Cheatography

Essential Python Cheat Sheet

by sschaub via cheatography.com/1000/cs/374/

Data Types

Integer	-256, 15
Float	-253.23, 1.253e-10
String	"Hello", 'Goodbye', """Multiline"""
Boolean	True, False
List	[*value*, ...]
Tuple	(*value*, ...)[1]
Dictionary	{ *key*: *value*, ... }
Set	{ *value*, *value*, ... }[2]

[1] Parentheses usually optional

[2] Create an empty set with set()

Statements

If Statement

```
if expression:
  statements
elif expression:
  statements
else:
  statements
```

While Loop

```
while expression:
  statements
```

For Loop

```
for var in collection:
  statements
```

Counting For Loop

```
for i in range(start, end [, step]):
  statements
```

(*start* is included; *end* is not)

Arithmetic Operators

x + y	add	x - y	subtract
x * y	multiply	x / y	divide
x % y	modulus	x ** y	x^y

Assignment shortcuts: x *op*= y

Example: x += 1 increments x

Comparison Operators

x< y	Less	x <= y	Less or eq
x > y	Greater	x >= y	Greater or eq
x == y	Equal	x != y	Not equal

Boolean Operators

not x	x and y	x or y

Exception Handling

```
try:
  statements
except [ exception type [ as var ] ]:
  statements
finally:
  statements
```

Conversion Functions

int(*expr*)	Converts *expr* to integer
float(*expr*)	Converts *expr* to float
str(*expr*)	Converts *expr* to string
chr(*num*)	ASCII char *num*

String / List / Tuple Operations

len(*s*)	length of *s*
s[*i*]	*i*th item in *s* (0-based)
s[*start* : *end*]	slice of *s* from *start* (included) to *end* (excluded)
x in *s*	**True** if *x* is contained in *s*
x not in *s*	**True** if *x* is not contained in *s*
s + *t*	the concatenation of *s* with *t*
s * *n*	*n* copies of *s* concatenated
sorted(*s*)	a sorted copy of *s*
s.index(*item*)	position in *s* of *item*

More String Operations

s.lower()	lowercase copy of *s*
s.replace(*old*, *new*)	copy of *s* with *old* replaced with *new*
s.split(*delim*)	list of substrings delimited by *delim*

More String Operations (cont)

s.strip()	copy of *s* with whitespace trimmed
s.upper()	uppercase copy of *s*

See also http://docs.python.org/library/stdtypes.html#string-methods

Mutating List Operations

del *lst*[*i*]	Deletes *i*th item from *lst*
lst.append(*e*)	Appends *e* to *lst*
lst.insert(*i*, *e*)	Inserts *e* before *i*th item in *lst*
lst.sort()	Sorts *lst*

See also http://docs.python.org/library/stdtypes.html#typesseq-mutable

Dictionary Operations

len(*d*)	Number of items in *d*
del *d*[*key*]	Removes *key* from *d*
key in *d*	True if *d* contains *key*
d.keys()	Returns a list of keys in *d*

See also http://docs.python.org/library/stdtypes.html#mapping-types-dict

Function Definitions

```
def name(arg1, arg2, ...):
  statements
  return expr
```

Environment

sys.argv	List of command line arguments (argv[0] is executable)
os.environ	Dictionary of environment variables
os.curdir	String with path of current directory

import sys; print(sys.argv)   *or*

from sys import argv; print(argv)

By **sschaub**
cheatography.com/sschaub/

String Formatting

```
"Hello, {0} {1}".format("abe", "jones")
```

Hello, abe jones

```
"Hello, {fn} {ln}".format(fn="abe", ln="jones")
```

Hello, abe jones

```
"You owe me ${0:,.2f}".format(253422.3)
```

You owe me $253,422.30

```
now = datetime.now()
'{:%Y-%m-%d %H:%M:%S}'.format(now)
```

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See also http://docs.python.org/library/string.html#format-specification-mini-language

Useful Functions

exit(*code*)	Terminate program with exit *code*
raw_input("*prompt*")	Print *prompt* and readline() from stdin[1]

[1] Use input("*prompt*") in Python 3

Code Snippets

Loop Over Sequence

```
for index, value in enumerate(seq):
  print("{} : {}".format(index, value))
```

Loop Over Dictionary

```
for key in sorted(dict):
  print(dict[key])
```

Read a File

```
with open("filename", "r") as f:
  for line in f:
    line = line.rstrip("\n") # Strip newline
    print(line)
```

Other References

http://rgruet.free.fr/

Great Python 2.x Quick Reference

http://www.cheatography.com/davechild/cheat-sheets/python/

More Python Cheatsheet Goodness