Python3 Cheat Sheet

by ordowe (hahahaha) via cheatography.com/80914/cs/19454/

Lists

Create an empty list	newlist=[]
Assign value at index	alist[index]= value
Access value at index	alist[index]
Add item to list	alist.append(new item)
Insert into list	alist.insert(at position, new item)
Count # of an item in list	alist.count(item)
Delete 1 matching item	alist.remove(del item)
Remove item at index	del alist[index]

Looping

For loop 0 thru 9	for x in range(10):
For loop 5 thru 10	for x in range(5,11):
For each char in a string	for char in astring:
For items in list	for x in alist:
For indexes/values in a list	for index,value in enumerate(alist):
For each key in a dict	for x in adict.keys():
For all items in dict	for key,value in adict.items():
while <logic test>	do:
Exit loop immediately	break
Skip rest of loop and do loop again	continue

Logic and Math Operators

Math Operator	Example	X=7, Y=5
Addition	X + Y	12
Subtraction	X - Y	2
Multiplication	X * Y	35
Division	X / Y	1.4
Floor	X // Y	1
Exponent	X ** Y	16807
Modulo	X % Y	2
Logic Operator		
Equality	X == Y	False
Greater Than	X > Y	False
Less Than	X < Y	True
Less or Equal	X <= Y	True
Not Equal	X !=Y or X<>Y	True

Logic and Math Operators (cont)

Bitwise Exclusive Or	a ^ b xor(a, b)

Converting Data Types

Covert	Syntax	Example	Resul
Num -> string	str(number) int, float or long	str(100) str(3.14)	'100' '3.14'
Encoded bytes -> string	str(txt,encoding)	str(data,"utf8")	string with data
Num String -> int	int("string",base) default base is 10	int("42") int("101",2) int("ff", 16)	42 5 255
int -> hex string	hex(integer)	hex(255) hex(10)	'0xff' '0xa'
integer -> binary string	bin(integer)	bin(5) bin(3)	'0b10 '0b11'
float -> integer	int(float) drops decimal	int(3.14159) int(3.9)	3 3
int or str -> float	float(int or str)	float("3.4") float(3)	3.4 3.0
String -> ASCII	ord(str)	ord("A") ord("1")	65 49
int -> ASCII	chr(integer)	chr(65) chr(49)	'A' '1'
bytes -> string	<bytes>.decode()	b'ABC'.decode()	'ABC'
string -> bytes	<str>.encode()	'abc'.encode()	b'abc'

Useful OS functions

import os	
Executing a shell command	os.system()
Rename the file or directory src to dst	os.rename(src, dst)
Change working directory	os.chdir(path)
Get the users environment	os.environ()
Returns the current working directory	os.getcwd()

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Dictionaries

Create an empty dict	dict={}
Initialize a non-empty dictionary	dict= { “key”:”value”,”key2”:”value2”}
Assign a value	dict[“key”]=”value”
Determine if key exists	"key" in dict
Access value at key	dict[“key”], dict.get(“key”)
Iterable View of all keys	dict.keys()
Iterable View of all values	dict.values()
Iterable View of (key,value) tuples	dict.items()

Slicing and Indexing

x[start:stop:step]	x=[4,8,9,3,0]	x=”48930”
x[0]	4	‘4’
x[2]	9	'9'
x[:3]	[4,8,9]	'489'
x[3:]	[3,0]	'30'
x[:-2]	[4,8,9]	'489'
x[::2]	[4,9,0]	‘490’
x[::-1]	[0,3,9,8,4]	‘03984’
len(x)	5	5
sorted(x)	[0,3,4,8,9]	['0','3','4','8','9']

Misc

Adding Comments to code:

```
#Comments begin the line with a pound sign
```

Adding Multi-line Comment to code

```
" " "
Multi-Line Comment
" " "
```

Get user input from keyboard

```
name = input( "What is your name? ")
```

Functions

```
def add(num1, num2):
          #code blocks must be indented
          #each space has meaning in python
          myr esult = num1 + num2
          return myresult
```

if then else statements

```
if <logic test 1>:
>     #code block here will execute
    #when logic test 1 is True
elif <logic test 2>:
    #code block executes if logic test 1 is
    #False and logic test 2 is True
else:
    #else has no test and executes when if
    #and all elif are False
```

python3 shebang

```
#!/usr/bin/env python3
```

Printing

Standard print	print('{}'.format(STRING))
Print string variable	print ("I am %s" % name)
Print int variable	print ("I am %d" % number)
Print with +	print ("I am " + name)

String Operations

Make lowercase	"Ab".lower()="ab"
Make UPPERCASE	"Ab".upper()="AB"
Make Title Format	"hi world".title()="Hi World"
Replace a substring	"123".replace('2','z')= "1z3"
Count occurrences of substring	"1123".count("1")=2
Get offset of substring in string	"123".index("2")=1
Detect substring in string	“is” in “fish” == True

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