

# Python for Beginners – Cheat Sheet

## Data types and Collections

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

<b>and</b>	logical AND
<b>or</b>	logical OR
<b>not</b>	logical NOT

## Membership Operators

<b>in</b>	value in object
<b>not in</b>	value not in object

## Conditional Statements

**if** condition:  
    <code>

**elif** condition:  
    <code>

**else:**  
    <code>

## List Methods

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

## Dictionary Methods

<b>d.keys()</b>	returns a list of keys
<b>d.values()</b>	returns a list of values
<b>d.items()</b>	returns a list of (key, value)

## String Methods

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

## sys.argv

<b>import sys</b>	import module
<b>sys.argv[0]</b>	name of script
<b>sys.argv[1]</b>	first command line argument

## Operations

Index starts at 0

### Strings:

<b>s[i]</b>	i:th item of s
<b>s[-1]</b>	last item of s

### Lists:

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

### Dictionaries:

<b>d = {}</b>	create empty dictionary
<b>d[i]</b>	retrieve item with key i
<b>d[i] = x</b>	store x to key i
<b>i in d</b>	is key i in dictionary

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## Built-in Functions

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

## Loops

**while** condition:  
    <code>

**for** var in list:  
    <code>

### Control statements:

<b>break</b>	terminate loop
<b>continue</b>	jump to next iteration
<b>pass</b>	does nothing

## Functions

```
def Name(parameters):  
    <code>  
    return <data>
```

## Reading and Writing Files

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