	return copy, uppercase only
s.lower()	return copy, lowercase only

Operations

Index starts at 0

Strings:

s[i]	i:th item of s
s[-1]	last item of s

Lists:

l = []	define empty list
l[i:j]	slice in range i to j
l[i] = x	replace i with x
l[i:j:k]	slice range i to j, step k

Dictionaries:

d = {}	create empty dictionary
d[i]	retrieve item with key i
d[i] = x	store x to key I
i in d	is key i in dictionary

Import from Module

from module import func	import func
from module import func as f	import func as f

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Built-in Functions

float(x)	convert x to float
int(x)	convert x to integer
str(x)	convert x to string
set(x)	convert x to set
type(x)	returns type of x
len(x)	returns length of x
max(x)	returns maximum of x
min(x)	returns minimum of x
sum(x)	returns sum of values in x
sorted(x)	returns sorted list
round(x, d)	returns x rounded to d
print(x)	print object x

Loops

```
while condition:
    <code>

for var in list:
    <code>
```

Control statements:

break	terminate loop
continue	jump to next iteration
pass	does nothing

String Formatting

"Put {}into a {}".format("values", "string")
'Put values into a string'

"Put whitespace after: {:<10}, or before:{:>10}".format("a","b")
'Put whitespace after: a   , or before: b'

"Put whitespace around:{:^10}.".format("c")
'Put whitespace around: c   .'

Regular Expressions

```
import re

p = re.compile(pattern)    compile search query
p.search(text)             search for all matches
p.sub(sub, text)           substitute match with sub
```

.	any one character
*	repeat previous 0 or more times
+	repeat previous 1 or more times
?	repeat previous 0 or 1 times
\d	any digit
\s	any whitespace
[abc]	any character in this set {a, b, c}
[^abc]	any character *not* in this set
[a-z]	any letter between a and z
a|b	a or b

Reading and Writing Files

```
fh = open(<path>,'r')
for line in fh:
    <code>
fh.close()


out = open(<path>,'w')
out.write(<str>)
out.close()
```

Functions

```
def Name(param1, param2 = val):
    <code>
    #param2 optional, default: val
    return <data>
```

sys.argv

import sys	import module
sys.argv[0]	name of script
sys.argv[1]	first cmd line arg