Cheatography

Mui Python Cheat Sheet

by Pimchanok Temmart via cheatography.com/25832/cs/6966/

Vocabulary

String	A list of characters "" , "abc"
Variable	Holds a value and can be changed
Syntax	Grammar / Structure of language
Parameter & Argument	something that you give to the function. Give function a value.

Addition, Multiplication, Exponents

String + String	Combine together
String + Number	CRASH!!!
Number +,*,/ Number	Math
String * Number	Combine that string
String * String	CRASH!!!
String ** Number	CRASH!!!
String ** String	CRASH!!!

Print Name

```
mystr = "hello THERE"
print (mystr.title()) ⇨ Hello There
print (mystr.capitalize()) ⇨ Hello there
print (mystr.lower()) ⇨ hello there
print (mystr.upper()) ⇨ HELLO THERE
```

List

```
mylist = [2,3,4,5] # create a list
print (mylist[0]) #first item of
the list
print (len(mylist)) # displays 4
mylist.append(5) # adds an item to
the end of the list
```

While/For loop with list

```
thelist = [4, 3, 2, 1, 0]
index = 0 # start at the first
item
while index < len(thelist):
       print (thelist[index])
#prints each item
       index = index + 1
forlist = [3, 4, 5, 2, 1]
for item in forlist:
     print(item)
```

Function

```
def mui():
    print ("Hello!")
    return
mui()
```

Function Area of Circle

```
def areaofcircle (radius):
    if radius <=0:
        return "Error: invalis
radius"
    pi = 3.1415
    area = pi * radius ** 2
    return area
user_radius = input ('Enter the
radius:')
radius = float(user_radius)
print ("The area of the circle is",
areaofcircle(radius))
```

Function Argument

```
def myprint (text):
    print ("***" + str (text)+
"***")
    return
myprint(1)
myprint("hello")
myprint (2.5)
```

Function Argument (cont)

```
def myprintnew (text,decoration):
    print (decoration + str (text)
+ decoration)
    return
myprintnew(1,"+++")
myprintnew('Hello',"-=-=-=-=-=")
myprintnew (1,"000000")
```

```
***1***
***hello***
***2.5***
+++1+++
-=-=-=-=-=Hello-=-=-=-=-=
0000001000000
```

Return Function

```
def doubleIt(number):
    return number * 2
print (doubleIt(3))
myvar = 12
myvar = doubleIt(myvar)
myvar = doubleIt(myvar)
print (myvar)
```

```
6
48
```

Palindrome

```
user_input = input ("Enter a
string:")
letter_num = 0
reverse = ""
for letter in user_input:
    reverse = letter + reverse
print ("reverse: ", reverse)
palindrome = reverse
if user_input == palindrome:
    print ("It's a palindrome.")
else:
    print ("It's not a
palindrome.")
```

Cheatography

Mui Python Cheat Sheet

by Pimchanok Temmart via cheatography.com/25832/cs/6966/

Function Largest Value

```
def max2(num1,num2):
    largestvalue = num1
    if num1 > num2:
        num1 = largestvalue
    else:
        largestvalue = num2
    return largestvalue
def max3 (num1,num2,num3):
    if num1>num2 and num1>num3:
        largestvalue = num1
    elif num2>num3 and num2>num1:
        largestvalue = num2
    else:
        largestvalue = num3
    return largestvalue
print (max3(9,100,25))
print (max3(69,85,1))
print (max3(75,9,33))
def maxlist (list):
    largestvalue = list [0]
    for item in list:
       if item > largestvalue:
           largestvalue = item
    return largestvalue
mylist = [1,2,3,4,103,100,89,57]
print (maxlist(mylist))
```

```
100
85
75
103
```

Math Symbol

==	Equal to
!=	Not equal to
>=	More than OR Equal to
% (Modulo)	Find the remainder
/	Divide (Answer is a float)
//	Divide (Answer is an integer)
**	Exponent

True OR anything = True
False AND anything = False

Countdown Code

```
user_number = input("Enter the
number:")
number = int(user_number)
countdown_string = ''
while number > 0:
    countdown_string =
countdown_string + str (number)
    number = number - 1
print (countdown_string)
```

```
Enter the number:5
54321
```

Reverse Word

```
word = input ("Enter a word:")
letter_num = 0
reverse = ""
"""
while letter_num < len(word):
    reverse = word[letter_num] +
reverse
    letter_num = letter_num + 1
"""
for letter in word:
    reverse = letter + reverse
print ("reverse: ", reverse)
```

```
Enter a word:mui
reverse: ium
```

Convert to Binary

```
user_number = input ("Enter an
interger:")
number = int (user_number)
binary_string = ''
while (number > 0):
    remainder = number % 2
    binary_string = str
(remainder) + binary_string
    number = number // 2
print ("Binary string is",
binary_string)
```

```
Enter an interger:18
Binary string is 10010
```

Find area of the circle

```
while True:
    userradius = input ("Enter the
radius.")
    radius = float (userradius)
    pi = 3.1415
    answer = pi  radius * 2
    print ("The area of the circle
is " , answer)
```

Naming Conventions

Rules for naming variables:
- Letters
- Numbers
- Underscores (_)
- Can start with letters or underscores ONLY
- NO spaces
-Can start with capital letter
Valid names:
- _myname
- my9
-Hello_there

By **Pimchanok Temmart**
cheatography.com/pimchanok-temmart/

Published 11th February, 2016.
Last updated 19th March, 2016.

