Cheatography

Python Cheat Sheet

by jui19788 via cheatography.com/25833/cs/6967/

Vocabulary

variable	holds a value and can be changed
string	a list of characters such as numbers, letters, symbols
integer	whole number/counting number. 100, -52
float	the number in decimal. 100.01, -52.5
boolean	true/false
modulo	find the remainder
syntax	grammar/structure of language

Naming Conventions

Rules for naming variables:

- letters
- numbers
- underscores (_)
- can start with **letters** or **underscores** ONLY
- NO SPACES

Valid names:

- _mystr
- my3

Hello_there

Invalid names:

- 3my= "hi" -- cannot start with number
- first name = "hi" -- no spaces allowed
- first-name -- dashes are not accepted

Addition

string + string	combine together
string + number	CRASH!
number + number	addition (math)

Multiplication & Exponents

string * string	CRASH!!
string * number	combines the strings multiple time
number * number	math (multiply)
string ** number	CRASH!!
number ** number	exponent (math)
string ** number	CRASH!!

Random Stuff

```
import random
intlist = [1,2,3,4,5]
random_int =
random.choice(intlist)
print (intlist,random_int)
fplist =
[3.5,4.02,5.55,9.65,7.02]
random_fp = random.choice(fplist)
print (fplist,random_fp)
strlist =
['dog','cat','monkey','elephant','s
quirrel']
random_list =
random.choice(strlist)
print (strlist,random_list)
mylist = [1,3.2,'snow']
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)
```

Largest of two numbers

```
def max2(num1, num2):
    maxvalue = num1
    if num2 > maxvalue:
        maxvalue = num2
    return maxvalue
print(max2(4,5))
print(max2(33,5))
```

Largest number in the list

```
def maxlist(list):
    maxvalue = list[0]
    for item in list:
        if item > maxvalue:
            maxvalue = item
    return maxvalue
mylist = [1,2,3,4,55,66,777,0,1]
print(maxlist(mylist))
```

Function

print()	displays information on the screen
input()	receives information from the user
int()	converts a value to an integer
float()	change number to be decimal number
str()	a list of number, letter and symbols
len()	the length of the string
#	comment, no effect
"""....."" "	multiple line comment

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Symbols

= =	equal to
!=	no equal to
<	less than
>	more than
<=	less than or equal to
>=	more than or equal to
+	add
-	subtract
*	multiply
/	divide and quotient is float
//	divide and quotient is integer
**	exponent
%	modulo: the remainder

Sort word per line

```
mystr = "Hello"
letter_num = 0
while letter_num < len(mystr):
print (mystr[letter_num])
letter_num = letter_num + 1
```

Convert to binary

```
user_number = ' '
while True :
    binary_string = ' '
    user_number = input ("Enter a
number to convert to binary")
    number = int (user_number)
    while (number > 0):
        remainder = number%2
        binary_string =
str(remainder)+ binary_string
        number = number//2
    print ("Binary string is",
binary_string)
```

Print Name

```
name = "tim GIRARD"
print (name.upper()) → TIM GIRARD
print (name.lower()) → tim girard
print (name.capitalize()) → Tim
girard
print (name.title()) → Tim Girard
```

Area of circle code

```
def areaOfCircle (r):
    if r <= 0:
        return "Error: invalid
radius"

    pi = 3.1415
    area = pi  r * 2
    return area
user_radius = float(input('Enter
the radius:'))
print("The area of the circle is",
areaOfCircle(user_radius))
```

Largest of three values

```
def max3(num1, num2, num3):
    maxvalue = num1
    if (num1 > num2) and (num1 >
num3):
        maxvalue = num1
    elif (num2 > num1) and (num2 >
num3):
        maxvalue = num2
    else: maxvalue = num3
    return maxvalue
print (max3(1,2,50))
print (max3(51,2,50))
print (max3(1,255,50))
```

Using Boolean

```
print(True)
print (2<3)
print (2 != 2)
```

Number to Hex

```
user_number = input("please enter
a number: ")
number = int(user_number)
hex_string = ' '
while (number > 0):
    remaider = number % 16
    if remaider == 10:
        remaider = 'A'
    elif remaider == 11:
            remaider = 'B'
    elif remaider == 12:
            remaider = 'C'
    elif remaider == 13:
            remaider = 'D'
    elif remaider == 14:
            remaider = 'E'
    elif remaider == 15:
            remaider = 'F'

    hex_string = str(remaider) +
str(hex_string)
    number = number // 16
print ("Hexadecimal string is 0x",
hex_string)
```

Area of Circle

```
"""
Python Intro Assignment #2
name
student number
"""
#Ask the user for a radius of a
circle
user_radius = input("What is a
radius of a circle?")
```


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Area of Circle (cont)

```
#Convert the given radius to a
floating point
radius = float(user_radius)
#Make a variable called pi
pi = float(3.1415)
#Calculate the area of the circle
using exponents
area = pi *(radius*2)
#Display the area of the circle to
the user
print ("The area of the circle is",
area)
```

Sort fruit list

```
fruits = [] #an empty list
for number in range(5):
    user_fruit= input("Please enter
a fruit")
    fruits.append(user_fruit)
print ("Size of fruit list is",
len(fruits))
fruits.sort()
for fruit in fruits:
    print ("Fruit: ", fruit)
for fruit in fruits:
print ("Fruit: ", fruit)
```

Bracket codes

```
def myprint(text):
    print (" " + str(text) + "")
    return
myprint("1)
myprint("hi")
myprint("2.5")
def myprintnew(text, decoration):
    print(decoration + str(text) +
decoration)
    return
myprintnew(1, "+++")
myprintnew('hello','|||||||||||||||
|')
myprintnew(1, "-------")
```

Print Definition (Loop)

```
def printDefinitions(word):
    if word == "variable":
        print ("""
        A variable is the vaule
that can changes
        """)
    elif word == "function":
        print ("""
        A function is a block of
code that can reuse
        """)
    elif word == "string":
        print ("""
        A String is a list of
characters
        """)
    elif word == "parameter":
        print ("""
        A Parameter is something
you give to the function
        """)
    elif word == "argument":
        print ("""
        An Argument is thing that
give to function
        """)
    elif word == "function call":
        print ("""

        A Function call is to tell
the function/code to run
        """)
    else:
        print("Unknown word")
while True:
    user_input = input("Enter
words: ")
    printDefinitions(user_input)
```


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