Guessing Game

```
import random
chance = 3
score = 0
mylist = ['Mind', 'Gam', 'Mui',
'Pim', 'Jui']
random_item =
random.choice(mylist)
while chance > 0:
    print ("-=-=-=-=-=-=-=-=-=-=-
=-=-=-=-=-=-=-=-=-=-")
    print (" Guessing Game")
    print ("-=-=-=-=-=-=-=-=-=-=-
=-=-=-=-=-=-=-=-=-=-")
    print(mylist)
    user_guess = input("Guess a
word: ")
    if user_guess == random_item:
        score = score + 100
        print("Score:",score)
        print("That's Correct!")
        random_item =
random.choice(mylist)
    else:
        if user_guess in mylist:
            chance = chance - 1
            print ("Chance
remaining:",chance)
            print("Sorry, Wrong
choice")
        else:
            chance = chance - 1
            print ("Chance
remaining:",chance)
            print ("Sorry, that is
not even in the list")
print("Gameover!!")
print("Word:",random_item)
print("Final Score",score)
```

Function Area of Triangle

```
def areaoftriangle(b,h):
    area = 1/2 * b * h
    return area
user_base = float(input("Enter the
base of the triangle:"))
user_height = float(input("Enter
the height of the triangle:"))
print ("The area of the triangle
is",
areaoftriangle(user_base,user_heigh
t))
```

Palindrome Assignment

```
def ispalindrome(word):
    letter_num = 0
    reverse = ""
    for letter in useranswer:
        reverse = letter + reverse

    if reverse == word:
        return True
    else:
        return False
while True:
    useranswer = input("Enter a
word:")
    if useranswer == "quit":
        break
    print (len(useranswer))

    ispal =
ispalindrome(useranswer)
    if ispal == True:
        print (useranswer, "is a
palindrome.")
    else:
        print (useranswer, "is not
a palindrome.")
```

Functions

int()	Converts a value to an integers
str()	Converts a value to a string
float()	Converts a value to decimal value
len()	The length of the string
""" / '''	Multi-line comment (Not effect code)

Examples

print ("Hello")	String
print (mystr)	Variable

```
print ("hello", "there") #displays hello there
print ("hello" + "there") #displays hellothere
```

Assignment 1

```
firstname = input("what is your
first name?")
lastname = input("what is your
lastname")
fullname = ((firstname) + " " +
(lastname))
print (fullname)
letternum = int(input("what is the
letter number? "))
if len(fullname) >=
int(letternum):
   print (fullname[letternum])
else:
    print ("invalid lecter number,
try again.")
letterprint = int(input("How many
times to print the letter?"))
if int(letterprint) <= 100:
    print (fullname[letternum] *
(letterprint))
else:
    print ("too many letter to
print!")
```

By **Pimchanok Temmart**
cheatography.com/pimchanok-temmart/

Published 11th February, 2016.
Last updated 19th March, 2016.

Random LIst

```
import random
intlist = [1,2,3]
random_int = random.choice
(intlist)
print(intlist, random_int)
fplist = [1.1,2.2,3.3]
random_fp = random.choice (fplist)
print (fplist,random_fp)
strlist = ['Lion','Tiger','Zebra']
random_str = random.choice
(strlist)
print (strlist, random_str)
mylist = [1,1.5,'Hello']
random_item = random.choice
(mylist)
print(mylist ,random_item)
myvar1 = 1
myvar2 = 2
myvar3 = 3
varlist = [myvar1,myvar2,myvar3]
random_var = random.choice
(varlist)
print(varlist,random_var)
```

[1, 2, 3] 1
[1.1, 2.2, 3.3] 2.2
['Lion', 'Tiger', 'Zebra'] Lion
[1, 1.5, 'Hello'] Hello
[1, 2, 3] 3

Print definition of the word

```
def printdefinitions(word):
    if word == "Variable":
        print ("""
        A variable is something
that can be changed.
        """)
    elif word == "Function":
        print ("""
        A function is block of code
that can be re-use.
        """)
```

Print definition of the word (cont)

```
    elif word == "Parameter" or
word == "Argument":
        print ("""
        A parameter and argument
are the same. It is something that
you give to the function. Give
function a value.
        """)
    elif word == "Function call":
        print ("""
b A function call is when we call
the function to run. It runs the
code.
        """)
    elif word == "String":
        print ("""
        A string is a list of
character such as number and
symbol.
        """)
    else:
        print ("Unknown Word")
    return
while True:
    user_input = input ("Enter the
word:")
    printdefinitions(user_input)
```

Function Area of Triangle and Prism

```
def areaoftriangle(b,h):
    area = 1/2 * b * h
    return area
user_base = float(input("Enter the
base of the triangle:"))
user_height = float(input("Enter
the height of the triangle:"))
print ("The area of the triangle
is",
areaoftriangle(user_base,user_heigh
t))
```

Function Area of Triangle and Prism (cont)

```
def volumeofprism(b,h,l):
    volume = areaoftriangle(b,h) *
l
    return volume
user_length = float(input("Enter
the length of prism:"))
print ("The volume of the prism
is",
volumeofprism(user_base,user_height
,user_length))
```

Range

```
numberlist = range(5)
numberlist2 = [0, 1, 2, 3, 4]
for num in range(100):
    print (num) # prints all
numbers from 0 - 99
for num in range(5, 50):
    print(num) #prints all numbers
from 5 - 49
```

Function with 2 arguments

```
#function with 2 parameters and a
return value
def function3(param1, param2):
      print('This function has 2
parameters')
      return param1 + param2 #
return value
#function call and store the result
in a variable
returnValue = function3(2, 3)
print (returnValue)
```

By **Pimchanok Temmart**
cheatography.com/pimchanok-temmart/

Published 11th February, 2016.
Last updated 19th March, 2016.